This item was submitted to Loughborough's Research Repository by the author.
Items in Figshare are protected by copyright, with all rights reserved, unless otherwise indicated.

Triathlon geographies: a mixed-method investigation into spatial, social and digital sporting worlds

PLEASE CITE THE PUBLISHED VERSION

PUBLISHER

Loughborough University

LICENCE

CC BY-NC-ND 4.0

REPOSITORY RECORD

Giles, Daniel. 2021. “Triathlon Geographies: A Mixed-method Investigation into Spatial, Social and Digital Sporting Worlds”. Loughborough University. https://doi.org/10.26174/thesis.lboro.14679675.

Triathlon Geographies: A Mixed Method Investigation into Spatial, Social and Digital Sporting Worlds

by

Daniel Giles

A Doctoral Thesis

Submitted in partial fulfilment of the requirement for the award of Doctor of Philosophy

Loughborough University

September 2020

© by Daniel Giles 2020

Abstract

Responding to calls for practice-led research on sport and physical activity in the social sciences, a need to understand sport in relation to its technological, social and material environments, a tendency to overlook more banal and everyday aspects of participation, and a general lack of consideration of sport and physical activity in human geography, this research employs a case study of triathlon to better understand the profiles of athletes, the affordances of training environments, the subtleties of sociality and the dynamics of digital transitions associated with contemporary physical activity engagement. In doing so this thesis makes several academic and practical contributions concerning understandings of physical activity practices.

Triathlon is a sport that has developed significantly over the past decade, witnessing a rapid uplift in the number of participants as a result of British success in the sport during the London 2012 Olympic Games. Despite the increasing amount of research exploring the practices and experiences of those engaged in recreational sport, triathlon has largely eluded significant study within geography and the social sciences. In order to develop more comprehensive understandings of the spatial, social and virtual worlds of contemporary triathlon engagement, this thesis utilises an mixed methods approach involving a large-scale online survey of 591 British triathletes combined with participant observation and 22 semi-structured interviews with members of two triathlon clubs in the East Midlands.

The empirical findings of the research highlight the complexity of triathletes training taskscapes, emphasising how factors such as the degree of specialisation, proximity, and accessibility, and characteristics including gender, experience, and confidence all play an important role in determining the locational geography of triathletes training practices. Drawing upon re-imagined notions of sporting social worlds this study considers the places that are central to the social practices of triathletes, in particular emphasising the importance of triathlon clubs as the spatial, organisational, and social centres of the triathlon world, facilitating the creation and cultivation of social relationships, and enabling the acquisition and expression of subcultural capital. Further, this thesis demonstrates that the digital has become an integral and inseparable aspect of triathlon engagement, with digital communication platforms providing opportunities for online extensibility that have reduced the need for physical presence, and socially-enabled activity tracking applications which have transformed triathletes' social practices and interactions with physical spaces.

Overall, this thesis significantly advances understandings of the spatial, social, and virtual worlds of triathlon in the context of Great Britain, contributing to geographical debates concerning the spatialities of physical activity, the social functions of serious leisure engagement, and the pervasiveness of digital technologies within everyday sport involvement. Ultimately, this research project demonstrates the merits of a geographical approach for enhancing understandings of contemporary sport and leisure practices, arguing that planners, local authorities, and governing bodies need to give more consideration to the needs of physical activity participants in the design of public spaces in order to encourage more sport and healthy lifestyles among a greater diversity of recreational athletes.

Acknowledgements

I would like to give my thanks to Loughborough University for funding this research project. I would also like to thank the Geography Department at Loughborough, who have encouraged me to take myself out of my comfort zone and allowed me to develop skills which continue to influence my personal and professional life. To all of the Loughborough Geography PhD community (even the physical geographers!), thank you for making the entire experience thoroughly enjoyable, I could not have wished for a better group of people to share the journey with. All of the pub quizzes, socials, and office games truly helped to counter the struggles of undertaking a PhD!

I am extremely grateful to the members of Transitions Tri Club and Riderby Triathlon who generously accepted me into their respective triathlon communities. After spending time with you all I now have a drastically altered appreciation of the amount of effort, planning, sacrifice and physical effort it takes to dedicate yourself to triathlon. Your insights and experiences are central to the discussions of this thesis, and I cannot thank you all enough for your contributions to my research.

I owe my sincere gratitude to my supervisors, Professor Heike Jöns and Michael Hoyler, for without your advice, optimism and constant encouragement I would not have had the ability, or confidence, to get through the journey of completing a PhD. I also extend a special thanks to you Heike, for without your guidance and support I would never have even considered myself to have had the ability to undertake a PhD in the first place. For that I am extremely grateful.

Special thanks to my family and friends who have continued to support me throughout this journey. To Mum and Dad, thank you for your unconditional support throughout my time at University. Although I have now had a ‘real job’ for the past year, I am sure you’ll still be happy to know that my days as a student are finally over!

Most importantly to Nicole, I cannot thank you enough for your endless support and encouragement over the last four years. Without you I would not have had the confidence to undertake a PhD, and I definitely would not have had the drive to be able to finish it. Thank you for always believing in me.

Lastly to Margot, my beautiful daughter. Although you are not yet old enough to understand, you have been the main inspiration for me to persevere and get this thesis completed. I really hope that I have done you proud!

Table of Contents

ABSTRACT ---------- **2**

ACKNOWLEDGEMENTS ---------- **3**

TABLE OF CONTENTS ---------- **4**

LIST OF FIGURES ---------- **9**

TABLE LIST ---------- **12**

1. INTRODUCTION ---------- **15**

1.1. Introduction of topic ---------- **15**

1.2. Situating the research ---------- **19**

1.2.1. Profiles and practices ---------- 20

1.2.2. Geography ---------- 21

1.2.3. Social world ---------- 23

1.2.4. Digital world ---------- 25

1.3. Aim and objectives ---------- **29**

1.4. Thesis overview ---------- **32**

2. LITERATURE REVIEW ---------- **32**

2.1. Relevance of the research ---------- **34**

2.1.1. A resurgence of sports geography? ---------- 34

2.1.2. Space, place and placemaking ---------- 38

2.2. Profiles and practices of triathletes ---------- **43**

2.2.1. Introduction ---------- 43

2.2.2. Profiles ---------- 44

2.2.3. Motivations, facilitators and barriers to triathlon engagement ---------- 48

2.2.4. Practices ---------- 52

2.2.5. Summary ---------- 58

2.3. Geographies of triathlon ---------- **59**

2.3.1. Introduction ---------- 59

2.3.2. Training locations ---------- 61

2.3.3. Accessibility ---------- 66

2.3.4. Summary ---------- 73

2.4. Social world ---------- **74**

2.4.1. Introduction ---------- 74

2.4.2. The concept of the social world ---------- 75
2.4.3. Characteristics of sporting social worlds ---------- 80
2.4.4. Summary ---------- 89
2.5. Digital world ---------- 90
2.5.1. Introduction ---------- 90
2.5.2. Digital geographies ---------- 92
2.5.3. Technology and the digital within sport ---------- 95
2.5.4. Strava ---------- 100
2.5.5. Summary ---------- 107
2.6. Conclusion ---------- 108

3. METHODOLOGY ---------- 111

3.1. Mixed method approach ---------- 111
3.1.1. Quantitative research methods ---------- 114
3.1.2. Qualitative research methods ---------- 121
3.1.2.2. Semi-structured interviews ---------- 124
3.2. Research population and recruitment ---------- 129
3.2.1. Survey sampling ---------- 129
3.2.2. Selection of case study sites ---------- 131
3.3. Data analysis ---------- 136
3.3.1. IBM SPSS Statistics ---------- 137
3.3.2. NVivo 10 ---------- 138
3.4. Confidentiality, anonymity and withdrawal ---------- 141
3.5. Methodological reflections ---------- 143
3.5.1. Positionality and reflexivity ---------- 143
3.5.2. Online survey ---------- 146
3.5.3. Observations ---------- 146
3.5.4. Interviews ---------- 147
3.5.5. General considerations ---------- 148
3.6. Conclusion ---------- 149

4. SETTING THE SCENE: TRIATHLON IN GREAT BRITAIN ---------- 151

4.1. Development ---------- 151
4.2. Demographics ---------- 153
4.3. Types of triathlon events ---------- 158
4.4. Clubs ---------- 161
4.5. Events ---------- 163

4.6. Summary ---------- **169**

5. TRIATHLON AS SERIOUS LEISURE ---------- **170**

5.1. Introduction ---------- **170**

5.1.1. Participants and their practices ---------- 170

5.1.2. Chapter overview ---------- 171

5.2. Profiles of triathletes ---------- **172**

5.2.1. Existing typologies ---------- 178

5.2.2. A sevenfold serious leisure typology of triathletes ---------- 182

5.3. Facilitators and barriers ---------- **186**

5.3.1. Facilitators ---------- 188

5.3.2. Barriers ---------- 194

5.4. Practices and performances ---------- **200**

5.4.1. Training and competitions ---------- 200

5.4.2. Social practices ---------- 205

5.4.3. Volunteering ---------- 210

5.5. Conclusion ---------- **214**

6. THE LOCATIONAL GEOGRAPHIES OF TRIATHLON ---------- **216**

6.1. Introduction ---------- **216**

6.2. Training locations ---------- **217**

6.2.1. The place-specificity of triathlon training locations ---------- 221

6.2.2. Specialised training locations ---------- 226

6.2.3. Semi-specialised training locations ---------- 232

6.2.4. Unspecialised training locations ---------- 238

6.2.4.4. The home ---------- 244

6.3. Accessibility ---------- **247**

6.3.1. Provision ---------- 248

6.3.2. Proximity ---------- 251

6.3.3. Social access ---------- 257

6.4. Conclusion ---------- **261**

7. THE SOCIAL WORLD OF TRIATHLON ---------- **263**

7.1. The multi-scalar social world concept ---------- **265**

7.2. The role of triathlon clubs ---------- **271**

7.2.1. Club membership ---------- 273

7.2.2. Sharing knowledge ---------- 279

7.2.3. Volunteering ---------- 284

7.2.4. Social networks and friendship ---------- 289
7.2.5. The spatial centre of the social world? ---------- 292
7.3. Identity ---------- 295
7.3.1. The 'triathlete' identity ---------- 297
7.3.2. Subcultural capital ---------- 303
7.3.3. Events and identity ---------- 310
7.4. Summary ---------- 313
8. THE VIRTUAL WORLD OF TRIATHLON ---------- 314
8.1. The fundamental role of technology ---------- 316
8.1.1. An increasingly digital world… ---------- 316
8.1.2. Focus of the research ---------- 322
8.1.3. Overview ---------- 325
8.2. Mediated communication ---------- 328
8.2.1. The role of mediated communication ---------- 329
8.2.2. Online extensibility ---------- 332
8.2.3. Socially-enabled indoor training applications ---------- 334
8.3. Practices of activity tracking in triathlon ---------- 337
8.3.1. "If it's not on Strava it didn't happen": ---------- 339
8.3.2. Social comparison and surveillance ---------- 342
8.3.3. A digital sense of physical space? ---------- 349
8.4. Conclusion ---------- 352
9. CONCLUSION ---------- 354
9.1. Contributions to knowledge ---------- 356
9.1.1. Triathlon as serious leisure ---------- 356
9.1.2. Geographies of triathlon ---------- 358
9.1.3. The social world of triathlon ---------- 361
9.1.4. The virtual world of triathlon ---------- 365
9.2. Future research directions ---------- 369
9.2.1. Academic study ---------- 369
9.2.2. Covid-19 ---------- 370
APPENDICES ---------- 372
Appendix A – Online Survey Example ---------- 372
Appendix B – Online Survey Dispersal Strategy ---------- 396
Appendix C – List of Participants ---------- 402

Appendix D – Semi-structured Interview Guide ---------- 404

Appendix E – Detailed Statistical Tables ---------- 407

Appendix F – Two-Step Cluster Analysis Methodology ---------- 420

REFERENCE LIST ---------- 422

List of Figures

FIGURE 2.1 - INTRINSIC AND EXTRINSIC MOTIVATIONS FOR TRIATHLON ENGAGEMENT (ADAPTED FROM LAMONT AND KENNELLY 2012). 50

FIGURE 2.2 - TYPOLOGY OF MEMBERS OF THE DISTANCE RUNNING SOCIAL WORLD (ADAPTED FROM SHIPWAY 2008). 77

FIGURE 2.3 - FOUR FEATURES OF INVOLVEMENT IN SOCIAL WORLDS (ADAPTED FROM UNRUH 1980). 78

FIGURE 2.4 – CONCEPTUAL FRAMEWORK OF THE SOCIAL WORLD CHARACTERISTICS (ADAPTED FROM HUGHES 2015). 79

FIGURE 2.5 - GENDER DISPARITY OF STRAVA BASED ON POPULAR STRAVA 'SEGMENTS' (STRAVA 2019A, 2019B). 102

FIGURE 3.1 - EXPLANATORY SEQUENTIAL DESIGN FOR MIXED METHOD RESEARCH APPROACH (ADAPTED FROM CRESWELL ET AL. 2003). 114

FIGURE 3.2 - SIMPLIFIED SURVEY STRUCTURE. 116

FIGURE 3.3 - ONLINE SURVEY ADVERTISEMENT IMAGES. 118

FIGURE 3.4 - SPATIAL DISTRIBUTION OF TRIATHLON CLUBS AND EVENTS IN GREAT BRITAIN. (SOURCE: BRITISH TRIATHLON 2017A, 2017B). 120

FIGURE 3.5 - CONCISE SEMI-STRUCTURED INTERVIEW GUIDE. 127

FIGURE 3.6 - INTERVIEW PROTOCOL REFINEMENT METHOD (ADAPTED FROM CASTILLO-MONTOYA 2016). 128

FIGURE 3.7 - AGE DISTRIBUTION OF RESPONDENTS FROM TRIATHLON INDUSTRY ASSOCIATION UK TRIATHLETE SURVEY, ONLINE RESEARCH SURVEY (N = 591) AND RESEARCH INTERVIEWEES (N = 22). SOURCE: TIA 2016; OWN SURVEY 2018. 131

FIGURE 3.8 - REGIONAL STRUCTURE OF BRITISH TRIATHLON (BRITISH TRIATHLON 2020A). .. 132

FIGURE 3.9 - EAST MIDLANDS REGION. 133

FIGURE 3.10 - SIX-STAGE PROCESS OF THEMATIC *ANALYSIS (ADAPTED FROM BRAUN AND CLARKE 2006).* 139

FIGURE 4.1 – COMPARISON OF REGIONAL TRIATHLON REPRESENTATION. REGIONAL SHARE OF RESPONDENTS FROM TIA ANNUAL SURVEY, PROPORTION OF RESPONDENTS FROM MY OWN SURVEY, NUMBER OF EVENTS PER 1000 PEOPLE, AND NUMBER OF CLUBS PER 1000 PEOPLE. THE DATA REPRESENT REGIONAL RANK RATHER THAN ABSOLUTE VALUES. SOURCES: BRITISH TRIATHLON 2016A, 2016B; TIA 2017, OWN SURVEY 2018 (SEE APPENDIX E.1 FOR DETAILED DATA). 157

FIGURE 4.2 – SPATIAL DISTRIBUTION OF TRIATHLON EVENTS IN GREAT BRITAIN BY SWIM TYPE (SOURCE: BRITISH TRIATHLON 2017A, 2017B). 168

FIGURE 5.1 – A SERIOUS LEISURE TYPOLOGY OF TRIATHLETES. SOURCE: OWN SURVEY 2018 (N=591). 182

FIGURE 5.2 - MOTIVATIONS AND BARRIERS TO TRIATHLON PARTICIPATION BY GENDER. SOURCE: OWN SURVEY 2018 (N=591). 187
FIGURE 5.3 - RELATIONSHIP BETWEEN TRIATHLON EVENT TYPE AND REGULARITY OF TRAINING. SOURCE: OWN SURVEY 2018 (N=591). 203
FIGURE 5.4 - PARTICIPATION IN TRIATHLON EVENTS BY GENDER. SOURCE: OWN SURVEY 2018 (N=591). 204
FIGURE 5.5 - WORD CLOUD OF RESPONSES TO Q32 (IN YOUR OPINION, WHAT DOES IT TAKE FOR SOMEONE TO BECOME A 'TRIATHLETE'?). SOURCE: OWN SURVEY 2018 (N=591).... 207
FIGURE 6.1 - REGULARITY OF TRAINING LOCATION USE RANKED FROM MOST TO LEAST REGULARLY USED. SOURCE: OWN SURVEY 2018 (N=591). 220
FIGURE 6.2 – CONCEPTUAL CONTINUUM ON THE SPECIALISATION OF TRIATHLON TRAINING LOCATIONS. 224
FIGURE 6.3 - PROPORTION OF SELF-IDENTIFIED 'TRIATHLETES' WHO USE DIFFERENT TRAINING LOCATIONS COMPARED TO THOSE WHO DO NOT CONSIDER THEMSELVES AS A 'TRIATHLETE'. SOURCE: OWN SURVEY 2018 (N=591). 228
FIGURE 6.4 - BAR CHARTS DEMONSTRATING THAT SOCIALLY-ORIENTATED RESPONDENTS ARE MORE LIKELY TO USE ATHLETICS TRACKS FOR TRAINING. SOURCE: OWN SURVEY 2018 (N=591). 230
FIGURE 6.5 - EXAMPLES OF POORLY IMPLEMENTED CYCLE LANES (SOURCES: A) THORNE 2015, B) LAKER 2015, C) BROWN 2012, D) KENNY 2016). 236
FIGURE 6.6 - REGULARITY OF TRAINING LOCATION USE IN RELATION TO PROXIMITY. SOURCE: OWN SURVEY 2018 (N=591). 253
FIGURE 7.1 - SCALES OF SOCIAL WORLD ANALYSIS (ADAPTED FROM UNRUH 1980: 287). 268
FIGURE 7.2 - THE TRIATHLON SOCIAL WORLD (ADAPTED FROM UNRUH 1980). 269
FIGURE 7.3 - EXAMPLE OF KNOWLEDGE EXCHANGE THROUGH TRIATHLON CLUB'S FACEBOOK GROUP. 283
FIGURE 7.4 - AVERAGE NUMBER OF VOLUNTEERS PER CLUB IN VARIOUS ROLES (ADAPTED FROM BRITISH TRIATHLON 2020B: 7). 285
FIGURE 7.5 - DIFFERENCES BETWEEN CULTURAL, SUBCULTURAL AND SOCIAL CAPITAL. 304
FIGURE 8.1 - STRAVA ACTIVITY EXAMPLE. CALLUM HAWKINS' IAAF WORLD CHAMPIONSHIP MARATHON PERFORMANCE (SOURCE: STRAVA 2018). 320
FIGURE 8.2 - STRAVA SEGMENT EXAMPLES. ROMAN BARDET'S MILAN SAN REMO PERFORMANCE (SOURCE: STRAVA 2019). 321
FIGURE 8.3 - REGULARITY OF GPS DEVICE USAGE AMONGST RESPONDENTS. 322
FIGURE 8.4 - THE VIRTUAL WORLD OF TRIATHLON. 327
FIGURE 8.5 - IMPACT OF CORONAVIRUS ON THE NUMBER OF GLOBAL ZWIFT USERS (SOURCE: SCHLANGE 2020). 336

FIGURE 8.6 - EXAMPLE OF STRAVA-SEGMENT INFLUENCED ACTIVITY (SOURCE: TTC CLUB MEMBER)..... 342

Table List

TABLE 4.2 - EXTENDED GEOGRAPHICAL REGION OVERVIEW OF TRIATHLON CLUBS IN GREAT BRITAIN (BRITISH TRIATHLON 2017A). ---------- 163

TABLE 4.3 - DETAILS REGARDING TRIATHLON EVENTS IN GREAT BRITAIN IN 2017. DATA AMALGAMATED FROM MORE THAN 500 SPECIFIC EVENT WEBSITES. ---------- 165

TABLE 5.1 - DEMOGRAPHIC CHARACTERISTICS AND PRACTICES OF SURVEY RESPONDENTS (N=591). ---------- 174

TABLE 5.2 - COMPARISON OF KEY DEMOGRAPHIC CHARACTERISTICS AND PRACTICES OF TRIATHLETES WITH PREVIOUS RESEARCH SURVEYS. ---------- 175

TABLE 5.3 – OVERVIEW OF EXISTING PHYSICAL ACTIVITY TYPOLOGIES. ---------- 180

TABLE 5.4 - OVERVIEW OF TRIATHLETE TYPOLOGY CLASSIFICATION. ---------- 183

TABLE 6.1 - RELATIONSHIP BETWEEN PROXIMITY TO TRAINING LOCATIONS AND PERCENTAGE OF RESPONDENTS WHO WERE COMPLETELY SATISFIED WITH THEIR LOCAL AREA FOR TRIATHLON TRAINING. ALL VALUES IN PERCENTAGES. SOURCE: OWN SURVEY (N=591). ---------- 256

TABLE 6.2 - COMPARISON OF REGULARITY OF USE AND PROXIMITY OF TRAINING LOCATIONS BY RANK. SOURCE: OWN SURVEY 2018 (N=591). ---------- 260

APPENDIX E.2 - RESULTS FROM Q4 (ARE YOU A CURRENTLY A MEMBER OF A TRIATHLON CLUB?), Q18.10 (WHAT ARE YOUR MOTIVATIONS FOR PARTICIPATING IN TRIATHLON? – FRIENDSHIP AND SOCIALISING), Q29 (TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS? – TRIATHLON FORMS AN IMPORTANT PART OF MY SOCIAL LIFE) VS Q30 (WHO DO YOU PERFORM TRIATHLON-BASED ACTIVITY WITH?). ALL VALUES IN PERCENTAGES. ---------- 408

APPENDIX E.3 - RESULTS FROM Q18.2 (WHAT ARE YOUR MAIN MOTIVATIONS FOR PARTICIPATING IN TRIATHLON? – TO CHALLENGE MYSELF) VS Q3 (HOW LONG HAVE YOU BEEN INVOLVED IN THE SPORT?). ALL VALUES IN PERCENTAGES. ---------- 409

APPENDIX E.4 - RESULTS FROM Q18.1 (WHAT ARE YOUR MOTIVATIONS FOR PARTICIPATING IN TRIATHLON? – GENERAL FITNESS AND HEALTH) VS. Q17 (ON HOW MANY SEPARATE OCCASIONS DO YOU ENGAGE IN TRIATHLON-BASED ACTIVITY DURING AN AVERAGE WEEK?). ALL VALUES IN PERCENTAGES. ---------- 409

APPENDIX E.5 - RESULTS FROM Q18.1 (WHAT ARE YOUR MOTIVATIONS FOR PARTICIPATING IN TRIATHLON? – GENERAL FITNESS AND HEALTH) VS. Q34 (HOW OLD ARE YOU?). ALL VALUES IN PERCENTAGES. ---------- 410

APPENDIX E.6 - RESULTS FROM Q4 (ARE YOU A CURRENTLY A MEMBER OF A TRIATHLON CLUB?), Q35 (WHAT IS YOUR GENDER?), AND Q37 (WHAT IS YOUR ANNUAL INCOME?) VS.

Q18.10 (WHAT ARE YOUR MOTIVATIONS FOR PARTICIPATING IN TRIATHLON? – FRIENDSHIP AND SOCIALISING). ALL VALUES ARE IN PERCENTAGES. ---------- 411

APPENDIX E.7 - RESULTS FROM Q37 (WHAT IS YOUR ANNUAL INCOME? VS. Q19.2 (WHAT ARE THE MAIN BARRIERS ASSOCIATED WITH YOUR TRIATHLON PARTICIPATION? – WORK COMMITMENTS). ALL VALUES IN PERCENTAGES. ---------- 412

APPENDIX E.8 - RESULTS FROM Q16 (HOW MANY HOURS DO YOU SPEND DOING TRIATHLON-BASED ACTIVITY IN AN AVERAGE WEEK?) VS. Q19.1 (WHAT ARE THE MAIN BARRIERS ASSOCIATED WITH YOUR TRIATHLON PARTICIPATION? – FAMILY COMMITMENTS).------ 412

APPENDIX E.9 - RESULTS FROM Q4 (ARE YOU CURRENTLY A MEMBER OF A TRIATHLON CLUB?) VS. Q19.1 (WHAT ARE THE MAIN BARRIERS ASSOCIATED WITH YOUR TRIATHLON PARTICIPATION? – FAMILY COMMITMENTS). ---------- 413

APPENDIX E.10 - RESULTS OF Q7.5 (WHICH OF THESE SPORTING EVENTS HAVE YOU COMPLETED IN THE PAST YEAR? – MIDDLE-DISTANCE TRIATHLON) AND Q7.6 (WHICH OF THESE SPORTING EVENTS HAVE YOU COMPLETED IN THE PAST YEAR? – FULL-DISTANCE TRIATHLON) VS. RESULTS OF Q37 (WHAT IS YOUR ANNUAL INCOME?). ALL VALUES IN PERCENTAGES. ---------- 414

APPENDIX E.11 - RESULTS OF Q6 (HOW MANY TRIATHLON OR MULTI-SPORT EVENTS HAVE YOU COMPLETED IN THE PAST YEAR?) VS. Q19.8 (WHAT ARE THE MAIN BARRIERS ASSOCIATED WITH YOUR TRIATHLON PARTICIPATION? – CONFIDENCE). ALL VALUES IN PERCENTAGES. ---------- 415

APPENDIX E.13 - RESULTS OF Q29.1 (TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS? – I WOULD DESCRIBE MYSELF AS A TRIATHLETE) VS. Q18.10 (WHAT ARE YOUR MOTIVATIONS FOR PARTICIPATING IN TRIATHLON? – FRIENDSHIP AND SOCIALISING) AND Q29.5 (TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS? – TRIATHLON FORMS AN IMPORTANT PART OF MY SOCIAL LIFE). ALL VALUES IN PERCENTAGES. ---------- 417

APPENDIX E.14 - Q7 (WHICH OF THESE EVENTS HAVE YOU COMPLETED IN THE PAST YEAR? - MIDDLE-DISTANCE & FULL-DISTANCE) VS. Q8 (HOW REGULARLY DO YOU USE THE FOLLOWING TRAINING LOCATIONS – LAKE/RESERVOIR). ALL VALUES IN PERCENTAGES. ---------- 418

APPENDIX E.15 - Q8 (DO YOU USE THE FOLLOWING LOCATIONS/FACILITIES FOR YOUR TRIATHLON TRAINING?) VS. Q19.1 (WHAT ARE THE MAIN BARRIERS TO YOUR TRIATHLON ENGAGEMENT - FAMILY COMMITMENTS) AND Q19 (WHAT ARE THE MAIN BARRIERS TO YOUR TRIATHLON ENGAGEMENT - TIME COMMITMENTS). ALL VALUES IN PERCENTAGES. ---------- 419

APPENDIX E.16 - RESULTS FROM Q31 (DURING THE PAST 12 MONTHS, HAVE YOU GIVEN ANY OF YOUR TIME TO DO ANY OF THE FOLLOWING TRIATHLON-BASED VOLUNTEERING OPPORTUNITIES? – RESPONDENTS WHO DID NOT SELECT 'NONE OF THE ABOVE' VS. Q29.1 (TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS? – I WOULD DESCRIBE MYSELF AS A TRIATHLETE). ALL VALUES IN PERCENTAGES.---------- 419

1. Introduction

1.1. Introduction of topic

> Leisure, in all its forms and in its many spaces, needs to be more widely understood (Duncan 2017: 1).

With the exception of a recent swathe of research which has begun to demonstrate the potential of a geographical approach for exploring practices associated with physical activity, to date there has been a general neglect of sport within geography and the social sciences. In response there have been calls for practice-led research in the social sciences surrounding sport and physical activity (Wiltshire and Stevinson 2018). Amongst the work that does exist, there has been a tendency to focus on the practices and experiences of elite sport participants, with the more recreational majority typically being disregarded or overlooked. Concerning sport and physical activity, there has been a significant lack of insight into the impact of social difference within physical activity, and a similar absence of attention paid to the spaces which are conducive to physical activity. In addition to material environments, Larsen (2016) has argued that sporting practices need to be understood in relation to their social and technological environments. Both the subtleties of sociality and the dynamics of digital interactions and associated practices have received insufficient attention in relation to sport and physical activity. Due to the relative omission of physical activity studies within human geography, there are a number of sports which would be an effective case study to address these gaps in the academic literature. Despite its short history, triathlon is a sport which has a large participant base, yet the sport has almost entirely avoided study within the social sciences, and with only limited studies in related disciplines, making it fresh and fruitful ground on which to explore these issues. As a sport consisting of multiple distinct activities, each necessitating the use of specific spaces, triathlon is a valuable case study through which to explore the physical and social aspects which make different spaces conducive to physical activity practices. In terms of sociality and digital interactions, the triathlon community is thriving, physically through its extensive club and event network, but also digitally with a highly technologised

participant base and with the digital world deeply engrained within the community's practices and norms. Together these features make triathlon a rich case study through which to develop further understanding of spatial, social and digital sporting worlds.

Triathlon is a multi-sport activity that consists of swimming, cycling, and running performed sequentially by an individual, or occasionally, as a team. Over the last decade, the sport of triathlon has experienced significant growth in terms of participants, events and competitions, in addition to benefitting from increased coverage within the media (British Triathlon 2021). Despite having a unique participant base, a spatially extensive geographical training footprint, an active and socially engaged community, and a complex engagement with digitally-enabled technologies, triathlon has currently eluded significant study within geography and the social sciences.

In the Department for Digital, Culture, Media and Sport's 'Sporting Future' strategy (DCMS 2015), there is a clear shift in approach from merely encouraging people to take part to how sport can have a meaningful and measurable impact on improving people's lives beyond purely physical fitness. Accordingly, over the past decade there has been an increasing amount of attention directed at improving the population's level of physical activity, and in turn, their physical and mental health and wellbeing. A burgeoning body of work has emphasised the significant potential of sport and physical activity to contribute positively to participants' health, advertising the physical (reduced risk of several chronic diseases, mobility improvements, cardiovascular endurance and muscular strength), mental (confidence, self-esteem and cognitive functioning) and social (sense of belonging and increased social contact) benefits of physical activity engagement (Andrews 2016; DCMS 2015; Government Office for Science 2007; Stamatakis and Chaudhury 2008). These individual benefits, coupled with the potential for reduced healthcare expenses, lower levels of crime, stronger community cohesion, and a more productive workforce, has meant that physical activity promotion has become a key priority within the political agenda in Great Britain (Stamatakis and Chaudhury 2008). Through health-orientated initiatives, programs and schemes, government

organisations and health-promoting institutions have directed increasing emphasis at encouraging various forms of physical activity, for as Nettleton and Green (2014: 239) contend, “our hyper-mobile world is, paradoxically, one in which many human actors are increasingly sedentary”. The institutional focus on improving the population’s health through promoting physical activity engagement, and the rising cultural appeal surrounding self-responsibility over one’s health, has had the resultant effect of increasing participation in a number of sport and leisure practices (Hitchings and Latham 2017). In their latest ‘Active Lives’ survey, Sport England noted a 0.8% increase in the number of adults achieving more than 150 minutes of activity each week in the past year, bringing the total percentage of ‘active’ persons to almost 63% (Sport England 2019).

Signs of this growth are evident from the presence of an increasing amount of research within geography and the social sciences exploring the characteristics, practices and experiences of these activities and their participants. Earlier pioneering work by John Bale on ‘sports geography’ discussed sport as a major aspect of political, social, and economic life and linked it to the geographical concepts of space and place (Bale 2004; Bale and Dejonghe 2008). However, despite the political, economic, social and cultural importance of sport within the developed world, the earlier work of sports geographers was inherently elite-focussed, overlooking the everyday recreational practices that reflect the majority of sport involvement (Andrews 2016). Consequently, the field has had difficulty contributing to geography as a whole (Dear 1988). Only recently has renewed attention been devoted to the connections between sport and geography with a shift in focus to cater for the everyman and everywoman of sport engagement (Koch 2017), what Andrews (2016) describes as ‘spatial sport studies’. Such studies focus on a range of activities, including; rock climbing (Rickly 2016), bodybuilding (Andrews *et al.* 2005), dog walking (Fletcher and Platt, 2016), skating (Stratford 2016), swimming (DeLuca 2016; Ward 2017), cycling (Barratt 2017; Larsen 2018; Spinney, 2016) and running (Cook *et al.* 2016; Shipway *et al.* 2012).

Although triathlon has been the focus of much work in sports psychology, sport science, physical performance and sport management, triathlon as a leisure activity

has received limited attention within academic circles (Miller 2012). Among the small body of work that does exist, academics have explored; the unique 'pain community' associated with triathlon (Atkinson 2008), comparisons between triathlon engagement and neoliberal ideologies of individualism (Bridel 2013), the extrinsic and intrinsic motivations of triathletes (Lamont and Kennelly 2012), experiences of participation in Ironman triathlon events (McCarville 2007), how Ironman triathlon participants balance work, family and leisure (Simmons *et al.* 2016), and marketing profiles of triathletes (Wicker *et al.* 2012; Wicker *et al.* 2013). This overview of current triathlon research emphasises the lack of geographically-focused work, and a limited focus on the importance of place in relation to the spatial, social and digital practices of triathletes.

Despite the significant potential of geography to contribute to comprehensive understandings of sport and physical activity, there has been a "relative neglect of sports in human geography" (Andrews 2016: 3). With the aim of extending understandings of triathlon practice, this research draws upon a large breadth of research from multiple disciplines that are connected by a geographical research perspective interested in triathlon, its variations and its constituent activities. An interdisciplinary approach is necessary to move beyond the boundaries and limitations of a single discipline and to produce findings that are richer than those collected from one discipline alone (Andrews 2016). In addition, engaging with the wider body of sport literature through a multidisciplinary approach can encourage geographers to develop deeper, more comprehensive insights into physical activity practices (Koch 2017).

The nature of triathlon engagement, taking place in a wide variety of specialised and unspecialised, indoor and outdoor, private and public places, with clear regional and local differences and a distinct social world with an accompanying digital community, makes the activity well suited to geographical analysis. A geographical approach has significant potential to contribute to understandings of sport and physical activity practices (Ilieș et al. 2014) because of its contribution to understanding interactions between people and place, communities and cultures at

different scales, in addition to possessing a wealth of effective analytical tools. Even more so because “sport is inherently geographic” (Gaffney 2014: 2019).

> Sport is too big and too important as a subject for its geographies to be relatively neglected (Andrews 2016: 4).

1.2. Situating the research

Latham and Layton (2019) highlight four observations that summarise geography’s lack of engagement with the practices of physical activity. The first of these observations is a general preoccupation with elite sport, and the second a tendency to focus on the most extraordinary or transgressive aspects of certain activities. While performance-orientated aspects of triathlon practice have been investigated extensively in the fields of sports science and sport sociology, the practices of leisure-focused participants have eluded sustained study in the social sciences (Bale 2004). Previous research on triathlon has typically experienced these tendencies, with a propensity for research to focus on the practices and experiences associated with extreme endurance events such as Ironman triathlon (Atkinson 2008; Bridel 2013; Simmons *et al.* 2016). Although both fascinating and illuminating, a focus on the most extreme examples of triathlon engagement detracts from the more recreational segment of triathletes that make up the majority of triathlon participants (Edwards 2001). A broader focus on the inherent diversity of participants and practices within physical activity arguably has greater potential to contribute to understandings, and therefore promotion of, active health practices (Hitchings and Latham 2017). This contention is shared by Andrews (2016: 3) who argues that:

> broadening the definition of sports and widening one’s research lens potentially increases the global study population from thousands to millions of subjects, covering numerous activities central to many peoples’ everyday lives.

Endeavouring to improve understandings of the spatial, social, and digital practices associated with a spectrum of physical activities is a fundamental step in order to encourage new and sustained participation within these activities (Barratt 2017). Additionally, this understanding has implications for wider debates concerning

healthy lifestyles, and contributes to academic scholarship in geography and the social sciences (Cook *et al.* 2016). Accordingly, this research is concentrated on understanding the unique practices associated with the growing leisure activity of triathlon, notably the locational, social and digital geographies and practices associated with the activity.

1.2.1. Profiles and practices

Research on the motivations and practices of triathletes has not emerged entirely from an academic context. As concerns over increasingly sedentary lifestyles have received growing attention, institutions with an interest in encouraging and sustaining active lifestyles, such as Sport England and British Triathlon, have engaged in research to create a national picture of sports participation (British Triathlon 2016; Sport England 2017). Similarly, interest in triathlon as a profitable sports market has generated research studies that have sought to identify the characteristics, needs, and preferences of triathletes, providing useful statistics on demographics, motivations, and practices (MultiSport Research 2017a; Triathlon Industry Association 2017). Within academia, from sports management and marketing perspectives, triathlon has gained attention as a growing sport with a notable level of sport-related expenditure among participants (Wicker *et al.* 2013), with researchers investigating the unique segments of consumers that make up the triathlon participant base (Wicker *et al.* 2012). Outside of these studies capitalising on the marketing and economic potential of triathlon, there is a lack of research providing insight into the wide variety of individuals who choose to spend a significant amount of their leisure time pursing a demanding activity such as triathlon. DCMS argue that to ensure a greater diversity of people regularly and meaningfully participating in physical activity, “sport must become more demand-led, recognising the different motivations, attitudes and lifestyles of its potential customer base” (DCMS 2015: 20). Previous insights into the profiles of British triathletes have provided insight into the make-up of the triathlon participant base in terms of gender, age, socio-economic class and disabilities (Multisport Research 2017a). However, these studies appear to have limited interest in exploring how triathletes behavioural and leisure practices vary along the lines of social difference.

The intense level of dedication and resource commitment, in combination with the often central-role that triathlon plays in participant's social lives, has led a number of researchers to conceptualise triathlon as a form of serious leisure (Stebbins 1992). These previous associations between triathlon and serious leisure have been fleeting at best. The analytical framework of serious leisure is a useful tool to focus the investigation on the practices of triathletes, and hence, this research makes a comprehensive argument for considering triathlon as a form of serious leisure, not only for its most committed participants (Bridel 2013; Lamont and Kennelly 2012) but across almost all degrees of triathlon involvement. Furthermore, through statistical analysis of results from a large-scale online survey, this research aims to identify the extent to which triathlon practices are impacted level of engagement – through the creation of a typology of triathletes – and further by gender, age and income.

1.2.2. Geography

Interestingly, despite the growing interest in health, leisure and place, and the interconnections between the three, there continues to be a lack of enquiry into the locations where, when and how activities such as triathlon are performed, particularly in research from a geographical perspective. Latham and Layton (2019) identify this lack of geographical engagement, suggesting that geographers, with their thorough analytical and methodological approaches, are well placed to investigate the places and environmental features that form the social infrastructure of sport and physical activity. Although seemingly mundane, the environment is much more than simply an 'inert backdrop' for physical activity (Barnfield 2016). In recent years, there has been a growing interest in the role of the physical environment and place in public health and for physical activity (Han *et al.* 2013; Krenichyn 2006; Ward Thompson 2013), though there is still a notable absence of work that explores the spatialities and geographies of sporting activity (Das and Horton 2012). Hitchings and Latham (2017) argue that this knowledge can make important contributions to health promotion strategies, particularly in relation to popular activities such as running, cycling and triathlon. Understanding the physical and social factors influencing the spatiality of physical activity practices is essential for designing and providing safe and convenient spaces to support these activities (Barnfield 2019).

The enabling features of place for physical activity have been a topic I have been passionate about during my time in academia. My work on the geographies of recreational running (Giles 2016), explored the route selection processes of participants to uncover the topographical and social characteristics of place that determined the extent to which they facilitate or impede running activity. The results from this work demonstrated how a stereotypically unrestricted activity such as running (Bale 2004) can manifest in much more spatially restricted ways, with runners utilising spaces that were accessible, convenient, and possessing infrastructural characteristics that increased the likelihood of unimpeded mobility (Giles 2016). Similarly to running, triathlon is arguably not subject to the same rigorously enforced spatial parameters as other sports.

Triathlon is an activity that has its own unique geography, taking place in a range of notionally indoor/outdoor, public/private spaces, some more or less specialised to cater for endurance sport activity, making it a suitable context through which to explore the importance of understanding spaces for physical activity, and to determine the extent that access to particular spaces may have on individuals' practice. Currently, there is a substantial gap in the literature surrounding the temporalities, geographies and intricacies of triathlon practices, which arguably has the capacity to contribute to wider understandings of sporting practices in geography and the social sciences, and for concerned institutions and interested parties to promote and encourage participation in triathlon and other forms of physical activity.

In addition to a focus on the spatiality of triathletes' everyday sporting practices, this research also considers the importance of various forms of accessibility for enabling or impeding triathletes' ability to engage in the activity. Regular physical activity participation is reliant on the physical and social accessibility of leisure opportunities for individuals (Andrade *et al.* 2018; Warn and Witherick 2003). Consequently, activities that can be initiated from the home with limited required equipment – 'doorstep sports' – have soared in popularity in response to increasingly busy schedules (Hitchings and Latham 2018; Mintel 2015). Triathlon, like cycling and running, is popular today as it is flexible, reasonably accessible, and is mostly "free from the constraints of social co-ordination" (Barratt 2017: 328). Issues of

accessibility are central to the promotion of physical activity, with a wealth of research highlighting the importance of providing activity enabling infrastructure (Piatkowski and Marshall 2015), easily accessible leisure facilities (Deelen *et al.* 2018; Huston *et al.* 2003) and inclusive, simple to enter events (Stevinson *et al.* 2015) in order to increase the feasibility of and reduce the barriers to entry for participation in physical activity. Yet, the extent to which proximity, provision, and social access affect triathlon participation, and which spaces and facilities are conducive to physical activity, is not yet fully understood (Foley and Kistemann 2015). Furthermore, access to and provision of these activity-enabling places within Great Britain is not equal with respect to geography and population groups (Panter *et al.* 2008). Therefore, a greater awareness of the impact of proximity, provision, quality, and the factors impacting social access in relation to physical activity-enabling locations and facilities, can help to provide better understandings of the physical activity practices of triathletes.

1.2.3. Social world

Further drawing on the recommendations of Hitchings and Latham (2017:1), this research responds to calls to better understand the "subtleties of how sociality features in contemporary exercise practices". Unlike less serious forms of leisure activity, which are "too fleeting, mundane and commonplace for most people to find a distinctive identity" (Stebbins 1992: 7), triathlon as an intense sport with committed participants is able to provide individuals with a positive social identity (Green and Jones 2005). Additionally, the strength of the social identities formed within triathlon as a meaningful, engaging, and high investment activity, arguably results in a greater immersion within the triathlon 'social world'—a unit of social organisation consisting of actors, organisations, events and practices associated with an activity, experience, technology or lifestyle (Unruh 1980). The theoretical framework of the 'social world' has been utilised to help understand the communities of sporting activities such as cycling (Buning and Gibson 2016) and distance running (Shipway *et al.* 2012), and previous studies of triathlon have cited the theory's relevance to understanding sociality in triathlon (Lamont and Kennelly 2019). For example, McCarville (2007) argues that an understanding of social worlds (Unruh 1980), in addition to the idea of

serious leisure (Stebbins 1992) is useful for explaining the experience of the average triathlete.

The shared physical exertion and accompanying rush of endorphins, combined with passionate and engaging social communities and the collective support associated with sport and leisure activities often result in them having a substantial influence on participants sense of identity (Horton and Kraftl 2013). Today, leisure is increasingly seen as an opportunity for personal expression, enhancement of self-identity, and self-fulfilment. Sport and leisure identities are not formed out of thin air in isolation but occur gradually over time in association with particular events in certain key spaces (Shipway *et al.* 2012). Sporting events are widely considered as key sites for the development of leisure identities (Lee *et al.* 2016), evidenced by studies exploring adventure recreation (Lynch and Dibben 2015), running (Shipway and Jones 2008), cycling (Shipway *et al.* 2016) and triathlon (Bridel 2010). However, with the exception of Shipway *et al.'s* (2012) exploration of the distance running social world, the everyday training and socialising practices of triathletes and the spaces in which they occur are almost always overlooked in these identity-focused studies. Physical and digital worlds have become increasingly intertwined (Lane 2012) and resultantly sport participants have become increasingly embedded into digital worlds (Barratt 2017). Das and Horton (2012) suggest that there is a need to consider the social environments in which physical activity takes place. Therefore, one focus of this research will be to identify the key spaces, places and events that impact the process of social identity formation within triathlon. In addition, as a key constituent of the serious leisure framework, attention will also be given to the 'unique ethos' that underpins and unites the contemporary triathlon community.

Although emerging research has acknowledged the importance of social networking sites for sharing digital representations of physical activity (Barratt 2017) and as a means of developing sport-related social capital (Mahan *et al.* 2015), the importance of the digital as a means of mediated interaction within sporting social worlds is a topic that has received insufficient attention.

> Human geography research facilitates the investigation and analysis of both individual and collective social worlds in order to gain more in-depth understandings about society-space and people-place relationships (Parr 2001: 181).

This research goes beyond previous investigations into sporting social worlds, contributing to understandings of the digital worlds that support, propagate and (re)produce the practices, behaviours and socialites of the triathlon social world.

1.2.4. Digital world

> The proliferation of digital technologies – meaning, the devices used to create digital media, and the software used to edit and share it online – is reframing the world in which we live (Woods 2018: 2).

The rapid expansion and spreading of digitally-enabled technology into almost every facet of everyday life (Thrift and French 2002) has created a state of being where it is more and more apparent that the “geographies of everyday life are increasingly mediated and augmented by technology" (Barratt 2017: 330). The pervasive and ubiquitous role of the digital within contemporary society has been parallel with increasing technological reliance and the importance of social media within sport and fitness cultures (Duggan 2017). Of particular interest to researchers exploring the intersections between amateur sport and technology are the plethora of applications that record and analyse the performance of physical activity, and their associated social functions and platforms, which have resulted in deeply embedding endurance athletes into the networked digital world (Barratt 2017). Millington (2017) has referred to this intimate and inseparable interconnection between physical activity and technology as a ‘fitness-technology complex’. Analysis of this relationship is well suited to a geographical approach, as digital technologies and digital practices play a crucial role in (re)shaping spaces and places (Wilson 2018).

Recent work in geography and the social sciences has turned its attention towards the ubiquity of the digital in our contemporary everyday geographies (Duggan 2017), with one strand of this emerging research being focused on how networked and location-aware technologies are “enabling deeper and more grounded interactions

between people and locations" and are facilitating new forms of social engagement (Adey *et al.* 2014: 2014). The use of mobile phones, GPS-enabled sport watches, and other smart technologies to produce quantified digital representations of human activity in a process of self-quantification, has been the subject of a plethora of recent work in geography (Pink and Fors 2017; Tironi and Valderrama 2018) and related disciplines such as mobilities (Holton 2019), leisure studies (Silk *et al.* 2016), transportation (Piwek *et al.* 2015), health (Chen *et al.* 2017; Lupton 2013, 2017), and communication (Millington 2014; Smith 2014). In terms of sport and physical activity, a similarly expansive body of research has emerged exploring the role of digital technology in activities including walking (Laurier *et al.* 2016; Millward *et al.* 2013), dog walking (Fletcher and Platt 2016), cycling (Barratt 2017; Van Duppen and Spierings 2013), and running (Carlén and Maivorsdotter 2017; Cook *et al.* 2017). In addition to the impact that these GPS-enabled technologies have had on the everyday practices of their users, research has specifically emphasised their role in creating new opportunities for competition (Barratt 2017), socially sharing physical activity (Bahrami and Rigal 2017), changing understandings of urban space (Tironi and Valderrama 2018), and aiding the development of sporting identities (Carlén and Maivorsdotter 2017).

For many of the growing number of individuals engaged with endurance activities now using activity tracking applications "a new layer has […] been added to the practice, a digital connectivity to the landscape and wider social communities" (Barratt 2017: 329). Activity tracking technologies, particularly those with integrated social elements are considered to have an important role in both forming and maintaining the social world of sports such as running, cycling, and triathlon (Shipway *et al.* 2012). Triathlon is characterised by its controlled, measured, predictable, outcome-orientated, and meritocratic nature, reflecting the individuals who flourish in the activity (Atkinson 2008), and goes some way to explain why activity tracking applications, which allow triathletes to monitor and analyse individuals sporting activity have become deeply engrained within triathlon practice. The Triathlon Industry Association (2017) found that over 50% of the estimated 150,000 triathletes in the United Kingdom used Strava, and more than 80% used

Facebook, a platform which has become an important means of communication and organisation for both formal and informal sporting groups (England Athletics 2017).

Despite the predominantly digital nature of these applications, one notable impact of location-aware social activity tracking platforms is the formation of more intense relationships with physical places and localities (Larsen 2014). Barratt (2017: 330) contends that the persuasive scripts programmed into applications such as Strava have created a "narrative for place and experience" for users which play a key role in influencing exercise practices. Insightful research has begun to unpack the complex interconnections between physical and digital practices (see Barratt 2017; Carlén and Maivorsdotter 2017), although there is still a gap in the literature that explores the role that these activity tracking applications have in influencing individuals' spatial practices, and the influence they have on participants sense of place.

> Space, place and mobility, are being augmented by digital media such as smartphones, location-based mobile applications and social networking sites (Duggan 2017: 4).

As a result of the increasingly availability of and reduced economic and technological barriers to digitally-connected mobile devices, social media platforms have become one of the most prominent forms of communication. The Office for National Statistics (2018a) found that 65% of British adults used social media in the last three months, whereas estimates from the UK Office of Communication (2017) suggest that more than three quarters of the population had a social media account. This pervasiveness of social media in contemporary society is evident in the sense that "today, everything is about social media" (Kaplan and Haenlein 2010: 67). Through allowing users to easily associate and communicate with like-minded individuals, social media platforms such as Facebook, Twitter and Instagram have become important digital spaces for developing and sustaining social connections (Yuen and Johnson 2017), and for allowing users to actively shape their personal identities (Boy and Uitermark 2017; Silk *et al.* 2016). The proliferation of social media has had a notable impact on practices of sport and leisure, both from a business perspective, allowing users a convenient means of experiencing elite sporting events (Kavanagh *et al.* 2016), and from a subcultural perspective, allowing sporting communities to share knowledge

and provide support and advice to others (Zach and Lissitsa 2016). As digital technology has become increasingly ubiquitous within triathlon practice and triathlon culture, it would not be wrong to suggest that expressions of subcultural capital now frequently occur on online forums and social media sites, and that these online spaces provide extensibility for triathletes' identity (Gaffney 2014). Understanding the increasingly integral role that socially-orientated online platforms have in supporting and propagating the triathlon social world is essential for unpicking the everyday practices of physical activity participants, but also has the scope for tailoring future activity promotion schemes based on the "technologized context" of triathlon (Barratt 2017: 328). Therefore, one objective of this research is to probe the intersections between triathletes physical and digital practices, exploring the importance of socially-orientated digital platforms within the framework of the triathlon social world, and highlighting the influence that tracking applications have on triathletes' perceptions of, and interactions with space.

This research aims to improve understandings of the practices and experiences of those who engage with the growing sport of triathlon to contribute to the research areas of sports geography, leisure studies, mobilities research, and wider debates around the spatial, social, and digital sporting worlds. In addition to contributing to academic debates concerning space, social difference, serious leisure, and both social and digital worlds, this research also contributes to the understandings of the spatial, social, and digital practices of British triathletes to help better understand physical activity practices more generally. The research utilises a mixed method approach, combining a large-scale online survey of triathletes across Great Britain with semi-structured interviews and participant observation conducted within two case study triathlon clubs in the East Midlands. Mixed method approaches have been implemented successfully in geography (Cope 2014; Nightingale 2003) and within studies of sport (Collins 2011; Gibson 2016), and arguably have the potential to develop insights that are more comprehensive than are achieved using either quantitative or qualitative approaches alone (Hanson and Pratt 2014). Utilising a mixed method, multidisciplinary approach, this research aims to illuminate the spatial, social and digital practices and worlds of triathlon within Great Britain.

Larsen (2018: 45) argues that physical activity practices need “to be understood in relation to social, material and technological environments”, and accordingly, this research encompasses all three within its scope. In an effort to better understand the activity of triathlon in Great Britain, this research utilises a triadic approach, exploring the spatial, social, and digital elements of contemporary triathlon engagement, and the interconnections between them as part of what Dawson and Jöns (2018: 50-54) discuss as the agency of material, human and other dynamically hybrid, and immaterial entities that constitute sporting activities. Accordingly, the research was designed to consider the following overarching research aim, and more detailed objectives, contributing to academic debates concerning space, social difference, serious leisure, and both social and digital worlds and also to understandings of the spatial, social, and digital practices of British triathletes. Utilising a mixed method, multidisciplinary approach, this research aims to illuminate the spatial, social, and digital practices and worlds of triathlon within Great Britain.

1.3. Aim and objectives

The primary **aim** of this research is:

> To explore the spatial, social, and digital worlds of committed and recreational triathletes in Great Britain, with an emphasis on profiles, training practices, community characteristics, and activity tracking.

This research aim is achieved by examining four **objectives**:

1. To examine the profiles and practices of triathletes in Great Britain.

Within the existing literature on sport within geography and the social sciences there has been a tendency to focus on characteristics of elite sport involvement - the few, rather than the many, who participate in different forms of physical activity. This focus has resulted in a lack of research which considers how social difference impacts motivations and practices of everyday physical activity. In addition, with the exception of an annual survey of British triathletes by not-for-profit trade association the Triathlon Industry Association, there is an absence of research focussing on the sport of triathlon in Great Britain. More recently this has been met with a growing

awareness that sport must become more demand-led, recognising the different motivations, attitudes and lifestyles of its potential customer base (DCMS 2015). A better understanding of the characteristics of the British triathlon population and a broader awareness of their everyday practices could be advantageous for governing bodies and other organisations who are invested in triathlon in Great Britain. Furthermore, attentiveness to issues of social difference has the potential to contribute positively to the development of strategies to improve the accessibility of physical activity to a wider diversity of individuals.

2. To explore the geographies and spatialities of triathletes' training, competition, and social practices.

This second objective echoes a recent interest in understanding the role of the physical environment in relation to physical activity practices. Investigating seemingly mundane leisure spaces is increasingly considered as an important avenue of research, particularly within human geography (Eden and Barratt 2010). Despite being inherently geographic in nature, the elements of the environment that are conducive to various forms of physical activity, especially activities that take place in a variety of unspecialised spaces, have been largely overlooked to date. Accordingly, this focus on the spatialities of triathlon activity responds to recent calls to remain attentive to the spaces that are conducive to physical activity (Deelen et al. 2019). A focus on the more banal elements of triathletes' everyday training practices can draw attention to the richness and importance of the locations where physical activity takes place. Through developing an understanding of the various spaces which facilitate or impede active behaviours this research has the potential to advance understandings of physical activity engagement, contributing to the geographical and interdisciplinary understandings of the enabling characteristics of different environments for sport and leisure activity. A better understanding of the role of different spaces, and the features of spaces which make them favourable to physical activity – especially those not designed specifically for physical activity - could be used by governing bodies, health-promoting industries and planners to help design and transform spaces in ways that are conducive to physical activity engagement.

3. To analyse the actors, events, practices, and organisations which constitute the triathlon social world.

Recent research in geography and the social sciences has identified a need to better understand the intricacies of how sociality features in everyday physical activity experiences (Hitchings and Latham 2017). Accordingly, this third objective responds to calls to investigate the places which form the social infrastructure of sport and physical activity. The spaces where social worlds operate – through members practices and social interactions - have to date been largely underexplored. There is an absence of research which considers the intricate social functions of sports clubs within the social worlds of physical activities such as triathlon, the extent to which involvement can contribute to participants' sense of identity, and the importance of volunteering within sport as a social activity. Re-imagining the social world concept in the context of sport – including a consideration of the important social spaces within sporting social worlds – will make academic contributions to the way academics attempt to understand the workings of sporting communities. Additionally, developing a more comprehensive awareness of identity development processes within everyday sport engagement could be harnessed to help create pathways for a greater variety of people to access these valuable sporting identities. Understanding the spaces of social importance to actors and organisations associated with different sporting activities could be valuable for tailoring attempts to increase the accessibility of physical activity, the benefits of involvement, and to amplify the social functioning of sporting communities.

4. To investigate the impact of digital technologies on triathletes' activity and social practices.

As contemporary exercise practices become increasingly mediated through technology, there is a growing need to understand physical activity in relation to technological as well as social and material environments (Larsen 2018). Hitchings and Latham (2017) argue that it is important to understand how the digital features in the socialising practices of physical activity participants, particularly at a time when an increasing number of individuals perform their exercise alone in physical space but not in virtual space. Despite the proliferation of social media platforms and

socially-enabled activity tracking applications, there has been an absence of studies that have considered the importance of the digital from a social perspective. The significance of digital platforms to social worlds surrounding physical activity have yet to receive sufficient attention. Furthermore, the degree to which socially-orientated activity tracking applications have transformed users' practices of physical activity have been largely underexplored. Through extending the social world concept to consider the importance of digital aspects of social interaction this thesis makes conceptual contributions to the literature providing a conceptual framework through which to explore the everyday technologised practices of physical activity participants. Moreover, this research contributes to academic understandings of how activity tracking applications contribute to new and transformed understandings and experiences of space. At a time when the digital has become increasingly pervasive, comprehending the way in which the digital has become embedded within everyday sporting practices can be valuable for organisations with an interest in promoting and supporting physical activity.

1.4. Thesis overview

This thesis is constituted of nine chapters. This chapter has provided some contextual grounding, which the rest of the thesis builds upon. Additionally, it has identified where this thesis fits in with existing research, providing justifications for filling this gap in academic debates. Chapter 2 comprehensively situates the research within wider academic debates from geography and other associated research fields. This existing literature is divided based on the four main objectives of the research. The mixed method approach utilised during the research is detailed in Chapter 3, specifically focussing on research methods, sampling strategies, positionality, and confidentiality. It is within this chapter that the two case study triathlon clubs situated in the East Midlands region of Great Britain are introduced. Chapter 4 provides the reader with a brief contextual overview of the origin and growth of triathlon in Great Britain.

Chapter 5, the first of the four empirically grounded discussion chapters, explores the demographic characteristics and training and competition practices of triathletes based on a large-scale online survey, with reference to the impact of social

difference and intensity of engagement. Chapter 6 builds further on the results from the online survey, exploring the geographies and spatialities of triathletes' practices. The chapter links to associations between sport and the physical environment, and issues surrounding accessibility and physical activity participation. Drawing from primarily qualitative insights, Chapter 7 explores the characteristics of the triathlon social world, analysing the importance of clubs and events as sites for the support and propagation of the triathlon social world. Addressing the final research objective, Chapter 8 delves into the technological practices of triathletes, particularly on how socially-enabled activity tracking applications influence triathletes' material and social practices. The thesis then concludes with a summary and discussion of the research findings in Chapter 9, detailing the major original contributions of the thesis, and suggesting avenues for future research.

2. Literature Review

The following chapter provides a detailed evaluation of the existing academic literature related to the multiple themes of this research. With the aim of extending understandings of triathlon practice, this research draws upon a large breadth of research from multiple disciplines that are connected by a geographical research perspective interested in triathlon, its variations, and its constituent activities. A multidisciplinary approach is necessary to move beyond the boundaries and limitations of a single discipline and to produce findings that are richer than those collected from one discipline alone (Andrews 2016). Following a brief overview of the overall relevance of this research, this chapter proceeds by evaluating the relevant literature based on the four thematic foci of the research; the profiles and practices, locational geographies, social world, and digital world associated with triathlon.

2.1. Relevance of the research

2.1.1. A resurgence of sports geography?

Studies into the relationship between sport and geography are not new. Academics have long appreciated that geography as a discipline is well-suited to studying the world of sport (Bale 2003). Illies *et al.* (2014) argue that sport has wide visibility in economic, social, cultural, and medical domains, and can be analysed at a range of scales, from local to international. Maguire (2014) suggests that the social sciences are an ideal platform through which to investigate the meanings, identities, communities, and practices associated with sport and physical activity. The first insights into the geographies of sport were grounded in regional studies, with an interest in the regional differences regarding the opportunities for participation in a wide range of different sports in Great Britain (Bale 2003). John Bale stands out as one of the main pioneers of sports geography, arguing that sport is a major aspect of political, social, and economic life, linked to the geographical concepts of space and place (Bale 2003). Bale's sports geography has been concerned with the spatial distribution of sport and its temporal variations, the changing character of sports landscapes, and the prescriptions for spatial and environmental change in the sports environment. Sports geography has also sought to understand sport in different

places, locations, and landscapes, evidenced by publications on the geography of sport in the USA (Rooney and Pillsbury 1992) and Great Britain (Bale 1982), in addition to sport-specific research, such as horse racing in Great Britain (Tomlinson 1986) and running in Europe (Scheerder *et al.* 2015). In an attempt to further interconnect the two disciplines, Bale (2003: 161) has linked sport to cultural studies in what he terms the "imaginative geographies of sport", where he discusses the social construction of place identity associated with sporting activity, such as the idyllic sense of rurality integrated into collective perceptions of the sport of cricket. John Bale's prolific contribution - despite not necessarily developing into a prominent geographic subfield - has played a key role in making other academics consider sport more seriously (see for example Koch 2017).

> Sports geography has contributed to sports studies by clearly articulating how sport is fundamentally geographic (Andrews 2016: 1).

However, academics have identified a limited impact of sports geography because of the relative neglect of studying the everyman and everywoman who engage in practices of sport and leisure (Andrews *et al.* 2005; Latham and Layton 2019). Although existing research has focused on topics such as urban change in preparation for hosting the Olympic Games (Chalkley and Essex 1999), the relationship between population size and football team success (Walker 1986) and running as a form of resistance to national and global pressures (Bale 2000), geographers and sport scientists alike have overlooked the significant proportion of amateur participants who make up the majority of sport and physical activity communities. Concentrating on understanding the way this substantial group of physical activity participants engage with these activities on an everyday basis has, according to Hitchings and Latham (2018), the potential to contribute to wider public health promotion and will therefore be the central point of interest in this study:

> Creating critical distance from professional sport brings to light a more mundane world of physical activity (Latham and Layton 2019: 4).

In addition to the tendency for earlier work in sports geography to focus almost entirely on elite sport, Latham and Layton (2019) suggest three features that summarise geography's lack of engagement with practices of physical activity; a

tendency to focus on the most extreme and extraordinary sporting activities, a lack of insight into the enabling and impeding characteristics of the built environment for physical activity, and insufficient measures to understand the ethics of sport and leisure engagement.

Many of these suggestions echo wider changes in the cultural landscape concerning health and physical activity. Rising concerns over levels of inactivity and obesity (Larsen 2018; Rind and Jones 2011), coupled with a growing appreciation of the significant physical, mental and social health potential of physical activity engagement (DCMS 2015; Government Office For Science 2007), has meant that issues of health and fitness have risen up the political agenda in Great Britain (Stamatakis and Chaudhury 2008). Sport and physical activity participation have been linked to a reduced risk of numerous severe diseases including coronary heart disease, some cancers, type II diabetes and obesity, reduced risk of mental illness, increased self-confidence, social wellbeing, in addition to community benefits such as lower unemployment, less crime, a sense of national and cultural identity, and stronger community cohesion and social integration (DCMS 2015; Grieve and Sherry 2012; O'Donovan *et al.* 2010; Stamatakis and Chaudhury 2008).

Associated with this growing attentiveness to practices of health and fitness, there has been a resurgence of geographically focused academic studies providing insight into various sport, fitness and physical activities (Latham and Layton 2019). A key characteristic of much of these emerging studies is their propensity to draw upon existing work from a broad range of disciplines, an approach that arguably creates "synergies and new avenues of inquiry" (Koch 2017: 1). Andrews (2016: 3) argues that this inattention to sport within human geography has necessitated a multidisciplinary approach to "reimagine, reframe and broaden scholarship" in the discipline. Encouraging a multidisciplinary approach to studies of sport, in addition to broadening the definition of sport to move beyond elite sporting endeavours and focusing on the health dimensions inherently present within sporting practices are suggestions by Andrews (2016) to help geographical research better analyse the dynamics between sports, health and place in a sub-field he labels as 'spatial sport studies'.

Recently there has been a plethora of physical activity-related work emerging from geography and the social sciences, particularly focusing on running (Barnfield 2016; Cook *et al.* 2016; Edensor and Larsen 2017; Hitchings and Latham 2016; Hodgson and Hitchings 2018; Spiers *et al.* 2015), cycling (Aldred and Jungnickel 2014; Barratt 2017; Latham and Wood 2015; Simpson 2017; Sirna 2016; Spinney 2009; Van Duppen and Spierings 2013), and swimming (Foley 2015; Shapton 2012; Throsby 2016; Ward 2017). Yet, while performance-orientated aspects of triathlon practice have been investigated extensively in the fields of sports science and sport sociology, the practices of leisure-focused participants have eluded sustained study. Studies concerning triathlon and other forms of sport and leisure are dispersed between multiple academic disciplines, including sports geography, leisure studies, tourism, sport management, sport sociology, and more recently mobilities research.

As summarised in the introduction, the limited selection of triathlon-related research has covered a breadth of topics from various academic fields. Atkinson (2008) explored the interconnected relationship between pain, suffering, and triathlon engagement, describing the association as a unique 'pain community'. Bridel (2010, 2013) has emphasised how triathlon engagement is reflective of neoliberal ideologies of individualism and self-responsibility for one's own health. From a marketing perspective Wicker *et al.* (2012, 2013) have investigated the consumption practices and expenditure of triathletes, whereas Lamont and Kennelly (2012) utilised self-determination theory to identify the extrinsic and intrinsic motivations for triathlon engagement. The intense commitment and extreme practices associated with Ironman participants - a long-distance triathlon event consisting of a 2.4-mile swim, a 112-mile bicycle ride and a 26.2-mile run - has been the focus of research within leisure sciences, with McCarville (2007) using an autoethnographical research approach to explore experiences of Ironman participation, and Simmons *et al.* (2016) detailing the delicate balance of work, family, and leisure commitments associated with Ironman training and competition. Absent from these existing studies is a consideration of the unique spatial, social, and digital practices and worlds associated with triathlon engagement, which are therefore examined in this study. Geographers are inherently "curious about people

and their places", making it appropriate to ground this multidisciplinary research primarily within geographical debates (Longan 2015: 218). Additionally, Maguire (2014: 1) argues that adopting a social science perspective when investigating sport and physical activity has become increasingly common, as "social problems, issues and concerns merge within and affect social worlds".

This overview of the contemporary academic landscape concerning sport and geography demonstrates that this research project is timely, and necessary. At a time when concerns over the population's health and the promotion of physical activity have soared up the political agenda, and with a related surge of research focused on the everyday leisure practices of amateur sport participants, investigating the spatial, social, and digital practices and worlds of triathletes in Great Britain has never been more relevant. The remainder of this chapter develops the relevance of this research further, providing a critical evaluation of the literature associated with the four thematic foci of the thesis.

2.1.2. Space, place and placemaking

The concepts of space and place are well established within human geography. Cresswell (2008) describes them as one of the main ideas in modern geography. Meanings associated with place and space are important considerations throughout this research, relevant when considering the spatialities and characteristics of everyday training locations, the social, community, and even digital spaces attributed to the triathlon social world, and the unique interconnections between physical and digital understandings of place produced through the pervasive use of GPS-enabled technologies. Therefore, a comprehensive overview of the geographical literature surrounding space and place, and its links with sporting activity is necessary within this literature review.

Debates surrounding the concepts of space and place have maintained a key role within geographical scholarship since the 1960s, with academics questioning where, when, why, and how these places and spaces matter to individuals, and additionally, how to define these two complex terms (Agnew 2011). Place is a term that has been ascribed multiple meanings, including as a location, as a locale where everyday life

takes place, and a sense of place as unique, particular and thus singular (Agnew 2011). Space is made and re-made through interactions, negotiations and proceedings.

> Space and place are intrinsically related concepts: they constitute each other. A place takes meaning from the spaces outside it, and spaces are relevant in relation to the places they surround (Koops and Galič 2017: 24).

Places, unlike spaces, provide cues to memory and behaviour - ascribed meaning (Clifford *et al.* 2009). Yi-Fu Tuan (1976), in his seminal work on the concepts of space and place from a phenomenological humanistic understanding, suggests that the key difference between the two concepts is that place is the extent to which meaning has been ascribed to a specific area:

> place is a shared feeling and a concept as much as a location and a physical environment (Tuan 1976: 275).

Central to these conceptualisations of place is the idea of experience (Cresswell 2008). In later work, Massey (2005) has argued that places are not static or unchanging, but rather constantly made and remade by their fluid interactions with the world beyond. Places, in this sense, are "constantly contested, transgressed and resisted by the excluded" (Cresswell 2008: 137). Contemporary geographical scholarship has continued to revolve around the key concepts of space and place, and geographers have questioned the changing role of place during times of technological change (Graham 1998). More recently, embodied and performative experiences of spaces linked to activities such as cycling (Spinney 2006) and swimming (Ward 2017), and more abstract digital social spaces such as online forums (Bardzell and Odom 2008) have been discussed. The examination of everyday experiences of activities within such spaces can contribute to understandings of the important meanings of places and environments to individuals and collective groups (Ward 2017).

Debates concerning place and placemaking have also been present within the subfield of sports geography, with the key proponent of the research field, John Bale, arguing that "space and place—regarded by many as the two geographic

fundamentals—are central to both geography and sport" (Bale 2003: 2). Physical activity typically involves a substantial amount of motion, and Bale (1994) contends that physical movement provides individuals with a direct, intense experience of space. More recently, 'spatial sport studies' (Andrews 2016) - an interdisciplinary approach to studying sport that has attempted to move away from previously elite-focused geographical understandings of sport - has sought to understand the changing relationships between everyday sport and leisure practices and the places associated with them. Some examples from geography include experiences of space and the environment through active movements such as running (Barnfield 2016), parkour (Saville 2008), and general outdoor exercise (Allen-Collinson and Leledaki 2015), and mobility-centred research exploring processes of negotiating public spaces when running (Cook *et al.* 2016), skateboarding (Stratford 2016), and walking (Fletcher and Platt 2016).

Within understandings of place in geographical research, the most relevant conceptualisation that suits the interests of this research is the idea of a sense of place. A sense of place can be defined as:

> the attitudes and feelings that individuals and groups hold vis a` vis the geographical areas in which they live. It further commonly suggests intimate, personal and emotional relationships between self and place (Gregory *et al.* 2009: 676).

Agnew (2011) suggests there are three elements that constitute a place; a locale (the setting where social relations are constructed), location (geographical areas, defined by social and economic processes), and a sense of place (local structural feelings in relation to specific places). Over time geographical research has sought to ascertain what contributes to an individual and shared sense of place, through exploring the meanings, experiences and memories associated with these places (Cresswell 2008). Drawing on previous work that conceptualised place as malleable and changing (Massey 2005), Duncan and Ley (2013) have argued that place is an 'elastic' area in which social relations can be located, and where individuals can identify with. At a time where digital technologies have become increasingly pervasive in the practices of physical activity participants, it has become apparent

that “spaces are being increasingly mediated and experienced through digital interfaces” transforming the “social production of space and the spatial production of society” (Sutko and De Souza e Silva 2010: 812). Similarly, Ward (2012) proposes that technology can actively harness the power of place, make memory increasingly social, and represent shared experiences of bodies in space, and in doing so, contributes to the many layers of representation and experience attached to place, simultaneously providing news ways of conceptualising these places. Using this sentiment in the context of triathlon and its associated digital practices emphasises the important, yet complex, role that digital technologies can have in the creation of meaningful physical and digital places for leisure participation. This changing construction of place has resulted in a growing interconnectedness between mediated and ‘real’ places which opens avenues for the investigation of these complex contemporary processes (Cresswell 2008; Lane 2012). As Cresswell (2008: 139) suggests, “surely the interactions between communications technology and sense of place is a perfect topic for twenty-first century geography students”.

2.1.3. Conceptual approach of the thesis

Traditionally, geographers have tended to adopt a single overarching approach to frame their research, for example Barratt’s (2011) use of actor-network theory to explore the technologised aspects of climbing or Larsen’s (2016) implementation of practice theory to explore long-distance cycle commuting in Copenhagen. However, the breadth and diversity of the research objectives outlined in section 1.3 creates a challenge of selecting an appropriate conceptual approach to help bring together the various empirical elements of this research project. Practice theory and actor-network theory were identified as two potential overarching conceptual frameworks for the study. Practice theory considers practices as the basis of social life – consisting of materials, competencies, and meanings - focusing on understanding their emergence, persistence, and disappearance (Oldstad and Kirkpatrick 2021; Shove et al. 2012). These practices can lead to the formation of communities which are integral to the continued shaping of practices (Everts et al. 2011). Variations on practice theory have also effectively considered the role of the environment for enabling and shaping practices (Larsen 2016). However, through its

conceptualisation of practices as ‘routine behaviour’ the notion of decision-making, deliberation and personal choice are largely overlooked (Larsen 2016; Warde 2014). Actor-network-theory (ANT) posits that everything exists in a shifting network of relationships, where humans and non-humans – referred to together as ‘actants’ - have the same capacity to participate in these networks (Bosco 2006). ANT studies attempt to understand these networks of relations and the practices which carry them (Law 2009). Despite being well suited to studies of a socio-technical nature, ANT has received criticism for its disregard of the “structuring effects of such classic sociological categories as race, class and gender” and for underplaying “the influence of power in society” (Bingham 2009, 7). Both practice theory and actor-network theory have been effectively utilised to explore the role of digital technologies within contemporary leisure practices (Barratt 2011; Pantzar and Ruckenstein 2014). Yet, there are a limited number of studies which have used either approach as an overarching conceptual framework for a study of sporting activity.

Based on the under-theorisation of sport within human geography, the multi-disciplinary nature of the research project, the breadth of focus of the research objectives, and the limitations of the other approaches, the decision was made to exercise epistemological pluralism throughout the research project. Epistemological pluralism relates to the consideration of different approaches to assess and understand various phenomena, in the case of this research project, utilising the most appropriate conceptual tools for the different research objectives. Ultimately, there is no single overarching theoretical approach which can fully illuminate the diverse focus areas covered within the scope of this research, and attempting to shoehorn the analysis into a single connecting conceptual approach is likely to subtract from the quality of the analysis and resulting insights that are offered by a pluralistic approach (see also Sayin et al. 2020). Despite having limited existing usage within geography, the multiple approaches utilised throughout this thesis – such as serious leisure (Stebbins 1992) and social worlds (Unruh 1980) - are characterised by having been made productive for the understanding of sport and physical activity practices, whilst linking to areas that have previous grounding within human geography, such as identity and social capital. In addition to having been

used effectively in studies of physical activity practices, the concepts of serious leisure and social worlds are also complementary, in that a social world is one of the defining features of a serious leisure activity, resulting in a clearer narrative throughout the thesis. The adoption of conceptual approaches that have limited existing use within human geography, whilst also responding to calls to draw from multiple disciplines to develop deeper understandings of sporting practices, add to the originality of this thesis (Andrews 2016).

2.2. Profiles and practices of triathletes

2.2.1. Introduction

Triathlon has been the subject of limited research worldwide, with work focusing specifically on the practices and experiences of British triathletes being extremely rare. Although a selection of large-scale quantitative insights into the national triathlon population do exist, providing useful insights into the demographics and characteristics of the amateur triathlon participant base, these studies have been inherently tailored to focus on the more commercially attractive facets of triathlon (MultiSport Research 2017a; Triathlon Industry Association 2017). Very little attention has been given to the question of how distinct combinations of profiles and motivations coalesce into a plethora of distinct practices and types of triathlon engagement. Drawing upon this same section of non-professional triathletes, this research contributes to the emerging body of academic literature that focuses on the practices and experiences of comparatively casual physical activity participants (Alexandris *et al.* 2013; Barnfield 2016; Cook *et al.* 2016; Hindley 2018; Hitchings and Latham 2016; Lamont and Kennelly 2012; Latham and Layton 2019; Rind and Jones 2011).

The characteristics of endurance sports such as marathon running (Goodsell *et al.* 2013; Major 2001; Qiu *et al.* 2019), road cycling (Bull 2010; Herman 2015; O'Connor and Brown 2007), mountain biking (Moularde and Weaver 2016), and rock climbing (Dilley and Scraton 2010; Wood 2016) have resulted in these activities being associated with Stebbins' (1992) conceptual framework of serious leisure. Central to these associations are the constituent features of personal effort, perseverance,

social identification, unique ethos, durable benefits and the potential for a long-term leisure career. Triathlon as a sporting activity is characterised by its atypical participant base (MultiSport Research 2017b), its unique subcultural ethos, and the intense degree of commitment and dedication often exhibited by its participants (Atkinson 2008). Although previous work has emphasised the applicability of the serious leisure framework to triathlon (Atkinson 2008; Lamont *et al.* 2017; McCarville 2007; Simmons *et al.* 2016), previous associations of triathlon and serious leisure have been fleeting and lacked any comprehensive empirical grounding.

In the following, the first section critically analyses the existing literature concerning the demographic profiles of triathletes (Section 2.2.2). Subsequently, the focus then shifts to explore existing work on motivations for physical activity engagement, in addition to the facilitating and impeding factors that impact on an individual's degree of sporting engagement (Section 2.2.3). Drawing upon the conceptual framework of serious leisure, Section 2.2.4 provides insight into the varied, yet principally intense and committed, practices of amateur triathletes in Great Britain. With reference to the previous work cited in this literature review, the final section (Section 2.2.5) will then emphasise the original contributions stemming from the primarily quantitative insight of the large-scale study of British triathletes.

2.2.2. Profiles

The annual Active Lives Survey of Sport England has served as an important source of data regarding the changing number and demographics of sports participants. The first report from the survey indicates that after walking, running (15%) is the second most popular form of physical activity in England, closely followed by cycling (15%) and swimming (11%), when measured as shares of the population engaging with the three sports respectively (Sport England 2017). Based on findings from the Active People Survey in 2015, British Triathlon (2015) suggests that the number of active triathletes was estimated to be in excess of 100,000. Additionally, once-a-month participation in triathlon events increased from 4,800 in 2005, to more than 13,900 in 2015 (Sport England 2015a). This growth, to some extent, can be attributed to the 'doorstep' nature of two of the three activities that constitute triathlon, in that they do not require specific infrastructure and

consequently can be performed almost anywhere, resulting in an ease of access that has been found to encourage regular participation (Mintel 2015). The Active Lives survey also highlights the gendered practices of physical activity with 41% of men participating in sporting activities at least twice a month, in comparison to only 30% of women (Sport England 2017). Research by Baxter (2017) suggests that running, cycling, and swimming individually are comparatively gender balanced sporting activities. Yet contrastingly, the amalgamation of these three activities results in a triathlon participant base that is dominated by men. Moreover, unlike other sports, triathlon has an atypical age profile, evidenced by a wealth of triathletes aged 40 and above, an age where participation in traditional sports tends to decline rapidly (Scheerder *et al.* 2015; Triathlon Industry Association 2017). These findings suggest that there are some interesting aspects regarding triathlon participation that distinguish the sport from others, and from its constituent activities.

Research on the characteristics, motivations and practices of triathletes has not emerged entirely from an academic context. As concerns over increasingly sedentary lifestyles have received growing attention, governing bodies with an interest in encouraging and sustaining active lifestyles, such as Sport England and British Triathlon, have commissioned research to create a national picture of sports participation (British Triathlon 2016; Sport England 2017). Similarly, interest in triathlon as a profitable sports market has generated research studies that have sought to identify the characteristics, needs, and preferences of triathletes, providing useful statistics on demographics, motivations, and practices (MultiSport Research 2017a; Triathlon Industry Association 2017). Academic research focused on triathlon has explored the characteristics of triathletes in a number of nations, including Australia, Canada, and Germany (Atkinson 2008; Lamont and Kennelly 2012; Wicker *et al.* 2013), but currently, there is an absence of exploration into the facets of triathlon engagement in Great Britain. This existing research has tended to overlook the more detailed aspects of individual practices and how motivations and practices of triathletes vary along the lines of social difference, geographical space, and varying orientations to triathlon.

Triathlon has experienced significant interest based on its profitability potential, with expenditure on equipment, training aids, memberships, and competitions making the sport a particularly financially lucrative endeavour for businesses and stakeholders. Consequently, market research companies such as the Triathlon Industry Association and MultiSport Research have commissioned large scale research investigating elements related to participation, expenditure, and demographics of the triathlon community in the United Kingdom (MultiSport Research 2017b). Findings from these reports suggest that triathlon is atypical from the majority of sports, with participants predominantly aged in their 40s, typically employed in professional positions with an average salary of £49,000, and educated to a college or degree level (Triathlon Industry Association 2017). All these are typical characteristics of the contemporary middle class (Atkinson 2008; Wicker *et al.* 2013). Interestingly, the three individual components of triathlon—swimming, cycling and running—are also widely considered as middle- or upper middle-class activities (Scheerder *et al.* 2015; DeLuca 2016; Larsen 2018). Accordingly, Ronkainen *et al.* (2017) suggest that this, to some extent, explains how these predominantly individually practiced activities have grown in popularity over time. Breedveld *et al.* (2015) contend that such activities are popular among members of the middle-class because they can be effectively combined with busy lifestyles, provide a sense of individualisation, and permit personal investment in their own health. Through a dedicated commitment to their leisure pursuit, triathletes express a sense of individual responsibility, good citizenship and healthy living that reflect these neoliberal ideologies (Bridel 2013). Therefore, triathlon as the combination of these three time-efficient pursuits, reflecting the neoliberal characteristics of self-responsibility and self-empowerment (Bridel 2010), has become increasingly popular among the middle-class in the United Kingdom and elsewhere in the developed world. Atkinson (2008) highlights this association by commenting that:

> members of the […] middle classes come to triathlon because they feel isolated, bored, ideologically fragmented and nostalgic for more (rather mythically and nostalgically) traditional middle-class lifestyles (Atkinson, 2008: 166).

Niedzviecki (2004) suggests that the hyper-consumerist middle-class pressures to be unique propel individuals to seek out novel rituals and corporeal performances achieved through 'liminal pursuits' such as triathlon which offer a degree of valued personal distinction (Atkinson 2008). Although academics have strongly emphasised this association of triathlon as a middle-class pursuit, the growing popularity of accessible, low-cost events such as GO TRI are increasing the accessibility of triathlon to a wider demographic. This changing focus of provision has had a clear impact on women's participation in triathlon, particularly among women aged under 18 and over 55. Although not explicitly specified in these governing body reports, it is likely that in addition to gender and age, these financially accessible events are also likely to manifest in a changing socio-economic profile of triathletes. Understanding the impact of the cultural shift from performance and competition to participation and completion (Van Bottenburg *et al.* 2010) is therefore a key concern of this research.

Typologies that break down groups based on quantitative variables have been effective analytical tools to highlight patterns and variances between groups of sports participants (Nettleton and Hardey 2006; Ogles and Masters 2003; Shipway *et al.* 2012; Wicker *et al.* 2012). Sport England (2015) in their report on outdoor recreation in England break down participants into eight categories based on the location and nature of their practices. One group labelled 'tribe members', reflects characteristics that appear to be applicable to triathletes – including year-round participation, increased likelihood of competing and club membership, heightened importance of social benefits of engagement and more likely to cite time constraints as barriers to participation. Much of the previous work on triathletes has focused on the most competitive, committed amateur athletes, typically associated with longer distance triathlon events such as Ironman (Granskog, 2003; Lamont *et al.* 2014), overlooking the substantial number of more recreationally concerned participants. Clearly, triathletes pursuing the activity at different levels of intensity are likely to exhibit particular shared tendencies and practices. Therefore, one contribution of this thesis is to develop a typology of engagement that permits an in-depth analysis of the impact of engagement intensity to expose the unique practices associated with the previously neglected proportion of comparatively casual triathlon participants.

Arguably, understanding the characteristics of triathletes is an important step in putting together a picture of triathlon in Great Britain, providing a context through which to explore the more subjective and detailed elements of triathletes' practices and experiences. In particular, an attentiveness to markers of social difference will provide further insight into the intricacies of triathlon engagement, and to contribute to debates surrounding physical activity and gender. Undertaking a quantitative approach that utilises a large-scale online survey of triathlon participants in Great Britain will help to create a better understanding of triathlon participation at a national level, and to highlight the locational geographies of the activity of triathlon. Adopting a more comprehensive definition of triathlon participants, a study of the triathlon population in Great Britain encourages discussion beyond that of the most devoted participants, foregrounding the notably diverse range of individuals and associated practices that characterise the triathlon community.

2.2.3. Motivations, facilitators and barriers to triathlon engagement

2.2.3.1. Motivations

> For some participation is about health, fitness and looking good. However for others, participation extends beyond these functional benefits to include having fun; connecting with nature; enjoying the feeling of accomplishment; escaping the pressures of everyday life; keeping them feeling young; allowing them to connect with themselves and those close to them; allowing them to physically challenge themselves (Sport England 2015: 20).

The motivations of people engaged in physical activity has been a topic that has been well-researched in academic circles as well as by public health and sporting institutions (Goodsell *et al.* 2013; Lamont and Kennelly 2012; Sport England 2017).

At a time where there are increasing concerns regarding poor health, increasing levels of obesity and a growing market surrounding many forms of physical activity, the motivations of these participants have become a key concern of public health institutions and academics (Duda 2005; Spiers *et al.* 2015; Sport England 2015a). Understanding these motivations, and factors impacting participation, is essential for

improving provision for current participants, but also for attracting new participants, particularly from the 14% of the population who are defined as ‘fairly active’ and most importantly from the 26% of individuals who are considered ‘inactive’ (Sport England 2017).

Previous research has identified many motivations for physical activity participation, including enjoyment, relaxation (Sport England 2015), stress-relief (Spiers *et al.* 2015), general health and fitness benefits, weight-loss (Shipway and Holloway 2010), excitement, and challenge (Weinberg and Gould 2015). Barriers to participation for outdoor activities such as running, cycling, and swimming have been found to be levels of risk, lack of confidence, cost, lack of local opportunities, and lack of time (Sport England 2015). With regards to recreational running, Giles (2016) found that general fitness improvements, recreation and enjoyment, weight-loss, and the improvement of appearance were the key motivations for sustained running participation. Similarly, studies concerning the motivations of swimmers, cyclists, and runners found that social engagement (Bauman *et al.* 2009), time/attendance goals, accessibility, and experiencing outdoor environments (Stevinson *et al.* 2015) were additional reasons for sport engagement.

Research focusing specifically on triathlon has identified similar motivations for participants, including the pursuit of a healthier lifestyle and greater level of fitness (McCarville 2007; Simmons *et al.* 2016), the sense of accomplishment that can be gained from the completion of triathlon events, and the intense level of camaraderie associated with the triathlon culture (Atkinson 2008). Figure 2.1 displays a range of other intrinsic and extrinsic motivations for participating in triathlons. Training for, and competing in, events was found to be a key motivation for sustained triathlon participation and central to a triathlete’s sense of social identity (Lamont *et al.* 2014), a finding also reflected in research on runners (Shipway and Jones 2008). Moreover, as modern life has become increasingly entangled with new forms of digital technology, there has been an explosion in fitness-related technology that has come to play an important role in encouraging and sustaining motivation for physical activity participation, a facet that will be explored with greater detail later in Section 2.5 (Barratt 2017).

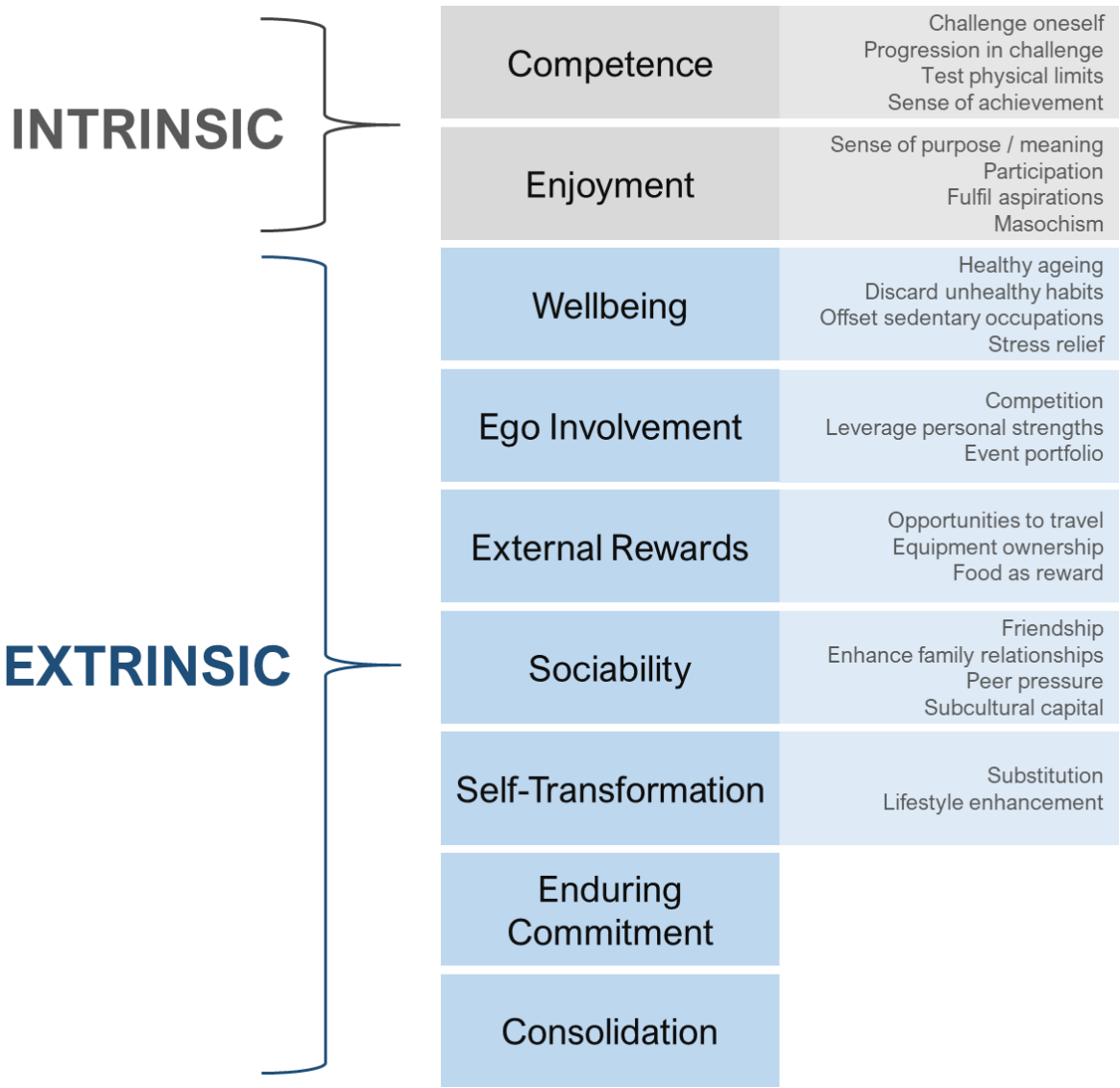


Figure 2.1 *- Intrinsic and extrinsic motivations for triathlon engagement (Adapted from Lamont and Kennelly 2012: 244).*

2.2.3.2. Facilitators and barriers

Participation in triathlon is not simply due to one motivation or another. Lamont and Kennelly (2012) argue that reasons for participation can be complex and consist of a balance of both intrinsic and extrinsic factors. Despite the recent growth of triathlon and the benefits triathlon participation can offer, it is apparent that these are balanced with a number of disadvantages, such as the risk of injury (Bridel 2010), and the difficulties of balancing often intense triathlon participation with other everyday roles (Simmons *et al.* 2016). Several triathlon-based articles have investigated how triathletes balance competing roles in their everyday lives,

particularly the difficulties of balancing the overlapping triumvirate of constraints, namely work, family, and leisure (Simmons *et al.* 2016). Constraints in this context can be described as circumstances that "inhibit people's ability to participate in leisure activities, to spend more time doing so, to take advantage of leisure services, or to achieve a desired level of satisfaction" (Jackson 1988: 203). Central to the management of these constraints within committed leisure practices is the notion of familial assistance, encompassing co-participation, emotional, and logistical support.

Lamont and Kennelly (2011) divide constraints to triathlon participation into three categories: intrapersonal, interpersonal, and structural. These authors suggest that constraints may not necessarily prevent participation but have the potential to impact the degree of intensity with which a triathlon career is pursued. Whilst triathletes utilise a number of negotiational strategies to balance their leisure pursuits with other life roles, it is apparent that perfectly harmonising these competing roles is uncommon:

> It is rare, indeed, that a person's amateur or professional pursuit meshes perfectly with the needs and interests of other family members (Stebbins 1992: 110).

The degree to which certain constraints hampered individuals' ability to engage with triathlon as a leisure pursuit have been found to vary along the lines of gender, notably in relation to the expectations of societal gender roles associated with childcare (Granskog 2003) and housework (Simmons *et al.* 2016). However, these primarily qualitative accounts provide limited insight into the extent to which these constraints are significantly impacted by indicators of social difference.

Adults in the UK typically report that the most common barriers to exercise participation are; time restraints, lacking a 'sporty' image, and looking after children (Zunft *et al.* 1999). Within triathlon it has been highlighted that lack of time and financial commitments are two of the key constraints to triathlon participation (Simmons *et al.* 2016). When considering the time commitments required for training and competing in such an intense event, and the cost of the substantial range of high-tech specialist equipment, it is easy to appreciate why this is the case. As a result, approachable and flexible events like parkrun that provide a platform for which

these restraints can be easily negotiated have seen a significant rise in popularity and have attracted a more diverse range of participants (Stevinson *et al.* 2015). Following the growth of low-cost, easily accessible and non-competitive triathlon events such as GO TRI and Come-and-Tri, the participant base of triathlon has seen substantial change, with an 88% growth in female participation between 2009 and 2014, and 37% of survey respondents completing their first triathlon event in the past three years (Triathlon Industry Association 2017).

Among these recent changes, the growing use of activity tracking applications in the sport has had an impact on individuals' motivations for participation. Barratt (2017) suggests that the 'gamification' of physical activity through Strava, and other similar applications, encourages the idea of status and achievement as important factors for encouraging sustained physical activity through social reward (Korpilo *et al.* 2017). Gamification is the process of implementing game design functions into a non-game context, and is primarily used to improve user experience, and more importantly for developers and corporations, to encourage user engagement (Deterding *et al.* 2011; Kunkel *et al.* 2014).

2.2.4. Practices

Practices can be defined as "the customary, habitual, or expected procedure or way of doing something", or alternatively as a "repeated exercise in or performance of an activity or skill so as to acquire or maintain proficiency in it" (Oxford Dictionary 2015). There has been a growing interest in academia regarding the where, the who, the when, the what, the how, and the why of practices associated with various leisure activities, and triathlon offers a context through which to explore these questions further. Much of social science research, including geography, has sought to extract meaning from individuals' practices in a range of everyday pursuits, notably what these practices are, how they are formed, and how and why they change or vary between individuals and over time. Relevant geographical themed research has looked at everyday practices of mobility (Bissell 2016; Jensen *et al.* 2015), transport practices (Jones 2014; Jungnickel and Aldred 2014), and leisure and sporting practices (Allen-Collinson and Hockey 2015; Barratt 2017; Middleton 2010).

Triathlon is a sport that is characterised by the substantial level of financial and temporal resources required for participation across almost all levels of engagement. Market research by the Triathlon Industry Association (2017) found the average individual, from the estimated 150,000 active triathletes in the United Kingdom, spends just short of £3,000 per year on the sport. Atkinson's (2008) research on triathletes' training for an Ironman triathlon in Canada uncovers the level of temporal resources that triathletes were willing to devote to training, with participants on average training five days per week, committing a total of 15 hours to their chosen leisure pursuit. The time committed to training for long-distance triathlon events like an Ironman is substantial, although Vleck *et al.* (2014) suggest that time invested by participants of other triathlon distance events is still significant. Consequently, increased time invested into training and competitions tends to correlate with an increasing investment of finances, primarily because equipment needs replacing more frequently, but also because more committed triathletes are seen to be more ambitious (Wicker *et al.* 2013).

The degree of commitment to triathlon demonstrated by its participants has led to a number of academics categorising the activity as a form of 'serious leisure' (Atkinson 2008; Axelsen 2009; Bridel 2010; Lamont *et al.* 2014; McCarville 2007; Simmons *et al.* 2016). Serious leisure is defined as:

> The systematic pursuit of an amateur, hobbyist or volunteer activity sufficiently substantial and interesting in nature for the participant to find a career there acquiring and expressing a combination of its special skills, knowledge and experience (Stebbins 1992: 3).

The concept of serious leisure has been used for the understanding of participants' practices in a number of sporting activities, including marathon running (Shipway and Jones 2008), climbing (Dilley and Scraton 2010), road cycling (O'Connor and Brown 2010), and surfing (Cheng and Tsaur 2010), and is therefore arguably an effective lens through which to view the practices associated with triathlon and its varying formats.

This theorisation of leisure as serious leisure focuses not only on non-obligatory participation in activities for enjoyment, but also the commitment and responsibility

that other conceptualisations of leisure often fail to address (Green and Jones 2005). Activities that fall into this conceptualisation reflect six key distinguishing qualities; a 'career' consisting of stages of achievement or reward, 'perseverance' through negotiating constraints such as embarrassment and danger, significant 'personal effort' to acquire skills and knowledge related to their chosen activity, 'durable benefits' including self-enrichment and increased social interaction, a 'social world' with a unique ethos surrounding the activity, and a degree of social 'identification' and membership within the social community surrounding the sport (Stebbins 1992). Of these six qualities, the notions of perseverance, personal effort, and the durable benefits associated with engagement are particularly relevant to individual practices, whereas the associated social world, leisure identity and long-term career are inherently social, and consequently, the relevant literature will be discussed in more detail in Section 2.4.

Within Stebbins' (1992) conceptualisation of serious leisure, triathlon can be classed as an 'amateur' activity, characterised by the presence of a professional counterpart—the paid elite athletes such as Alistair and Jonathan Brownlee. Stebbins (1992) suggests that the professional counterparts of serious leisure activities set the standards of practice that amateurs aspire to replicate, in addition to the performances that amateurs use as a comparative benchmark (Green and Jones 2005). The presence of a professional (full-time) counterpart distinguishes serious leisure activities from hobbyist activities such as whitewater kayaking (Bartram 2001), handgliding (Stebbins 1992) and serious yoga (Patterson *et al.* 2016). As a result of the degree of leisure involvement exercised by the amateurs, with the activity often assuming a central-role within participants lives, Stebbins (1992) suggests that amateur participants are typically more closely related to the elites of their activity than they are to the general public. In many notionally amateur sporting activities, such as football, the professional counterparts are well known by most amateur participants but are generally separated from the wider body of unpaid participants. In contrast, triathlon, similarly to running, regularly offers the opportunity for amateur participants to compete in the same events on the same courses as the professionals.

> Unlike most sporting events, the least promising amateur can toe the start line with a champion on race day (McCarville 2007: 171).

McCarville (2007) attributes this ability to line-up alongside the professionals of the sport as a testament to the egalitarian nature of triathlon. However, with an emergence of increasingly recreational amateurs, a decreasing level of competitiveness, and a growing preference for participation over performance, to what extent are professionals still the benchmark for amateurs in terms of practices? Furthermore, to what extent does this mean that the serious leisure framework is becoming less applicable to sports like triathlon? These questions will be considered within Chapter 5.

Alongside amateurs and hobbyists, Stebbins (1992) also considers volunteers within his serious leisure framework. Volunteers are individuals who provide a service with no material gain, and within sport and leisure, volunteering roles encompass administrative roles – such as event management or sports club secretaries – or service roles – including event marshalling and coaching (Green and Jones 2005). Volunteering has become integral to the provision and operation of sport in Great Britain, with estimates suggesting that over five million people volunteer each month (Burgham and Downward 2005; Sport England 2016b; 2019). The same is true within triathlon, with British Triathlon (2018a: 4) suggesting that "volunteers are critical to our sport" and advertise the associated benefits for volunteers including: physical and mental wellbeing, and personal, social, community, and economic development. Volunteering as a topic has received a substantial amount of attention within geography (Fyfe and Milligan 2003; Hopkins *et al.* 2015; Mills 2016; Smith *et al.* 2010), but despite a wealth of work in the field of sports geography, there is a distinct lack of work that explores the intersections between sport and volunteering in geography. This growing awareness of the role of volunteering for developing social capital, sporting identities, and as a means of contributing to the community demonstrates the important role that volunteering can have in relation to social world involvement, a theme that will be explored further in Chapter 7 (Darcy *et al.* 2014; Sport England 2016b).

Much like participation in sporting activities, through its ability to be substantially resource demanding, often involving commitment and a level of obligation, volunteering has the potential to be considered as a form of serious leisure (Stebbins 2013). Motivations for volunteering can be divided into two categories, volunteering as altruism and volunteering as self-interestedness (Haworth and Veal 2004). Previous work, including Stebbins' (1992) own conceptualisation appears to identify volunteering as a separate and distinct form of serious leisure engagement. However, more recent insights into volunteering in recreational physical activity highlight the growing tendency for one's volunteering career to exist alongside, and even supplement engagement in the sport itself. Hindley (2018) discusses the role of volunteering within community-organised parkrun events, highlighting how parkrun provided opportunities for individuals to both take part in the event and engage in volunteering roles, detailing how the opportunity for regular engagement, in addition to its friendly and inclusive atmosphere associated made parkrun a space for encouraging social world involvement rather than purely a running event. Similarly, Wiltshire and Stevison (2018) emphasise the interconnectedness of leisure engagement and volunteering, arguing that parkrun's integrated-volunteer system provides runners with the ability to contribute to the community by 'giving back' through volunteering. Volunteering is increasingly playing an integral role in amateur sport involvement, and therefore, the role of volunteering practice as an integral socially-important element of serious leisure triathlon involvement will be explored in this thesis.

Lamont and Kennelly (2012) highlight how for serious marathon runners, the intense investment of temporal and physical resources required for successful participation can result in the impacts of their leisure engagement overflowing beyond the confines of leisure time. This same sentiment was evident from Bridel's (2013) research on triathletes, referring to the idea of 'over-prioritization' based on the significant level of commitment that Ironman participants devote to their leisure activity that had the potential to overflow into the worlds of family and work. Simmons *et al.* (2016) contend that a time-consuming pursuit such as triathlon is almost impossible to introduce into most individuals' balance of role responsibilities without

resulting in a subsequent reallocation of time from other roles such as family or work. Accordingly, serious leisure participants are often heavily reliant on familial support for continued participation, and further, adopt a range of time-efficient strategies such as scheduling training time together, incorporating family into training schedules, and implementing training into commuting practices (Larsen 2018; Simmons *et al.* 2016). This level of commitment and central-role of triathlon activity is reflective of Stebbins' conceptualisation of serious leisure engagement, whereby participants "devote a major part of their lives to acquiring and expressing the special skills, knowledge, and experiences of their serious leisure activity" (Stebbins 1992: 375).

Comparative resemblances between the activity of triathlon and the conceptual framework of serious leisure have been directly implied by a number of academics (Atkinson 2008; Lamont *et al.* 2017; McCarville 2007; Simmons *et al.* 2016), although predominantly discussions have focused on the association between serious leisure and Ironman triathlon participation. These previous studies of triathlon have considered the relevance of the serious leisure framework for explaining triathlon engagement, but existing studies are yet to engage thoroughly with the framework as an analytical tool. Despite being a popular sporting activity, characterised by a level of intensity and dedication required for participation and in association with the already busy lifestyles of its predominantly middle-class participant base, research has yet to explore the broad range of varied practices associated with the sport of triathlon. This research aims to explore and analyse the spectrum of practices that constitute triathletes' engagement in the activity, exploring how these practices are integrated into the triathletes' daily lives and investigating the impact of variables such as social difference and the importance of different facilitating or impeding factors for leisure engagement to provide more in-depth insight into these practices. Moreover, the research makes a case for the appropriateness of utilising a serious leisure perspective to understand these characteristically dedicated and intense practices associated with the broad spectrum of triathlon participants.

2.2.5. Summary

This section has provided a thorough overview of the existing literature related to the first of four themes that will be considered throughout this thesis - the profiles and practices of triathletes. In summary, previous large-scale quantitative work on triathlon has tended to neglect the more intricate relationships between demographic profiles and motivations, and how these come together to create a range of different practices. Additionally, this work has been focused primarily on advertising the commercial potential of triathlon rather than attempting to provide comprehensive insight into the unique everyday practices of triathletes, which arguably contribute to future public health promotion strategies. The impact of social difference has generally received fleeting mentions within previous studies, and there is a clear shortage of research exploring the intersections between triathletes' motivations and practices in relation to gender, age, income, and type of engagement. Consequently, there is a need for further empirical research to explore the impact that social difference may have on participants' degree of commitment, type of engagement, and ability to pursue leisure to the extent to which they desire. Previous studies of triathlon have considered the relevance of the serious leisure framework for explaining triathlon engagement, but existing studies are yet to thoroughly engage with the framework as an analytical tool. Accordingly, through the implementation of a large-scale online survey of British triathletes, this research attempts to address this lack of insight, comprehensively analysing their profiles, everyday practices, and motivations, highlighting the extent to which their engagement reflects that of a serious leisure activity, and considering the impact of social difference on triathletes' triathlon engagement. Improved understanding of the demographic profiles of the triathlon community in Great Britain, their motivations for engagement, the facilitating and impeding factors that impact their triathlon engagement, their practices of training, competition and socialising and how this array of characteristics interact to produce the triathlon community makes an important contribution to understandings of contemporary sport and leisure practices.

2.3. Geographies of triathlon

2.3.1. Introduction

Within geography and related disciplines, increasing attention has been given to the complex relationship between natural and built environments and practices of sport, leisure, and fitness. Earlier work in sport geography by Bale (1996) utilised the concept of 'topophilia' – a love of place (Tuan 1974) - to demonstrate the potential of adopting a human geography approach for the study of sporting activity. Since then, research stemming from fields such as walkability studies has identified the importance of physical and social elements of place for encouraging and supporting physical activity (Ettema 2016). Individuals make use of spaces due to their enabling physical characteristics such as a lack of traffic and favourable terrain, social characteristics including safety and security, and aesthetic factors such as the ability to experience natural environments (Barnfield 2019; Krenichyn 2006; Wylie 2005). A substantial portion of this research has either focused on impact of the built environment on walkability (Andrews *et al.* 2012; Saelens and Handy 2008) or on active commuting practices (Fraser and Lock 2011; Larsen 2018; Piatkowski and Marshall 2015), but there has been significantly less insight into the built, natural and social environments that shape the locational geographies of recreational sporting activities (Ettema 2016). In addition, physical activity can invigorate and reproduce space, and the meanings attributed to these places are continuously changing and negotiated (Crouch 2000; Latham and Layton 2019).

Of the limited work that does exist, examples of insightful studies include Ward Thompson's (2013) investigation into the relationship between environmental attributes and physical activity engagement, and Hitchings and Latham's (2017) introduction to a special issue on exercise and the environment, which suggests a greater need for attentiveness to the physical and social environments of recreational activity. In addition to these more generalised outputs, the environmental features that characterise experiences in certain forms of physical activity have been considered in relation to angling and rock climbing (Eden and Barratt 2010), distance running (Cook *et al.* 2016; Giles 2016), swimming (Ward 2017), and cycling

(Downward and Rasciute 2015; Simpson 2017), although these considerations of the role of the environment are often tangential.

Presently, there has been insufficient consideration of the social and physical environments that enable different types of physical activity to take place (Das and Horton 2012; Hitchings and Latham 2018). Paying closer attention to the various spaces that facilitate or impede active behaviours has the potential to advance understandings of physical activity engagement (Latham and Layton 2019; Ward 2017). Furthermore, Hitchings and Latham (2017: 1) argue that "studies concerned with how particular environments are inhabited by particular groups of exercisers could play a more central part in public health promotion". Understanding the ways that active individuals engage with different environments, ranging from personal, subjective, visual, audible, and sensual experiences to more explicit understandings of infrastructure and place is essential for further facilitating physical activity (Black and Street 2014). As a sport that is formed of three constituent activities that take place in an array of varyingly specialised indoor/outdoor and natural/built spaces, triathlon offers a useful case study through which to respond to the relative lack of insight into the spatialities of everyday physical activity practices.

Understanding the spaces that facilitate physical activity is clearly an important pursuit. However, this understanding needs to be coupled with an appreciation of how accessibility effects an individual's potential to engage in different forms of sporting activity, as "access to places where exercise can be carried out is one of the most important factors in promoting higher levels of physical activity within the population" (Andrade *et al.* 2018: 2). Warn and Witherick (2003) identify three different forms of access relevant to sport and leisure activity; physical access (availability and provision of health-enabling spaces and facilities), mobility access (proximity, convenience, and capability to get to sporting spaces), and social access (inclusivity based on social difference and openness). A combination of these three forms of access can result in enabling environments surrounding certain types of activity, such as the case study of cycling in Copenhagen (Larsen 2017). Provision of health-enabling environments, appropriate sporting facilities, and opportunities for participation are key considerations for improving the accessibility of physical activity

(Sport England 2015a). A lack of access to health-enabling spaces can contribute to health inequalities (Ward Thompson 2013) and conversely, access to these spaces increases one's likelihood of being active (Huston *et al.* 2003). Panter *et al.* (2008) demonstrate how disparities in access to sports facilities exist based on socio-economic status, highlighting a distinct geography of engagement based on the social accessibility of physical activity.

A consideration of the cacophony of places and sporting practices that (re)produce them, including indoor and outdoor (Eden and Barratt 2010; Hitchings and Latham 2018), sporting and ordinary spaces (Bale 2004), has the potential to increase the impact of studies within sports geography by better considering the key role of the body (Andrews *et al.* 2005), and the effectiveness and inclusiveness of future physical activity promotion schemes (Cook *et al.* 2016; Hitchings and Latham 2018). In addition, attempting to understand how physical, mobility, and social access impact triathletes' everyday spatial practices can contribute to understandings of access in relation to physical activity and the unique geographies of these sporting activities. Serious leisure participation involves a considerable use of temporal and financial capital, and therefore, convenient easily-accessible leisure opportunities are integral for initial and sustained engagement (Maguire 2008), particularly in a modern environment characterised by increasing concerns regarding inactivity and related increases in obesity (Macdonald 2019; White *et al.* 2016), as well as a growing concern over mental health (Baker 2018). Developing further the growing interest in the everyday component practices of physical activity participants, the following section draws on upon a wealth of literature concerning spatialities of sport involvement, the role of the environment for enabling healthy behaviours, and detailing the influence that different types of access have on the resulting geography of triathlon activity. Respectively, the following section achieves this by summarising the key literature concerning the two key themes of the research; training locations (Section 2.3.2) and accessibility (Section 2.3.3).

2.3.2. Training locations

Although seemingly mundane, the environment is much more than simply an 'inert backdrop' for physical activity (Barnfield 2016). In recent years, there has been a

growing interest in the role of the physical environment and of place within public health and for physical activity (Han *et al.* 2013; Krenichyn 2006; Ward Thompson 2013), though there is still a notable absence of work that explores the spatialities and geographies of sporting activity. Some exceptions to this have emerged from the field of mobilities studies, which attends to the "fragile entanglement of physical movement, representations and practices" (Cresswell 2010: 20). Research in this subfield of geography has started to explore the spatialities of recreational activity, and the physical, social, and cultural enablers and barriers to participation (see Cook *et al.* 2016; Giles 2016). Giles (2016) identified that safety, terrain, and level of traffic were important concerns for runners when choosing a route, with proximity of green spaces and trails also encouraging participation.

> The UK is fortunate to have some of the best countryside and outdoor space in the world, where people can take part in a wide variety of activities (Department of Culture Media and Sport 2015: 23).

Despite the above statement, little is known about which elements of the environment are utilised by recreational activity participants and why. Scholarship that has investigated the environments that host physical activity have tended to focus on outdoor environments, although within geography there has been a growing appreciation that indoor environments are also significant (Eden and Barratt 2010; Hitchings and Latham 2017; Ward 2017). In their study of outdoor and indoor leisure spaces, Eden and Barratt (2010) highlighted that for climbers, indoor climbing walls were more convenient than natural outdoor spaces, based on time, weather, access, and safety, and continued to offer the opportunity for individuals to fulfil their leisure needs. Similar changes in the spaces and environments that are used during triathlon practices are occurring with the growing popularity of indoor treadmills, exercise bikes, swimming pools, and 'turbo trainers'—a piece of equipment that allows users to mount their bicycle onto it, thus making it static and ideal for indoor training. Despite the convenience associated with the controlled and standardised nature of these notionally indoor spaces, the transferability of this training to the more unpredictable outdoor spaces that are likely to form part of triathlon events is questionable.

Parallel to the growing interest in indoor spaces for physical activity, there has been a resurgence of interest in the role of 'blue spaces' – health-enabling places with water being the central feature - in both human geography (Foley and Kistemann 2015) and in wider fields of health and sport (DeLuca 2016; Foley 2015; Middlestadt *et al.* 2015; Ward 2017). Technological innovations and shifting practices based on convenience and accessibility have transformed the geographies of outdoor leisure in a number of ways, and understanding how these environments are occupied and operationalised by groups of leisure participants has the potential to contribute in important ways to public health promotion (Hitchings and Latham 2017), as well as to understandings of the changing geographies of outdoor recreation (Eden and Barratt 2010). Ward (2017) also argues that a consideration for the spaces where exercise occurs, and understanding what motivates and facilitates exercise, may offer insights that could influence policy and planning in a way that would be beneficial for the encouragement of physical activity.

Latham and Layton (2019: 16) suggest that "sports and fitness practices poach upon and demand specific topographical affordances", and it would be reasonable to suggest that these affordances extend beyond the necessity of water for swimming, or hills for fell running. In comparison to the spatial confines of competition, or more spatially restricted activities such as ice hockey or long jump, the relative flexibility of everyday training permits athletes to experience a greater range of environments and landscapes (Bale 1994). With the relatively unrestricted nature of triathlon's constituent activities, it could be assumed that triathlon activity could take place almost anywhere, with the only significant constraint being that swimming requires a body of water to take place. Along similar lines, academics have implied that recreational running can take place almost anywhere (Cidell 2014), yet in reality, the spatialities of running activity are significantly more channelled (Cook *et al.* 2016). Much of this previous work has been centred around recreational distance running. Giles (2016) delves into this debate further, suggesting that recreational runners utilise certain spaces over others for their training affordances (flat routes for speed and unrestricted mobility, and steep gradients for hill training) and also social affordances (safety and security). Allen-Collinson (2008) suggests that the main

concern of recreational endurance athletes when choosing the location of their practice are maintaining momentum, enhancing performance, and avoiding injury. Navigating obstacles, and ensuring seamless mobility requires the acquisition and performance of specific skills and strategies that relate to both urban and rural spaces (Cook *et al.* 2016; Giles 2016).

It is not only for their physical and social affordances that physical activity participants utilise certain spaces. The importance of environmental experiences is integral to the spatialities of their practice. Humanistic geographer Yi-Fu Tuan refers to the concept of 'topophilia', or the love of place, in his work when arguing that:

> open and enclosed spaces can also stimulate topophilic feelings. Open space signifies freedom, the promise of adventure, light, the public realm, formal and unchanging beauty; enclosed space signifies the cozy security of the womb, privacy, darkness, biologic life (Tuan, 1974: 27-28).

Triathletes arguably utilise the physical environment in a topophilic manner, like those engaging in orienteering, in that participants "directly exploit the pleasure-giving potential of nature by intimately incorporating the perceptual experience of the natural environment with the activity itself" (Appleton 1975: 85). This opportunity to experience the environment whilst participating in physical activity is regularly stated as a motivation for engagement amongst swimmers, cyclists, runners, and triathletes alike (Krenichyn 2006; Stevinson *et al.* 2015). Research on recreational sport by Hinch and Kono (2017), Little (2017), Stevinson *et al.* (2015) and others clearly identify the sense of enjoyment and rehabilitation ascertained from experiencing natural environments during physical activity. The opportunity to experience nature is seen as desirable and perhaps provides an explanation for why many exercisers choose to perform their activity outside, despite the vast array of convenient, affordable, measurable, and controllable indoor training facilities. In a similar manner, Black and Street (2014) emphasise the importance of aesthetics for enhancing experiences of active mobility, and the creation of spaces that are conducive to physical activity beyond purely performance improving features.

Interestingly, despite the growing interest in health, leisure, and place, and the interconnections between the three, there continues to be a lack of enquiry into the

locations where, when, and how activities such as triathlon are performed, particularly from a geographical perspective. Both Latham and Layton (2019) and Little (2017) suggests that geographers are well-suited to investigate the relationship between sport and physical activity engagement and the spaces and facilities where it takes place. These elements of practice are important for several reasons. Knowledge of the areas where triathlon training and events take place can be used to determine the impact that geography and access have on levels of participation in the sport, and subsequently, how leisure, health, and sporting institutions can further encourage, or better provide, for current and future participants of the sport. Latham and Layton (2019) summarise this focus in one of their suggestions to attend to the ways physical activity animates urban environments, suggesting that:

> by attending to the times and places where amateur sports and fitness [are] flourishing – for a diverse range of bodies – it is possible to learn how to construct an inclusive and accessible social infrastructure that can facilitate engaging and fulfilling practices (Latham and Layton 2019: 6).

Knowledge of the way that everyday leisure spaces are experienced by those who use them can be used to advertise the attraction of said places for the purpose of public health (Ward 2017). Additionally, from a planning perspective, considering the relationship between exercisers and their local environment can contribute to understandings of the endurance sports community's mobile behaviours (Black and Street 2014). Previous research has identified correlations between certain environments and levels of physical activity using quantitative approaches (De Vries *et al.* 2003; Sallis *et al.* 1997; Thompson 2013). However, integrating qualitative insights that illuminate the detailed subjective experiences of individuals in these spaces are essential for better understanding the potential value of certain environments. Accordingly, Barnfield (2016: 629) highlights how landscape is both central to an individual's ability, or inability, to engage in physical activity, in addition to forming an integral aspect of their experiences. Triathlon takes place in a range of unique environments and understanding the importance of individual sites for the practices and experiences of leisure activity has implications for the promotion of

physical activity, and for the creation, presentation, and preservation of spaces which in turn encourage active living.

2.3.3. Accessibility

Access to particular spaces, facilities and even social groups for sport and leisure is an issue that Warn and Witherick (2003) argue is important when considering participation and practices of those involved in physical activity. As mentioned above, these authors suggest that three types of access: physical (the availability and provision of quality facilities), social (related to social capital and social difference), and mobility access (availability of public or personal transportation, and physical (dis)ability) all have the potential to impact an individual's ability to participate in a sport or leisure activity. The same sentiment is expressed by Latham and Layton (2019: 12), who suggest that "issues of access, affordability, and proximity all affect who can take part" in physical activity. Previous studies that have provided useful insight into the relationship between access to opportunities for physical activity and physical activity engagement have traditionally focussed upon one of these three types of access (Black and Street 2014; Ettema 2016; Sallis *et al.* 1990; Stalsberg and Pedersen 2018). To understand better how issues of access manifest in contemporary triathlon engagement, the following section highlights the existing research concerning access to sport and leisure activities from a variety of relevant disciplines.

2.3.3.1. Provision

Work that has explored the relationship between the provision of activity-enabling places and facilities and levels of physical activity engagement have primarily been grounded within health and environment research. Central to these studies has been the contention that attempts to promote or support physical activity engagement must place emphasis on providing easily-accessible health-enabling environments (Barnfield 2019). This approach is recognised by the DCMS in their 'sporting future' strategy, suggesting that:

> it is important that the wider built and natural environment is designed to make taking part in physical activity safer and easier, making activity the easy choice (DCMS 2015: 58).

This emphasis has been especially evident in studies concerning cycling, particularly cycling as a form of commuting. Cycling as a leisure activity due to its low impact on joints and tendons, its convenience, and relative accessibility in terms of skill, has been heralded as an activity with significant potential to contribute to healthy ageing, and accordingly, Black and Street (2014: 68) suggest that "issues of accessibility, facilities and safety in cycling remain crucial". In comparison to most other forms of physical activity, cycling wields greater political clout due to its growing association as a method of commuting (Henderson 1996). In the Department for Transport's (2018) report based on results from the National Travel Survey and Active Lives Survey, the majority of cycling trips were found to be for the purpose of commuting or business, encompassing 4% of all commuting trips in 2017. Yet, despite the political and economic importance of cycling, combined with its potential to have a positive impact on carbon emissions in large urban centres, the relative dominance of motorised transport in the Great Britain has led many to question the extent to which planners, policy makers and governments have considered cycling within urban design thinking (Black and Street 2014):

> Cycling and the needs of cyclists have generally been neglected by transport planners, who have traditionally held to an evolutionary view of transport that valorises automobiles (Wild *et al.* 2017: 507).

For cyclists, who are typically forced to share the road with a diversity of faster, heavier and more environmentally damaging motorised vehicles, their primary desire is for infrastructure that reduces the level of danger associated with sharing the road (Strava 2016). The presence of cycle lane networks within many large urban areas would suggest that cyclists are a group who are well provided for. However, recent research suggests that in the United Kingdom much of this cycling infrastructure is ineffective in practice (Beck *et al.* 2019; Mulvaney *et al.* 2015; Pidd 2019) and perhaps more superficial and ostensible than a comprehensively thought out design solution to encourage cycling activity. Effective approaches to improve the

accessibility of activities such as cycling or running through the provision of appropriate infrastructure should build upon in-depth understandings of everyday leisure practices, understandings this research hopes to provide.

More generic research into the relationship between provision and physical activity has identified strong correlations between provision of suitable spaces for leisure engagement, such as parks and trails, and increased levels of physical activity (Huston *et al.* 2003; Sallis *et al.* 2012). Similarly, Bahrami and Rigal (2017) suggest that the provision of 'ludification spaces' - stimulating spaces that encourage active mobility and the enjoyment of effort - is an important step in making active mobility more attractive in urban spaces. Cities such as Copenhagen, which have successfully implemented infrastructure encouraging active mobility into the fabric of urban design, have received notable attention for their consideration as 'livable cities' (Freudendal-Pedersen 2015; Larsen 2018; Nikel 2019; Vuchic 1999). Yet overall, the influence of provision on practices of non-motorised mobility, especially forms of leisure activity - with the exception of walking - have received limited attention within academic circles (Black and Street 2014). Walkability literature provides us with some idea about the physical and social factors that influence the tendency for individuals to perform active practices in particular areas, and not in others. For example, walkability literature argues that recreational walking was positively related to aesthetics, infrastructural quality, and the presence of others (Ettema 2016). The same study also identified the positive influence of cafés for walkability, a facility that has become culturally significant within the road cycling community (Coldwell 2014; Seaton 2010). Yet generally, understandings of the links between provision and physical activity engagement are in their infancy. The position of triathlon as a sport that engages with a range of notionally indoor and outdoor spaces, sporting and ordinary, and green and blue spaces (Foley and Kistemann 2015), makes it a suitable context through which to explore the importance of understanding the spatialities of physical activity, and to determine the extent that access to particular spaces may have on individuals' practice.

2.3.3.2. Proximity and convenience

Activities such as swimming, cycling, and running have grown in popularity over the last few decades as a result of their convenience and their ability to be easily inserted into existing everyday schedules. Triathlon, much like running, with its atypical participant base in terms of age, is an increasingly attractive leisure choice for middle-aged participants who often experience an increasing degree of time pressure in their lives (Spiers *et al.* 2015). Sport England (2016a) argue that there is little need to advertise the benefits of physical activity, but rather there is a need to make physical activity an easy, practical, and attractive choice, especially for those who do not typically take part in sport or activity. One key factor that is significant in relation to this ease of access is the proximity of health-enabling places and facilities that drastically increase the convenience of physical activity engagement. The impact of proximity is made apparent by Sport England (2015), who have found that 65% of people they surveyed were likely to participate less than two miles from their home, highlighting the importance of proximity to facilities for participation. In comparison to other activities, the constituent components of triathlon, especially the elements of cycling and running, do not necessarily require purpose-built or activity-specific environments to take place (Cidell 2014). In addition, despite being more spatially restricted, recent findings suggest that 84% of UK residents live within two miles of a swimming pool (The Leisure Database Company 2019). Of course, without accounting for opening hours and available public sessions this situation does not necessarily determine accessibility, but it does suggest a degree of proximity, convenience, and provision that is conducive to swimming and thus triathlon engagement. In relation to running, Spiers *et al.* (2015: 89) refer to aspects such as proximity and time/location flexibility as 'enabling factors', defining them as "aspects that make running a more tenable, pragmatic and accessible pursuit than many other sports". Running in particular has received a growing amount of attention within studies of leisure and mobility due to its inherent convenience, debatably only requiring "a decent pair of shoes and a front door" to be performed (Foster 2004), and being "easy to organise, requiring little technical expertise or expensive facilities" (Breedveld *et al.* 2015: 242). Although running stands out as one of the

most convenient-rich forms of physical activity, Sport England (2016a) suggest that running exists alongside swimming, cycling, and gym fitness as activities that are relatively easy to integrate into busy lifestyles.

The typical approach of planners has been to reduce the effort required for active mobility, however, Guell *et al.* (2012) instead advocate for promoting the benefits of 'effort', in this case the physical, social, and mental benefits of adopting active commuting practices such as cycling, walking, and even running to and from one's place of work. Active commuting can be defined as a method of travel that utilises "physical activity and metabolic energy as opposed to motorized and carbon-dependent" (Bahrami and Rigal 2017: 85). The NHS recommend either 150 minutes of moderate, or 75 minutes of vigorous physical activity per week to help maintain a healthy lifestyle, and the Department for Transport (2018) suggests that one potential way for individuals to achieve these targets is to make productive use of their work commute and adopt active travel behaviours. Adapting commuting practices so that the journey between work and the home acts as a training session can be considered a significantly productive strategy, not only allowing participants to profit from the health benefits of physical activity, but also reducing expenditure on fuel or public transport use, contributing to a reduction in fossil fuel use and air pollution, and utilising previously unproductive time for the purpose of leisure (Hamer and Chida 2008; Heinen *et al.* 2010; Macmillan *et al.* 2014). The benefits of active commuting are also cyclical, in that the physical progression gained from regular efforts during the commute result in an increase in bodily capital that facilitates further effort (Bahrami and Rigal 2017). Larsen (2018) argues the commute has the potential to become an effective training opportunity for all, and accordingly sports organisations, employers, coaches, governing bodies, and sporting media could do more to advertise these benefits to potential beneficiaries of this strategy. This is increasingly important considering that travel behaviours are embedded and influenced by individuals' complex social worlds (Guell *et al.* 2012).

2.3.3.3. Social

Studies concerning access to physical activity have traditionally been attentive to the spatial factors that inhibit or facilitate engagement, but more recently this focus

has shifted to explore the social factors and personal characteristics impacting individuals' access to sporting spaces, communities, and activities. This understanding of 'social access' stems from studies of inequality (Parks 2004; Powell 1995) but is largely applicable to studies of physical activity engagement. Social access can be defined as "the ability of an individual to reach a resource or location, as affected by class structures, income, age, educational background, gender, or race" (Mayhew 2015: 3). Issues such as affordability, prejudice and judgement, elitism, and environmental perceptions can all be considered social barriers to physical activity participation. In their report on outdoor activity in England, Sport England (2015) found that people in less affluent areas were significantly less likely to participate in an activity than those in affluent areas. Correspondingly, in DeLuca's (2016: 263) research on swimming and middle-class habitus, she argues that "more economically stable communities tend to offer greater access to both recreational and competitive swimming opportunities". These sentiments suggest that triathlon, a sport dominated by the middle-classes, is likely to follow the same trend, with the provision of, and access to, facilities being an important determinant of triathlon participation. Recreational running, at least on the surface has been characterised as being inherently spatially and socially accessible, with Spiers *et al.* (2015) suggesting that the activity is effectively free from temporal and spatial restrictions, and Foster (2004) emphasising the limited pre-requisites for participation in terms of skill, equipment, and facilities. However, despite this apparent social accessibility, through a quantitative analysis of data from the Active People Survey by Sport England, Baxter (2018) highlights that running, alongside swimming and cycling (and most other sports), is a predominantly middle-class endeavour. Clearly issues of social access are significant within understandings of physical activity, and indeed triathlon, and as Barnfield (2019: 3) suggests, "attention needs to be given to making spaces of exercise acceptable for all, including slow, slowing, or still bodies" (Barnfield 2019: 3).

Geographers have had a long-standing interest in exploring the impact of social difference on a range of phenomena and experiences. Difference is a key analytical concept within geography, central to the functioning of communities and society

(Pickerill 2010), yet the relationship between social difference and physical activity access is a subject that has been largely overlooked by geographers. Previous primarily quantitative research from the field of health promotion has explored the relationship between markers of social difference and the resulting impact on access to physical activity. Research by Stalsberg and Pedersen (2018) conducted an extensive review of the literature surrounding socio-economic status and physical activity engagement, identifying a clear relationship between a higher socio-economic status and likelihood of engaging in physical activity. Work from Borodulin *et al.* (2008) and Kamphius *et al.* (2008) similarly emphasise this association whilst also highlighting a correlation between education and activity engagement, a trend also identified by Huston *et al.* (2003). In geography, Dawson and Jöns (2018) have highlighted the great importance of studying the relationship between access to physical activity spaces and people's cultural background as well as socioeconomic status at different geographical scales in their work on the underrepresentation of local ethnic minorities at the Queen Elizabeth Olympic Park in East London.

Sport England's (2019) Active Lives Survey also illuminates how some of these social access issues manifest themselves in physical activity participation, with lower socio-economic status individuals, older people, disabled people, and women all less likely to be physically active. The difference in sport participation between men and women in Great Britain is also alluded to by Kay (2003) who explains that women are less likely to take part in sport and physical activity throughout their lives. More recently there have been efforts to increase the number of women taking part in physical activity by breaking down the cultural barriers to women's sport participation – such as Sport England's 'This Girl Can' campaign, or female-centred advertising campaigns such as Nike's recent 'Dream Crazier' short film. However, there is a distinct lack of research that explores the impact that different forms of access have on women's ability to engage in regular sport and physical activity. One exception to this is a study from Bengoechea *et al.* (2005), who have demonstrated how perceptions of the environment were inherently gendered, with a presence of easily accessible low-cost spaces for physical activity, and a presence of others, contributing to increased levels of physical activity participation amongst women.

Duncan (2017) argues that social differences and issues of access have an influence on the understandings and meanings of leisure to participants, and therefore, an attentiveness to issues of social access have the potential to contribute positively to the development of strategies to improve the accessibility of physical activity to a wider diversity of individuals.

2.3.4. Summary

Currently, there is a substantial gap in the literature surrounding the temporalities, geographies, and intricacies of triathlon practices, which arguably has the capacity to contribute to wider understandings of sporting practices in geography and the social sciences, and for concerned institutions and interested parties to promote and encourage participation in triathlon and other forms of physical activity (Barnfield 2019; Hitchings and Latham 2018). Knowledge of the way in which everyday leisure spaces are experienced by those who use them can be used to advertise the attraction of said places for the purpose of public health (Ward 2017).

Previous research has identified correlations between certain environments and levels of physical activity using quantitative approaches (De Vries *et al.* 2003; Sallis *et al.* 1997; Thompson 2013). However, more comprehensive quantitative research that investigates the practices and experiences of individuals in these spaces is essential for better understanding the potential value of certain environments. Accordingly, Barnfield (2016: 629) highlights how “landscape is integral in enabling or constraining the act of running and in the sensory experiences that are produced”. Few studies have explored the relationship between the built environment and the physical activity engagement (Ettema 2016). In addition, to the author’s knowledge, there have been even fewer attempts to explore the relationships between facilities and environments and their impact on triathlon engagement. Triathlon consists of three individual sports which have each been the focus of a number of relevant research projects, but the interconnected nature of triathlon practices creates a unique form of practice which warrants exploration. Triathlon takes place in a range of unique environments, and understanding the importance of individual sites for the practices and experiences of leisure activities has implications for the promotion of

physical activity, and for the creation, presentation, and preservation of attractive spaces which in turn encourage active living (Middlestadt *et al.* 2015).

Issues of physical and social access are central to practices and experiences of sport and physical activity (Latham and Layton 2019). Previous research has identified clear relationships between access to opportunities for physical activity and the provision or proximity of health-enabling spaces (Sallis *et al.* 2012; Sport England 2015a), and how all of these aspects vary by characteristics of social difference (Huston *et al.* 2003; Dawson and Jöns 2018; Stalsberg and Pedersen 2018). However, there is an absence of research that investigates how issues of provision, proximity, and social access manifest in relation to an endurance activity that takes place in a variety of varying specialised, indoor/outdoor, built/natural, and public/private spaces. In particular, to the author's knowledge, there is no single study that investigates these three forms of access in relation to one particular case study activity.

Accordingly, this research attempts to respond to these gaps in the academic literature by exploring the geographies and spatialities of triathlon activity in Great Britain with a notable attentiveness towards the assortment of places that form the sportscape of triathlon, the enabling features of place that make these spaces conducive to physical activity, and the extent to which different forms of accessibility impact the spatiality of triathlete's practices.

2.4. Social world

2.4.1. Introduction

It is increasingly recognised that as an institution, sport and physical activity have an inseparable social element that contributes to both individual and community social development (Sport England 2016a). One way to understand the role of the social within sport engagement better is through the utilisation of the social world framework (Unruh 1980). Building further on the concept of serious leisure introduced by Stebbins (1992), the idea of social worlds is recognised as a key element of committed sport engagement. Shipway *et al.* (2012: 260) highlight the key role of social worlds, stating that:

> One of the characteristics of any serious leisure activity is the social world that develops over time as a consequence of sustained participation by enthusiasts in that activity.

In comparison to more casual or irregular forms of physical activity, serious leisure as a meaningful, committed, and engaging pursuit typically results in a deeper immersion within the activities-related social world and provides participants with a valuable social identity (Green and Jones 2005). Missing from Unruh's (1980) conceptualisation of the social world, Stebbins (1999: 71) argues, is that social worlds are characterised by a unique assortment of norms, values, principles, ideologies, standards, meanings, experiences, and representations, that distinguish them from other social organisations. Previous research has identified the association between serious leisure and social worlds (Robinson *et al.* 2014), including previous studies of triathlon (McCarville 2007), but it is rare that these studies have thoroughly explored relevance of the two concepts in a single study. Accordingly, using the case study of triathlon – a sport characterised by its participants as often requiring remarkable levels of commitment (Atkinson 2008) as well as unique norms, values, and identity associated with the community – this research attempts to demonstrate the relevance and usefulness of the social world concept for the understanding of contemporary physical activity practices. Furthermore, despite referencing the importance of particular locations within the framework of social worlds (see Hughes 2015; Shipway *et al.* 2012), previous research has typically overlooked the plethora of places that support the everyday interactions and practices which collectively define social worlds. In particular, the changing social geographies of modern physical activity due to the increasing pervasiveness of digital technologies (Duggan 2017) are likely to have restructured the spaces that form the framework of social worlds.

2.4.2. The concept of the social world

Within Stebbins' conceptualisation of serious leisure, social worlds are one of the six distinguishing features that separate serious leisure engagement from more casual participation. Through the combination of perseverance, significant personal effort, the pursuit of a leisure career, and the durable benefits participation offers,

serious leisure participants develop broad subcultures around the unique norms, beliefs, values, and events that constitute leisure social worlds, something that is not reflected in more casual forms of leisure (Stebbins 1992). The social world is a conceptual framework devised by David Unruh (1980), building on existing work of several symbolic interactionists (Shibutani 1961; Strauss 1978). The social world concept helps to understand the plethora of social organisations that emerge around different "universes of discourse" (Strauss 1978: 120). The idea of social worlds draws upon a number of earlier related concepts in social theory such as communities within communities (Goode 1957), invisible colleges (Crane 1972), social circles (Kadushin 1968) and subcultures (Gordon 1947). Guell *et al.* (2012) suggest that social theory can provide us with a better understanding of the practices and relationships that constitute social worlds. Unruh defines a social world as:

> a unit of social organization which is diffuse and amorphous in character. Generally larger than groups or organizations, social worlds are not necessarily defined by formal boundaries, membership lists or spatial territory . . . Social world must be seen as an internally recognizable constellation of actors, organizations, events, and practices which have coalesced into a perceived sphere of interest and involvement for participants (1979: 115).

In addition, social worlds are typically meaningful to its members and provide them with a sense of communal identity that may not be available in less organised social groupings (Fine 2015). Social worlds are formed through and continue to exist based on social interactions. Accordingly, the development of appropriate norms, practices, and behaviours that determine subcultural membership are imbued within social interactions (Bourdieu 1984). In contemporary times, such units of social organisation have emerged in relation to an array of interests, experiences, technologies, and lifestyles. Academic studies have utilised the concept of social worlds in relation to American football fans (Gibson *et al.* 2002), contact bridge (Scott 1991), e-sports (Seo 2016), rock climbing (Bogardus 2011), gourmet cooking (Hartel 2010), real ale enthusiasts (Thurnell-Read 2016), and beekeeping (Ferguson 2007).

Although the boundaries of these social organisations are amorphous and not necessarily spatially defined, Unruh (1980) suggests that you can identify the degree of involvement that characterise members of the social world based on four key categories – *strangers, tourists, regulars, and insiders*, who represent the continuum of engagement within social world structures. These categories have were afapted in the context of the distance-running social world by Shipway *et al.* (Figure 2.2).

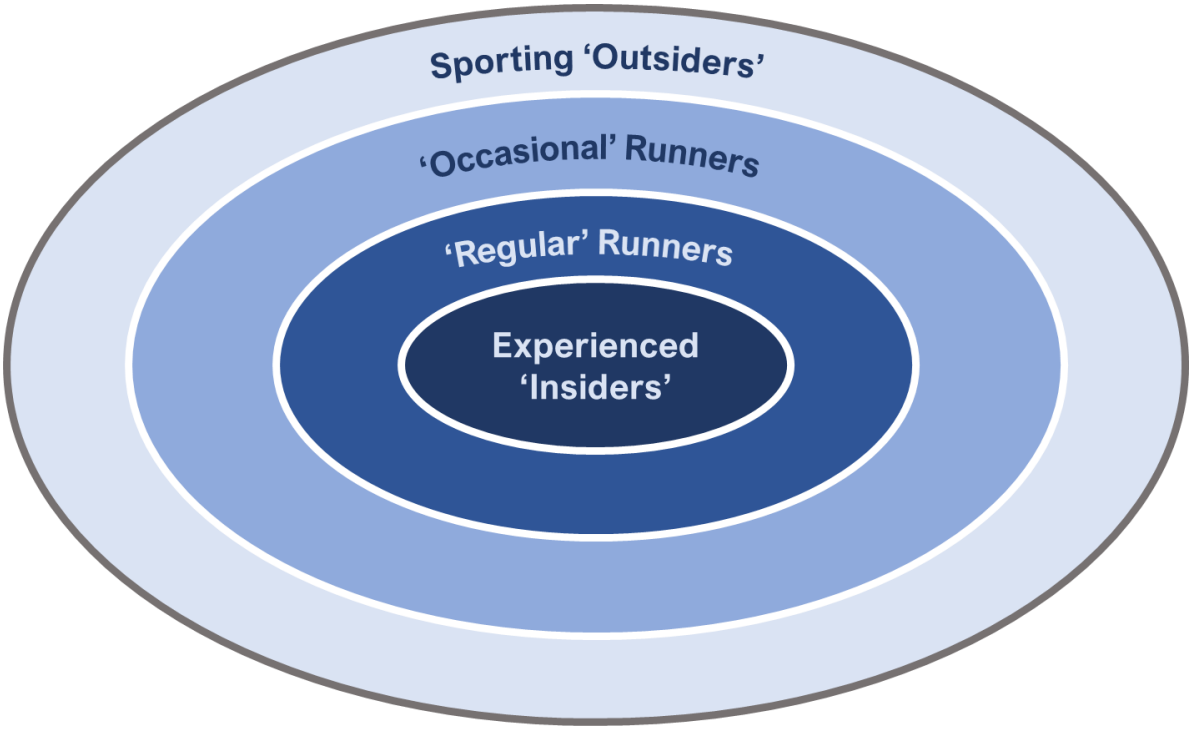


Figure 2.2 *- Typology of members of the distance running social world (Adapted from Shipway et al. 2012: 262).*

On one end of the spectrum are the strangers (or outsiders), who demonstrate limited lasting commitment and have a minimal but important impact on the activities of the social world - for example, those who create the javelins or discus' in the athletics social world. At the opposite end of the scale are the insiders who devote much of their life towards involvement, often contributing to the construction, expansion, and ethos of the social world (Unruh 1980). Using this continuum of involvement creates a way of categorising non-participants who nevertheless have an impact on the activities and experiences of the social world. Thus, those who design and distribute the accessories and equipment associated with triathlon, those organising events, those who volunteer, those supporting and enabling triathletes,

and other loosely connected actors can be considered members of the triathlon social world, albeit 'sporting outsiders'. Much like serious leisure identities, social world membership does not occur instantaneously, but involves continued social training across multiple stages of leisure career progression (Stebbins 1992). Furthermore, Unruh (1980) identifies four features of involvement that characterise membership within social worlds, namely; *voluntary identification*, *partial involvement*, *multiple identification*, and *mediated interaction* (Figure 2.3). Voluntary identification refers to the relative freedom and accessibility associated with entry into and exit from social worlds, whereas partial involvement describes how the diffuse and expansive nature of social worlds results in involvement that encompasses only a select portion of the activities and experiences that define social worlds (Unruh 1980). Both multiple involvement and mediated interaction have become increasingly relevant in modern times. As individuals' lives have become increasingly complex, the likelihood of belonging to multiple social worlds continues to grow, and additionally, the explosion of modern communication methods means that mediated interaction has become an integral aspect of communication within contemporary social worlds (Shipway *et al.* 2012).

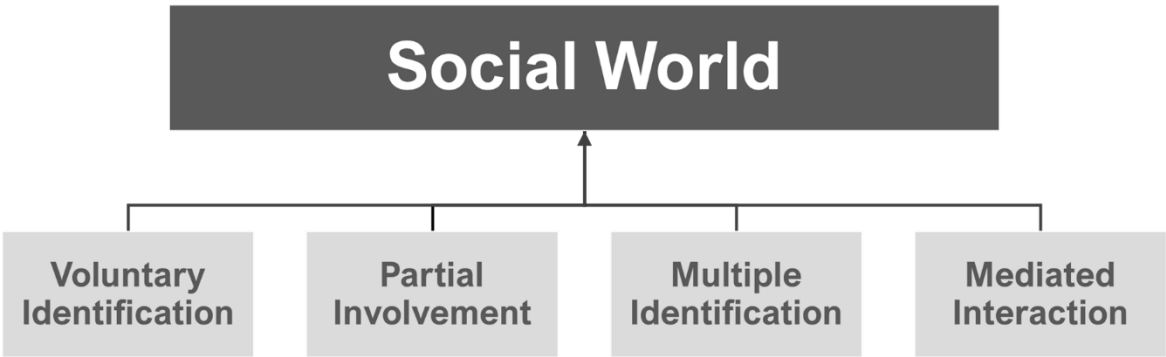


Figure 2.3 *- Four features of involvement in social worlds (Adapted from Unruh 1980).*

Although the boundaries of social worlds are undefined and not necessarily geographical in nature, Stebbins (1999) suggests that social worlds can exist at a variety of scales, with some encompassing international networks, and others consisting entirely of local social groupings. Crosset and Beal (1997) further argue

that social worlds can be divided into qualitatively distinct sub-worlds and that career advancement involves transitions between these distinct sub-worlds. In triathlon, these sub-worlds may be centred around regions, events, clubs, or even training groups. Through the concept of the social world, academics "distinguish salient subgroups from a more extensive, more complex society at large in which many subgroups (or worlds) abut each other" (Fine 2015: 2). Membership of social worlds, and of serious leisure identity groups, is "generally prescriptive, in that a social identity prescribes the attributes of its members, and members tend to self-regulate their behaviour to correspond with the norms and values of the group" (Shipway and Jones 2008: 64). Hughes (2015) has devised a conceptual framework for understanding social worlds (Figure 2.4) based on the three integral characteristics that are central to the existence of social worlds and that will be studied empirically in Chapter 7; culture, communication channels, and knowledge.

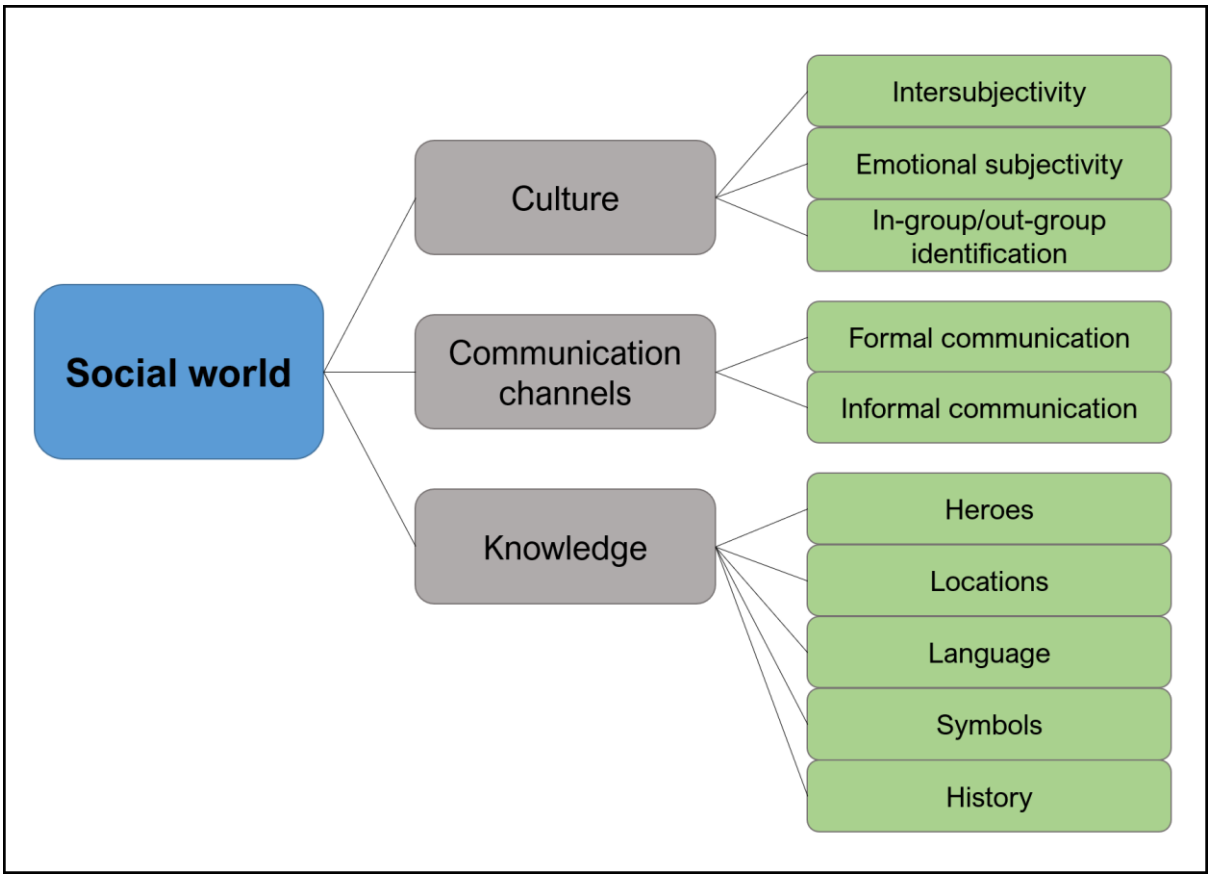


Figure 2.4 *– Conceptual framework of the social world characteristics (Adapted from Hughes 2015: 54).*

2.4.3. Characteristics of sporting social worlds

Maguire (2014) highlights that a symbolic interactionist approach towards sporting activity involves an examination of the meanings, identities, and (sub)cultures created in and through this sporting interaction, and that social worlds in sport are created through the expression, interpretation, and exchange of meaning in these sporting interactions. The social world is a concept that has been used extensively within geographical literature and wider social sciences, and more recently in relation to sporting activities such as swimming (DeLuca 2016), with a particularly pertinent example focusing on the 'distance running social world' (Shipway *et al.* 2012). Sporting activities that can be categorised as forms of serious leisure are particularly applicable to the social world perspective, with participants reflecting the unique experiences, identities, and subcultures attributed to social worlds (Hinch and Kono 2017). In Shipway *et al.*'s (2012) conceptualisation of the distance running social world, they delve into the constituent elements of the world by adopting Unruh's (1980) four types of involvement and rename these categories to make them applicable to a sporting social world, instead using re-imagined category titles; *sporting outsiders, occasional runners, regular runners*, and *experienced insiders* (Figure 2.2). In so doing, Shipway *et al.* (2012) develop a framework for better understanding the foundations of endurance sport social worlds, insights that are particularly applicable to triathlon.

Unlike less serious forms of leisure activity, which are "too fleeting, mundane and commonplace for most people to find a distinctive identity" (Stebbins 1992: 7), triathlon as an intense sport with committed participants is able to provide individuals with a positive social identity (Green and Jones 2005). Additionally, the strength of the social identities formed within triathlon as a meaningful, engaging, and high investment activity, results in a greater immersion within the triathlon 'social world'—a unit of social organisation consisting of actors, organisations, events and practices associated with an activity, experience, technology, or lifestyle (Unruh 1980). In relation to distance running, Shipway *et al.* (2012) contend that the social world permits the development and confirmation of a running identity, and with it, a degree of social fulfilment. The development of any social identity does not happen

instantaneously, rather it is an ongoing complex process that can involve 'social training' to learn the unique rules, norms, and characteristics of the identity associated with the social world (Green and Jones 2005) and additionally, the acquisition and exhibition of 'subcultural capital'—currency that measures the "value of individuals' knowledge, credibility, and identification with a subculture" (Shipway and Jones 2008: 64). Social worlds are permeable, suggesting that just as easily as social training and acquisition of relevant skills and knowledges can cement one's position within said social world, a temporary or permanent inability to engage with the activity at the centre of social worlds can also result in a decline in association or even exit from said social world, much like Stebbins describes in his overview of serious leisure engagement (Stebbins 1992; Unruh 1980).

The concept of 'subcultural capital' (Thornton 1995) builds on Bourdieu's (1984) concept of 'cultural capital' but differentiates itself by considering the role of popular media as a primary influence on the circulation of subcultural capital. Additionally, subcultural capital is distinguished from cultural capital in that it refers to knowledges, practices, skills, and other recognised attributes within a specific subculture, rather than in wider society (Jensen 2006). In sporting social worlds, displays of subcultural capital have been identified in ways such as kayakers wearing logo-bearing clothing (Kane and Zink 2004), marathon runners exhibiting medals, clothing and photographs from completed events (Green and Jones 2005; Shipway and Jones 2008), and the pertinent example of the Ironman tattoo among triathletes (McCarville 2007)—a tattoo of the Ironman brand logo that has become symbolic as a marker of identification and achievement within the triathlon community. An example of the unique norms often associated with serious sporting social worlds is the semi-satirical list of cycling rules produced by 'the Velominati', which have become a popular means of identification among serious cyclists. One example from the list is rule 7 which advocates that "tan lines should be cultivated and kept razor sharp" (Velominati 2013), a rule that has become widely recognised as a visible identification of the cycling, and additionally the triathlon, subculture - a unique form of 'subcultural capital' (Thornton 1995). As digital technology has become increasingly ubiquitous within triathlon practice and triathlon culture, it would not be

unreasonable to suggest that expressions of subcultural capital now frequently occur online through forums and social media sites, and that these online spaces provide extensibility for triathletes' identity (Gaffney 2014).

Identity confirmation within a social world is not a process that ends abruptly but rather resembles a continuous process (Shipway *et al.* 2012). It is likely that integration into the triathlon social world does not happen in an instant, and instead occurs as the individual becomes increasingly familiar with the unique ethos, rules, norms, and behaviours of the world, and through regular interaction with other members of the social world, although this process is not well documented in social sciences literature. Therefore, one focus of this research will be to investigate the process of obtaining a triathlon social identity and becoming integrated into a the 'social world' of triathlon, identifying the key spaces, places, and times that impact the process of social identity formation.

Within sporting social worlds, events have become accepted as an important means of fostering a sense of belonging to a community and for the formation of a sporting identity (Shipway *et al.* 2012), for the projection of that identity (Green and Jones 2005), and for social interactions and community contributions that result in a greater feeling of immersion within the social world (Stevinson *et al.* 2015). Unlike previous sporting activities that have been explored using the theorisation of the 'social world', triathlon is somewhat exceptional as it is comprised from three different activities with their own unique 'sub-worlds' (Crossett and Beal 1997). This situation raises interesting questions regarding the interrelations between these varied yet connected sub-worlds in the creation of the triathlon social world.

2.4.3.1. Spaces of social worlds

Social worlds are characterised by their amorphous, spatially undefined nature, but the operation of social worlds is often tied to a select array of important places. Unruh (1980) refers to the importance of particular places as geographical focus points for communication and involvement in various social worlds, and additionally, highlights the potential for sites of exceptional subcultural importance (e.g. Southern California for surfing, Harvard for sociology) to form a recognised focal-centre of

social worlds, even amongst members who have not had the opportunity to physically experience these spaces. Understanding the importance of space in sporting social worlds is of particular importance, as sport can "bond people through a sense of shared purpose, belief or (an often emotional) commitment to particular place[s]" (Horton and Kraftl 2013: 144). Places are ascribed with meaning, they provide cues to memory, behaviours and practices, and therefore form the foundation of social worlds (Clifford *et al.* 2009; Fine 2015). Social worlds are dependent on communication, and regardless of the channel of communication, social worlds are grounded in particular places. Whether this be the hallowed granite faces of Yosemite National Park for rock climbers, the online forums where golfers discuss techniques and equipment, or the car park of a pub that a group of local hikers meet at before setting off on their journey, different spaces are imbued with importance and act to support social worlds. In relation to triathlon, previous research has alluded to the cultural importance of the Ironman World Championships that take place in Hawaii every year (Granskog 1993; Lamont and Kennelly 2012; McCarville 2007). The difficulty of qualification, the associated presence of many of the most successful long distance triathlon athletes in the world, in combination with the challenging course, demanding conditions, cost of participation, and spectacular landscape make the event a bucket list item for many of the most committed triathletes, and even an event of interest to those towards the edge of the social world. In their analysis of recreational running practices, Cook *et al.* (2016) comment that there are likely to be a plurality of running cultures and norms, and that the mobile practices of runners are likely to be differentiated based on their everyday environmental experiences. Similarly, one would hypothesise that there are likely to be an extensive assortment of places at a regional, local, or even an individual level that are significant to the social world of triathlon.

Aside from previous studies focusing on the events and spaces that have become revered within the wider social world system, there has been very limited investigation into the everyday spaces that have come to represent less extensive regional and local social worlds (Unruh 1980). Social worlds surrounding physical activities bring people together for the performance of activity and social interaction,

contribute to identity formation and provide the opportunity for self-expression and sharing of experiences, yet the spaces where this occurs have, to date, been largely ignored. One exception to this is Shipway *et al.*'s (2012) article that emphasises the role of running clubs and events for fostering social interaction, identity development, a sense of belonging, and enabling the sharing of experiences that are integral to the function of the distance running social world. The importance of sports clubs as a spatial site of sporting social worlds is also highlighted by Forsdike *et al.* (2017), who suggest that they are conducive to the development of both bonding and bridging social capital (Putnam 1995). Ward (2017) emphasises a need for attentiveness to the "banal details of experience" to understand fully the deeper meanings of certain environments for their users. At a time when social interaction is increasingly mediated through online technologies and forums, an awareness of the emerging virtual spaces, in addition to the existing physical spaces, which increasingly support and propagate sporting social worlds is a timely and essential consideration.

2.4.3.2. Identity and unique ethos

Sport and leisure are increasingly seen as an opportunity for self-expression, self-fulfilment and for the development of a valuable social identity (Stebbins 1992). Unlike other spheres such as work, serious leisure activities can become so integral to participants' lives that they can form the basis for their personal and collective identity (Getz and Andersson 2010). Social worlds surrounding amateur sporting activities offer participants a platform to develop and confirm a sporting identity alongside social actualisation (Shipway *et al.* 2012). The identity obtained from a serious leisure career is of importance to participants, and this identity in many ways can only be sustained through continuous involvement (Lamont *et al.* 2014). The development of any social identity does not happen instantaneously, rather it is an ongoing complex process that can involve 'social training' to acquire the unique identity associated with a social world (Green and Jones 2005). In particular, Green and Jones (2005) suggest that it is during the socialisation phase, which follows initial entry into the social world – for example, joining a triathlon club - where members learn about the ethos, practices, norms, and behaviours that come to characterise the community, in order to signal their degree of involvement to other members

through the acquisition of skills, knowledge, and other forms of cultural capital. It is widely accepted within geographical debates that individuals are likely to identify with more than one social categorisation, possess more than one identity, and that these identities are likely to be fluid, changing, and intersectional (Hall 1995).

Intersectionality being a concept that refers to the "interrelationship of different axes of identity, such as gender with ethnicity, making the experiences of certain social groups distinct from others" (Lynn-Ee Ho 2017: 3519). Previous research clearly identifies that being a triathlete is almost never an isolated identity, triathletes are differentiated along lines of gender (Cronan and Scott 2008; Couture 2016), age (Wicker *et al.* 2013), commitment, in addition to also identifying with the sports' or sport's three constituent activities to varying degrees. Each of a triathlon's three individual elements has their own sporting social world with its distinctive ethos, norms, and values, but to what extent do these integrate or differ within the context of the triathlon identity in Great Britain?

Serious leisure identities typically reflect the unique norms, practices, experiences, and values that come to form the foundation of social worlds. This unique ethos is a central component of social worlds that act to differentiate its members from other subcultural organisations (Green and Jones 2005):

> The social worlds of serious leisure groups such as marathon runners are highly identifiable by their own unique and distinct set of norms, values, beliefs, behaviours, styles, communication mediums, moral principles, performance standards, and language (Robinson *et al.* 2014: 376).

Previous research has identified a number of distinguishing features that have come to represent the unique ethos attributed to a number of sporting activities, such as the terminology and intimate relationship with the water demonstrated by kayakers (Kane and Zink 2004), the appreciation of tradition, etiquette and pursuit of skill acquisition in golf (Sigenthaler and O'Dell 2003), and the camaraderie and unrefined experiences of nature present in fell running circles (Atkinson 2011). With regards to the triathlon social world, existing research has suggested that its members are characterised by their commitment, structured training, and shared acceptance of struggle and suffering (Atkinson 2008). However, arguably the unique ethos and

social identity associated with triathlon is far more complex than previous research has suggested.

Cheng and Tsaur (2010) suggest that increased levels of commitment to serious leisure pursuits results in a growing potential for self-expression, self-identification, and self-gratification, whereas the presence of a unique ethos associated with the activity makes it a more attractive pursuit, especially for members of the middle-class who Atkinson (2008) suggests are in pursuit of 'exciting significance' in their lives. Triathlon as an activity requiring a significant degree of commitment, and characterised by a variety of distinctive subcultural intricacies, "provides an exciting set of corporeal and identity-affirming experiences for many participants" (Atkinson 2008: 177). The social world is an apt concept to help understand the presence of these unique values within triathlon. Unruh (1980: 283) argues that the lack of a central authority structure is conducive to the capacity of the social world to redefine and alter the "various products, activities, experiences, life-styles, and technologies" associated with the activity of the social world. Therefore, the members themselves, particularly those that could be categorised as 'insiders', can have a notable impact on the direction, structure, and interests of social worlds.

One element of contemporary sport engagement that appears to contribute positively to social world membership and the development of a sporting identity is the abundance of opportunities to volunteer in positions that support sporting communities and events (Gellweiler *et al.* 2017; Hallman and Fairley 2018). Volunteering has clear social, mental, and economic benefits, as referenced in Section 2.2.4, yet engaging in volunteering also appears to have important links to social world membership, contributing to the development and coordination of events and organisations that form part of the underlying structure of social worlds, and also providing volunteers with an opportunity for initial and continued involvement within sporting social worlds. Opportunities to participate in roles such as marshalling at events, sports coaches, club administrators, and event organisers provide individuals with the benefits of social inclusion and the potential to develop social capital that is beneficial for entry and sustained involvement in social worlds (DCMS 2015; Forsell *et al.* 2018). In their study of parkrun, Wiltshire and Stevinson

(2018) refer to the role of volunteering for providing participants with a sense of involvement in the running community through their altruistic tendencies and contribution to the function of the social world of parkrun. Accordingly, by offering individuals the opportunity to participate directly in the activities of sporting social worlds in a manner that also enriches the life, social wellbeing, and identity of the volunteer, considering volunteers as an important contributor to social worlds, and recognising the role of volunteering roles as a means of entry and continued involvement in social worlds will help better understand how individuals are impacted by volunteering experiences (Gellweiler *et al.* 2017).

2.4.3.3. Social/subcultural/cultural capital

One of the ideas that appears to be closely associated with the theoretical framework of social worlds, is the concept of social capital. Social capital is a concept used to refer to the personal resources that can be ascertained through social interaction or membership to social networks (Bourdieu 1986; Forsell *et al.* 2018; Portes 1998). Thornton (1995) comments that social capital stems from social connections, that is the acquaintances, colleagues, friends, or contacts that all have the potential to bestow status in an individual. The components attributed with social capital – such as trust, reciprocity, norms, acceptance, and friendships – in addition to material resources, opportunities, and support, are collectively owned and accessible, although not guaranteed, to all members of the social group (Forsdike *et al.* 2017; Forsell *et al.* 2018). The world of sport is one in which social capital is of particular significance to its participants. Nicholson and Hoye (2008: 2) suggest that "sport [is] an institution capable of creating substantial social capital". Additionally, sociologist Pierre Bourdieu suggests the social function of sport is to reflect the use and investment of social capital and the various rewards that this expression results in (Maguire 2014). Accordingly, the ability of individuals to develop social capital through social world involvement is integral to the initiation and continued engagement in physical activity (Wiltshire and Stevinson 2018). Hughes (2015) suggests that the degree of difficulty associated with the attainment of markers of social capital typically require a greater, more regular, involvement with the social world. He uses the example of running, suggesting that those participating in a

marathon event were significantly more active in the social world of running during their preparation, in comparison to those only attempting a 5k which required substantially less training and commitment. Accordingly, one would hypothesise that full-distance triathlon participants would indicate a greater association with the triathlon social world.

Linked to the idea of social capital, are the concepts of cultural and subcultural capital. Subcultural capital is more context specific than social capital, referring the currency that measures the value of individuals' knowledge, credibility, and identification with a subculture (Shipway and Jones 2008; Thornton 1995). Subcultural capital can be objectified through dress and equipment or personified by the expression of appropriate behaviours and language and embodied in the practices and etiquette associated with the social world (Thornton 1995). The activity-specific knowledges that act as sources of subcultural capital are identified in Hughes (2015) conceptual framework of social worlds (Figure 2.4). Accordingly, self-presentation is central to the development of subcultural capital, evidenced by examples from existing research that have highlighted how runners expressed subcultural capital through wearing finishing t-shirts from previous completed events (Shipway and Jones 2008), how cycling knowledge was expressed through participants' understandings of gearing ratios surrounding their ascent of Mont Ventoux (Spinney 2006), how the use of subculture specific language acted as a marker of identification within the world of bodybuilding (Andrews *et al.* 2005), and how spaces of events, such as in parkrun, are important sites for the development of subcultural capital amongst recreational runners (Wiltshire and Stevinson 2018). One pertinent example of subcultural capital from triathlon is the shared acceptance and embracing of pain, suffering, and physical effort that have become synonymous with the triathlon culture and a resource that effectively bonds members of the world together (Atkinson 2008).

In relation to triathlon, one can consider the use of particular technologies, equipment, and accessories, the use of particular language and terminology, and an awareness of specific knowledges and practices as markers of membership to the triathlon social world. Additionally, the increasing interconnection of material and

virtual realms in sport, combined with the growing number of social applications that encourage competition and parade achievements, are likely to have transformed the way that subcultural capital is accumulated and expressed.

2.4.4. Summary

Academics exploring the link between sport and social worlds have identified social worlds as a platform for individual belonging that strengthens the sporting community (Fine 2015), as an opportunity to share the development and expression of a unique identity (Shipway *et al.* 2012), as a support network for the actors within that world, and as an opportunity to form meaningful social connections based on mutual interests and physical effort (Robinson *et al.* 2014) that on the whole positively influences physical activity engagement (Wiltshire and Stevinson 2018). Triathlon as a committed activity with an active social community has been associated with the social world concept several times (Couture 2016; Lamont *et al.* 2011; Lamont *et al.* 2017; McCarville 2007), yet to date none of these studies have gone further than making passing references to the applicability of the social world framework. Accordingly, this research aims to elaborate on the unique ethos and identity that has come to represent membership in the triathlon social world, and to explore the ways in which social and subcultural capital manifest within, and contribute to, the triathlon social world.

Previous research has identified the appropriateness of harnessing the social world framework to analyse sporting communities surrounding sport and physical activity (Shipway *et al.* 2012). However, there is a distinct lack of insight into the various physical and digital spaces that coalesce to support, proliferate, and (re)shape these social worlds. An understanding of the role of space within the social world of triathlon has the potential to better understand the geographies of existing social worlds and the benefits that social world membership can bring to participants, as well as to tailor schemes to help provide spaces that are conducive to the socialising and community building associated with social worlds. As Hitchings and Latham (2017) suggest, an attentiveness to the social aspects of everyday physical activity practices, at a time when an increasing number of individuals perform their activity

alone, can produce valuable insights into the question how sociality animates individuals' exercise practices.

2.5. Digital world

2.5.1. Introduction

The previous sections in this literature review have provided insight into the existing research that forms the foundation for later discussions regarding the spatial and social aspects of triathlon engagement. It has become increasingly apparent that our everyday lives, practices, experiences, and geographies have become increasingly mediated by technology (Thrift and French 2002).

> It is now somewhat obvious to state that digital phenomena have radically transformed almost every aspect of human life (Ash *et al.* 2018b).

As Zook *et al.* (2004: 155) comment, "individuals and places are ever more embedded in these new digital geographies". The continued growth and importance of online social communication platforms such as Facebook, Instagram, and Twitter, and sport-specific platforms such as Strava or Runner's World forums, has transformed the ways in which individuals socialise with each other, express themselves, form personal identities, and interact with different spaces and different communities (Ash *et al.* 2018b). Accordingly, a growing number of geographers and social scientists are focused on exploring how physical and digital worlds are becoming increasingly inseparable, with Lane (2012: 1) suggesting that "geography matters as much as ever, despite the digital revolution". The rise of these digital technologies, applications, practices, and worlds has generated a complex range of new promises and concerns that have been the subject of discussion in recent research, including the potential of the digital for improving an individual's health (Chen *et al.* 2017; Millington 2014), providing access to new knowledges and information (Korpilo *et al.* 2017; Longan 2015), and as a platform for resistance (Beck 2016; Woods 2018). Yet there are also concerns such as privacy and surveillance (Graham and Shelton 2013) and spreading of misinformation (Pennycook and Rand 2019).

The impact of the ‘digital revolution’ has been especially evident in the realms of health, fitness, leisure, and sport, and particularly in the emergence of a plethora of digitally-enabled mobile health tracking devices and applications that have transformed an individual’s everyday physical, social and digital practices. Millington (2017) refers to this growing level of physical activity engagement characterised by increasingly pervasive technology use as Fitness 2.0. One form of technology that has been integral to this changing nature of health and fitness has been the array of mobile wearable technologies that have sought to quantify general bodily health indicators such as heart rate, calorie intake, sleeping patterns and daily steps, and more detailed performance indicators of physical activity such as speed, distance, elevation and power output (Chen *et al.* 2017; Sirna 2016). One of the most outward proponents of this self-monitoring approach are a community referred to as the ‘Quantified Self’ movement, who actively share and discuss quantified personal metrics in an effort to ascertain ‘self-knowledge through numbers’ (Millington 2014).

Endurance sports, particularly cycling and running, have experienced a notable transformation based on the growing popularity of GPS-enabled devices (watches, bicycle computers and mobile phones) used for recording, tracking, logging, and analysing more spatially-extensive physical activity. Strava, one of the most popular physical activity logging applications, experiences approximately 15 million new activities being uploaded to the platform each week (Strava 2018). Consequently, there has been a modest selection of recent studies that have explored the use of activity tracking applications amongst recreational runners (Carlén and Maivorsdotter 2017; Shei 2018) and cyclists (Barratt 2017; Broach *et al.* 2012; Jestico *et al.* 2016; Smith 2014). Beyond purely physical quantification, these activity tracking applications integrate a number of social and gamified functions that have created new means of interaction and engagement which have come to shape contemporary practices of physical activity (Barratt 2017; Tulle *et al.* 2018). In addition to these physical activity specific applications, Mahan *et al.* (2015) argue that social networking sites have the potential to transform aspects of individuals lives, including practices of leisure. The majority of sports clubs and organisations operate some form of community social media page, but the important function of these social

networking sites for the support and function of sporting social worlds is a topic that has received insufficient attention.

Silk *et al.* (2016) suggest that for studies of leisure and physical activity to be informative, current, meaningful, and insightful, they must be attentive to the complexities and nuances of the digital within everyday leisure practices. The digital has become synonymous with physical activity engagement for many, yet research that explicitly explores how socially-enabled digital technologies have come to shape contemporary practices of health and fitness are rare (Barratt 2017). Accordingly, this chapter provides an introduction into the growing appreciation of the significant role that the digital plays in our everyday practises, experiences, and geographies, before providing a more in-depth critique of the previous research concerning how the digital has come to manifest in practices and experiences of physical activity and leisure.

2.5.2. Digital geographies

Recent work in geography and the social sciences has turned its attention towards the ubiquity of the digital in our contemporary everyday geographies (Duggan 2017), with one strand of this emerging research being focused on how networked and location-aware technologies are "enabling deeper and more grounded interactions between people and place" (Ash *et al.* 2014: 104) and are facilitating new forms of social engagement (Adey *et al.* 2014). Duggan (2017: 4) highlights that the key tenets of geography, namely "space, place and mobility, are being augmented by digital media such as smartphones, location-based mobile applications and social networking sites". Similarly, Thrift and French (2002) have argued that the geographies of everyday life are increasingly mediated and augmented by technology, and thus it is essential to understand the role that these technologies play in the everyday practices of their users.

'Digital geographies' (Ash *et al.* 2018a; Elwood and Leszczynski 2018), 'virtual geographies' (Kinsley 2014), 'internet geographies' (Graham 2014) are all labels used to describe the rapidly expanding body of research that attempts to understand how the increasing ubiquity and pervasiveness of digitally-enabled technologies have

come to (re)shape, (re)produce, and (re)define aspects of our everyday lives (Wilson 2018; Zook *et al.* 2004). Existing sub-fields of geography and the social sciences are also becoming increasingly digitally-focused, both in terms of epistemologies and methodologies (Ash *et al.* 2018a) and understandings of people, practices, and places (Wilson 2018). Modern mobile connected technologies provide individuals access to the digital world at any time of day, whilst simultaneously providing governments, corporations and organisations constant insight into the lives of connected individuals (Millington 2018). Increasing access to the internet and availability of various digitally-enabled technologies has significantly increased the visibility of various people, groups, places, and phenomena that were previously inaccessible or invisible (Longan 2015). Examples of this burgeoning body of research include; Graham and Shelton's (2013) consideration of how the availability of 'big data' may influence the future of thought and method within geography, the increasing association between real and virtual spaces described by De Souza e Silva (2006), Boy and Uitermark's (2017) use of geotagged images to identify Amsterdam's unique geography of representation through Instagram, and Clayton *et al.*'s (2018) investigation into how digital technologies provide opportunities for digital co-presence and familial connection amongst mobile workers. Arguably, geographers are well placed to make valuable contributions to the understandings of how the combination of software, hardware, and peopleware are impacting the production, construction, and experiences of space and place (Kinsley 2014).

A significant focus of much of this research has been on how these emergent communication technologies are "creating complex arrays of new geographies through which we view, interact and connect to the world" (Zook *et al.* 2004: 155). The growing potential for communication, collaboration, connectivity, and interactivity on the world wide web, and the explosion of social media platforms such as Facebook and Twitter have undoubtedly transformed societal practices of communication and created new meaningful online sites of interaction (Longan 2015). Much like the mobile workers in Clayton *et al.*'s (2018) study, individuals' community connections and social worlds increasingly function from a distance, sustained by a plethora of connected mobile technologies and communication

platforms that provide a ‘digital glimpse’ into these more and more dispersed social networks. Barry Wellman (2001) uses the term ‘networked individualism’ to refer to how the proliferation of new communication technologies has created a profusion of digital communities based on different interests, characterised by a decreasing importance of proximity, more numerous but fragmented social networks, growing concerns surrounding privacy, and the formation of new unique geographies (Kozinets 2015). With 2.32 billion monthly users on Facebook (BBC News 2019), 126 million active daily users on Twitter (Shaban 2019), and over one billion monthly Instagram users (Boland 2018), social networking platforms have clearly become part of the fabric of the everyday lives of privileged connected individuals. As a result of the growing cultural importance of these social media platforms, it has become increasingly common for geographers to investigate the ways in which these platforms are transforming the nature of socialising and social worlds (Rose 2016). The proliferation of online social communication platforms has resulted in the production of a range of diverse micro-cultures associated with a vast array of hobbies, activities, products, or skills. Understanding the role that these micro-cultures have in determining the content, knowledges, and practices associated with the world of interest is something that Ash (2018) argues is of particular interest to geographers. Recent research has explored how location-based social media are changing understandings of place and geography (Sui and Goodchild 2011), how social media has contributed to the re-emergence of feminism (Mclean and Maalsen 2013) and the impact of social media on spatial knowledges and its contribution to cartography (Caquard 2014; Kelley 2013; Stefanidis *et al.* 2013).

One of the most transformational characteristics of the digital revolution has been the increasing affordability and availability of wearable mobile technologies that permit the monitoring, recording, and analysis of bodily metrics such as heart rate, blood pressure, sleep patterns, calorie intake, cognitive performance, stress levels, and physical activity practices (Lupton 2016). Piwek *et al.* (2015: 126) suggest that “self-monitoring has been shown to be one of the most efficient behaviour change techniques to promote physical activity”, providing individuals with a sense of motivation through techniques of gamification (Barratt 2017; Millington 2017), habit

formation, and through more complex unwritten tendencies of self-surveillance and social scrutiny (Jong and Drummond 2016; Millington 2014). The growing proliferation of these technologies has resulted in a growing academic interest in the associated practices of reflexive self-monitoring (Lupton 2015). Work on the body has begun to focus on how the body is being rendered knowable through such softwares (Gilmore 2016), adding a "quantifiable means of accounting for one's being in the world" (Rich and Miah 2017: 87). Furthermore, the connections between the physical and the digital produced through tracking applications results in a changed engagement with space, as bodily capacities are extended both physically and mentally (Barratt 2017).

The use of wearable tracking technologies is particularly prevalent amongst individuals engaged in a variety of sport and leisure activities, resulting in an insightful, yet limited, interest in the link between these technologies and practices of physical activity in fields of health and leisure. The following section will explore these existing studies in greater detail, identifying their contributions to understandings of the relationship between these technologies and practices of physical activity, understandings of place, and intricacies of social engagement.

2.5.3. Technology and the digital within sport

Writing towards the close of the 20th century, Haskell (1996) predicted that the rapid development and increasing accessibility of the World Wide Web and proliferation of new technologies would result in decreasing levels of physical activity, as people elect to spend their leisure time socialising online or playing video games, rather than performing physical activity. However, with hindsight, it is becoming increasingly evident that the onset of technology and the digital revolution, rather than reducing levels of physical activity, has instead transformed the way that sport is practiced in both positive and negative ways. For a growing number of individuals, technology is becoming increasingly synonymous with physical activity, and the growing portability and connectivity of these devices and applications continues to, or at least attempts to, "unburden the fitness participant from the shackles of space and time" (Millington 2017: 88). Increasingly fitness participants are becoming more and more embedded into the digital world (Barratt 2017).

The sphere of sport is one that appears to have fully embraced the technological changes that have come to define much of the 21st century. Evidenced by recent estimates suggesting that there are more than 150,000 health related applications on the market (Terry 2015), reports suggest that Strava users registered more than 6.5 billion miles of physical activity in 2018 alone (Strava 2018). FitBits, Apple Watches, heart rate monitors, and an array of other mobile self-monitoring technologies have become synonymous with sport engagement.

> Fitness trackers or 'wearables' are being used by an ever-increasing number of exercisers to self-monitor their health, wellbeing and fitness (Toner 2018: 1).

The utilisation of these fitness technologies ranges from elite athletes, monitoring training load and fatigue levels with the assistance of performance coaches, sports scientists and the latest innovations in mobile technology, to the casual runner tracking their performance at the local parkrun on their mobile phone on a Saturday morning. By recording and logging physical activity on visible social platforms, an individual's fitness practices have become increasingly accountable (Vickey *et al.* 2012).

The portability and accessibility of these previously exclusive technologies has not only resulted in an exponential increase in their popularity but also transformed the way modern physical activity is practiced and experienced. Millington (2017: 140) observes that "fitness is more individualized, more interactive and more commodified than ever before", characterised by its socio-technical, networked, gamified, data intensive, and mobile characteristics. One notable feature of these fitness-technologies that characterise contemporary fitness practices are their 'anywhere, anytime', socially-connected logic, whereby people expect to have access to technology in all environments, so that being able to share experiences is an important aspect of modern life (Sport England 2015a).

> Daily physical activities today are measured, registered, and even shared through social networks by individuals, using fitness trackers, smartphones, and other accessories (Bahrami and Rigal 2017: 85).

Online communities, developed on social networking sites such as Facebook and Twitter, have become increasingly important within sporting social worlds, acting as a platform for mediated interaction between actors (Millington 2017). Unruh (1980) has highlighted how social worlds rely on channels of communication, in addition to face-to-face interaction, for establishing and supporting social organisations but over the last decade these channels have increasingly been found online. This sentiment is especially applicable to large geographically dispersed social worlds (such as Triathlon in Great Britain), but also permit more regular interaction between actors within local sub-worlds (Unruh 1980). Through becoming increasingly portable, functional, and fashionable, mobile technologies have come to play an important role in the everyday exercise experiences of a growing number of connected individuals, forming an integral element of the latest fitness boom (Jensen 2013; Millington 2017). Yet despite this, it appears that there is a clear lack of concentration on the role of these increasingly ubiquitous mobile technologies and accompanying social platforms within contemporary practices of physical activity (Barratt 2017).

Triathlon is characterised by its controlled, measured, predictable, outcome-orientated, and meritocratic nature, reflecting the individuals who flourish in the activity (Atkinson 2008), explaining why activity-tracking applications that allow triathletes to monitor and analyse individuals' sporting activity have become deeply engrained within triathlon practice. The Triathlon Industry Association (2017) found that over 50% of the estimated 150,000 triathletes in the United Kingdom used Strava, and more than 80% used Facebook, a platform that has become an important means of communication and organisation for both formal and informal sporting groups (England Athletics 2017).

One technology that has seen increasing consideration within geographical scholarship are GPS-enabled activity tracking devices and their associated applications, which are allowing individuals to self-monitor and regulate their health and fitness more effectively (Rich and Miah 2017). Over the last decade, self-tracking of both spatial and physical indicators of physical activity have become a widely adopted practice amongst recreational and serious fitness participants alike (Depper and Howe 2017). Applications such as MapMyRide, Garmin Connect, Nike+,

Runkeeper, Endomondo, and Strava allow users to upload activity recorded on GPS-enabled devices to online platforms that provide functions such as activity logging, detailed analysis, and social sharing. Through the digitisation and quantification of spatial activity, these applications have begun to transform the ways that individuals interact with, and understand physical and virtual spaces, in addition to reducing the disparity between the two (Graham 2014). Geographers, and others, have been exploring the implications of certain mobile technologies (e.g. iPhones, GPS watches, Sat Nav's, etc.) on established notions of place, with Cresswell (2008) suggesting that:

> Mobile media allow us to move through places with mediated worlds in our pockets or hands. Increasingly the mediated place and the 'real' place are interlinked (Cresswell 2008: 138).

The increasingly ubiquitous use of such technologies has prompted a number of studies that explore the role of digital technology in activities including walking (Laurier *et al.* 2016; Millward *et al.* 2013), dog walking (Fletcher and Platt 2016), cycling (Barratt 2017; Van Duppen and Spierings 2013), and running (Carlén and Maivorsdotter 2017; Cook *et al.* 2016).

Over the last decade, endurance sport practices, particularly those associated with running and cycling, have experienced significant transformation through the growth of the physical activity tracking industry, the increased availability of low-cost GPS technologies, and the subsequent expansion of fitness-specific social media as part of the 'participatory health revolution' (Palmer 2016). More recently, there has been an explosion in the popularity of wearable fitness trackers and associated activity-analysis applications, with suggestions that revenue from fitness devices is expected to increase by 70% from 2017 to 2021 in the United States (González 2017; Toner 2018). Barratt (2017) contends that tracking applications, such as Strava, are changing practices of recreational leisure, and that the widely available repository of GPS data collected voluntarily by runners and cyclists has been particularly useful for geographical understandings of spatial practices such as route choice, evidenced by a number of captivating mapping techniques (see Strava 2017; Fox 2017). Improved spatial knowledge of non-motorised commuting practices ascertained through

aggregated data from GPS tracking applications has proven useful for the purpose of urban planning (e.g. Strava Metro), but the significant potential of the growing repository of spatial data associated with sport and leisure activity is yet to have been fully optimised (Tironi and Valderrama 2018).

The proliferation of GPS-enabled activity recording devices and training logging applications has added a new facet to individuals' everyday exercise practices, including a digital connectivity to the physical landscape and new forms of mediated social engagement through digital communities (Barratt 2017) – a phenomenon that can be described as a fitness-technology nexus. Examples of this interrelationship continue to multiply as physical activity participants become increasingly reliant and dependent on pervasive "more-than-human agencies" for the creation of quantitative representations of their everyday physical exertions and the formation of and interaction within online social communities (Edensor and Larsen 2017: 8). Lee and Cho (2017) suggest that sustained use of fitness technologies and applications is associated with characteristics of recordability, networkability, credibility, comprehensibility, and trendiness (Lee and Cho 2017). It is through a developer's ability to integrate these characteristics into fitness applications successfully that said applications have become an integral aspect of new and existing fitness participants practices (DCMS 2015).

Despite being primarily fitness-orientated, the growing wealth of spatial data on active mobility practices have been of significant interest to researchers and organisations from a transportation perspective, particularly for their potential to influence transportation schemes and elements of urban design (Hochmair *et al.* 2019; Jestico *et al.* 2016; Piwek *et al.* 2015; Walker 2016). However, with the exception of a select few studies (Barratt 2017; Tulle et al 2018), there has been very limited engagement with these tracking technologies and socially-connected activity logging applications on individuals' everyday practices and experiences of physical activity within more spatially and socially interested research fields.

2.5.4. Strava

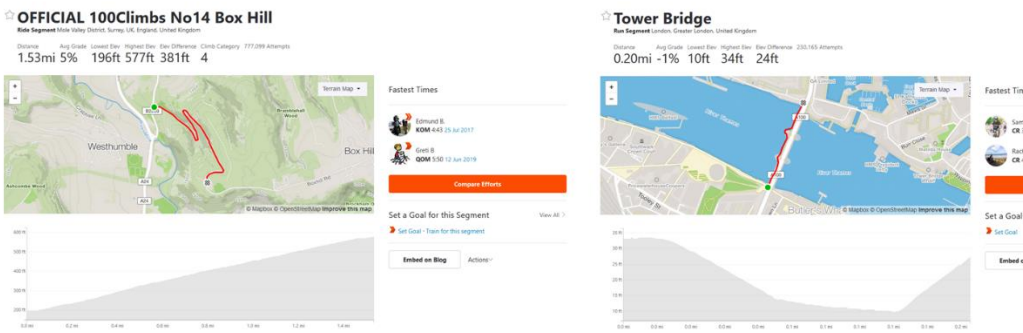
Of the numerous applications that have been developed to manage, analyse, and share spatial data recorded on GPS-enabled fitness devices, Strava has emerged as one of the most commonly-used and socially-influential applications in the worlds of endurance activities such as cycling, running, and triathlon. Accordingly, the majority of the limited research that does attempt to understand the changing nature of recreational endurance sport involvement has focused on Strava (Barratt 2017; Barrie *et al.* 2019; Carlen and Maivorsdotter 2017). Although Strava chooses not to disclose their membership, data from their most recent annual report suggest that the platform has more than 36 million active users from 195 different countries, with swimmers, cyclists, runners, walkers, skiers, kayakers, and others uploading more than 600 million activities collectively (Strava 2018). The basic functions of Strava are free to use, although Strava does offer a premium membership which offers further training, safety, and analysis capabilities for a small monthly cost. Like many of the other leading activity tracking applications, Strava allows users to upload and analyse digital manifestations of their physical activity (including data such as route, distance, elevation, heart rate, and power), and to keep a long-term record of training for longitudinal comparison. However, what makes Strava stand out, and perhaps results in the platform's market dominance amongst endurance sport participants, are Strava's various social and competitive features that have transformed the way that many users experience physical activity engagement.

2.5.4.1. Gamification

The most widely recognised features that have come to define the subculture associated with Strava use are aspects such as segments, monthly challenges, personal targets, club leaderboards, and the general social comparison associated with the platform. These 'gamification' features – the implementation of game-design elements into non-gaming contexts, such as in health and fitness applications (Coombes and Jones 2016) – attempt to make continued physical activity engagement an attractive sentiment to users, and the widespread social recognition of CR's (Course Records), KOM's/QOM's (King/Queen of the Mountain), trophies (representing one of the 10 fastest times over a specified segment of

road/pathway/trail), and medals (awarded for a personal best time over a segment) suggests that for Strava, this gamification has been successful. Through the integration of constantly updated public leaderboards for popular routes and segments, monthly distance- and quantity-based challenges, and by making individuals physical activity visible to others using a social media style platform, Strava has introduced an element of competition into users' everyday practice that did not exist ten years ago (Barratt 2017). Digitally connected athletes can perform instantaneously and thorough comparisons between themselves and other runners or cyclists in their area, or even across the world (Poulson 2016). In his research on cyclists' use of GPS enabled mobile technologies, Barratt (2017) found that Strava had a tangible effect on individuals' practices, influencing route choice, and increasing the intensity, regularity, and duration of physical activity.

Previous research has identified how the majority of those who use self-tracking applications were women of a higher socio-economic status who used the internet more regularly than those who did not self-track (Fox 2012). Yet gamified fitness applications, like Strava, appear to be significantly more popular among men. Although not a definitive measure of gender disparity on Strava, looking at the segment leaderboards for some of the most popular cycling and running segments in Great Britain, Box Hill in Surrey for cycling, and Tower Bridge in London for running, highlights a substantial dominance of men on Strava (Figure 2.5).



Segment	Males	Females
Cycling		
Box Hill (110,853 users)	**86.0%** (95,352)	**14.0%** (15,501)
Running		
Tower Bridge (80,446 users)	**69.8%** (56,149)	**30.2%** (24,297)

Correct as of 13th August 2019 at 17:30

Figure 2.5 *- Gender disparity of Strava based on popular Strava 'segments' (Strava 2019a, 2019b).*

Additionally, looking at cyclists' activity that has been uploaded to Strava from Zwift - an application that "mixes the intensity of training with the fun of gaming" using a smart indoor trainer linked to a mobile phone or laptop to move a personalised avatar through a range of virtual cycling worlds – men clearly dominate the platform, with over 88% of Zwift activity being uploaded by male cyclists (Zwift 2019: 1). Strava also provides users with the ability to compare performances based on gender, age, weight, and even local Strava groups, providing the ability to look at individuals with a similar profile and compare accordingly. Fuller (2017: 1) comments that a Strava designer reportedly labelled these categorising functions as 'dad filters', suggesting that they provide a sense of competition for primarily middle-aged men, allowing them to "perform a form of masculine persona coded with virility and mastery". Researchers, journalists, and commentators have alluded to the relationship between competition, masculinity, and Strava, yet exploring the impact of these gamifying features on the women who engage with the platform has received very little attention.

A select assortment of existing research has provided valuable insight into the gamifying features of these emerging digital fitness applications (Barratt 2017; Carter

et al. 2018; Chen *et al.* 2017; Stragier and Mechant 2015). Yet, how these spatially and socially orientated features have come to shape physical activity practices, and additionally, how the fitness-technology nexus has impacted athletes' understanding and interaction with physical and virtual space is poorly understood.

2.5.4.2. Social

The competitive and gamified aspects of Strava are well documented, from both positive and negative perspectives (Giles 2018; Fuller 2017; Paresh 2016; Pidd 2013; Reynolds 2018), and have become culturally significant within endurance sport communities, yet the integral importance of Strava as a social platform, and the transformative effect that it has had on local and wider sporting communities are less well recognised. Strava's reputation as a social network for athletes is summarised concisely by Lindsey (2019) who contends that "arguably no brand is more closely associated with social fitness than Strava" (Lindsey 2019). Strava was conceived to enhance the practice of solo riding to provide the social camaraderie of a team whilst training alone (Wallace 2012). Strava's association with encouraging socialisation is no accident. Speaking about the future plans for the platform, Strava CEO James Quarles commented:

> [w]e think Strava plays a role for people not just when they're recording an activity but before and after…you can find routes, you can find groups to join, people to go with. Then, once you post the activity, you can talk about it, post photos, tag friends, and memorialize and relive the event (Quarles in Lindsey 2019).

Social engagement between users is clearly part of the application's programming, evidenced by functions such as kudos (similar to Facebook likes), comments on individuals' activities, the ability to create blog-like posts and share photographs from physical activity, personalised activity names, Strava's 'flybys' function that allows users to see activities performed nearby to their own, group pages based on sports clubs, areas, and interest groups, and a Facebook-style social dashboard that immediately draws users' attention to followed athletes. The socially-orientated nature of Strava's design and business direction, along with the provision of ample opportunities for social interaction between users has resulted in the development of

online fitness communities that have added a new online social dimension to physical activity (Stragier *et al.* 2017). Online fitness communities are essential sites for the production and dispersal of relevant knowledges and practices (Jong and Drummond 2016), motivation for engagement (Ba and Wang 2013), and for social support, comparison and interaction (Zhang *et al.* 2016).

Tu *et al.* (2018) suggest that social functions of fitness tracking applications are often more effective than enjoyment functions and that fitness applications should provide social value to users to be effective and encourage sustained physical activity participation. A study by Stragier and Mechant (2015) found that users achieving a greater number of virtual awards and experiencing more social interaction on Strava were more likely to upload activities regularly, thus providing support to this assertion. Sustained physical activity engagement is not the only positive result of Strava's social focus, but the increased intensity of engagement and social visibility of individuals' physical activity have created a platform for the development and projection of sporting identities and a sense of belonging to the wider sporting communities, even for those exercising alone (Carlén and Maivorsdotter 2017). The notion of 'mediated interaction', a "reliance on channels of communication rather than spatial kinship" (Unruh 1980: 279), is one of the four features of social world involvement according to Unruh's conceptualisation. By providing users with the ability to interact, compare and engage with other users, who are typically spatially dispersed and often previously unconnected, Strava has come to function as a key site for mediated interaction among the social worlds of activities such as cycling, running and triathlon. Due to the social nature of applications like Strava, fitness-tracking can be defined a co-present activity, being both an individual and social experience (Millington 2017). Strava co-founder Michael Horvath alludes to this, commenting that:

> [t]he impetus for the idea was thinking how do we recreate this [social interaction] when we aren't connected to people anymore through our daily existence, when we are busy with work and family and everything is pulling us and taking us away from our life as an athlete (Kelion 2013: 1).

This quote further develops the contention that Strava was created with the social world in mind, and additionally highlights how the platform's design plays an important role in allowing athletes to remain connected to the triathlon social world without the need for physical presence, a phenomenon that will be explored in more detail in Chapter 8.

2.5.4.3. Surveillance

Despite the apparent benefits of these tracking technologies and social applications, it is important to be aware that this ubiquitous use of digital tools brings with it a number of new ethical considerations and challenges. The growing use of location-aware technologies and sports networking sites have simultaneously resulted in concerns regarding surveillance for several reasons. Poulson (2016: 64) writes about the "extraordinary level of Foucauldian surveillance" associated with Strava, whereby users' physical activity becomes publicly scrutinisable and comparable for the local community and beyond, which can result in both positive or negative impacts on practice. One pertinent example is a case from the USA where a rider died attempting to become the 'King of the Mountain' on an especially fast downhill Strava segment (Kelion 2013). Other research has drawn attention to the issue of privacy with regards to activity tracking applications, as by sharing details including the time, duration, route, and distance of an individual's activity, they become an exploitable form of public knowledge (Rich and Miah 2017). Piwek *et al.* (2015) suggest that the wealth of data collected from wearable devices and online platforms have the potential to decode an individual's identity. This collated spatial data has been put towards more productive pursuits, such as Strava's 'Metro' side-business, selling active mobility data to governments and city planners to help target transport infrastructure or policy improvements. The extent to which users are aware of and compliant with how their intimate physical and spatial data are being monetised by these businesses is an interesting topic of debate (Tironi and Valderama 2018).

Unfortunately, the public availability of individuals' fitness activity also means that this has the potential to be exploited. There have been recorded cases where the details from Strava-users' activities have been used by thieves to find the storage

location of expensive bicycles (Sparkes 2015; Windsor 2015), although recently Strava has integrated settings which allow you to create a safety zone, disguising your home or work location. Furthermore, it is important to remain aware that as individuals increasingly engage with activity tracking applications, surveillance becomes intrinsically related to individuals' experiences, motivations, and perceptions (Klauser and Albrechtslund 2014). For fitness participants engaging in self-tracking practices, the element of surveillance and competition is ever-present and even occurs when a cyclist is riding alone. However, more research is needed to understand the role of this technological surveillance, the impact of these new capabilities on social comparison, and the growing digital imperative to undertake or adapt physical activity practices (Barratt 2017).

2.5.4.4. Influence on placemaking

Despite the predominantly digital nature of these applications, one notable impact of location-aware social activity tracking platforms is the formation of more intense relationships with physical places and localities (Larsen 2014). Sport and leisure offer a unique means of understanding different spaces, and often lead to associations between certain key spaces and the construction of leisure identities (Spracklen 2015). Experiences, particularly bodily experiences such as pain, exertion, and emotional release, are central to our understandings of place (Hinch and Kono 2017). Traditional understandings of social practice, such as those conceptualised by De Certeau (1984), suggest that "ordinary actors actively shape and create meaning for these spaces while moving through them" (Guell *et al.* 2012: 234). How individuals move through different spaces, the motivations for moving through the space, and the socio-political position of the mobile actor affect environmental experiences (Macpherson 2016). Yet, with the explosion of GPS-enabled technologies, geo-tagged posts, photos, and videos on social media platforms, interactive mapping approaches and virtual travel experiences, understandings, meanings, and representations of space are being constantly transformed:

> [S]paces are being increasingly mediated and experienced through digital interfaces, in turn transforming the social production of space and the spatial production of society (Ash *et al.* 2018a: 32).

Barratt (2017: 330) contends that the persuasive scripts programmed into applications such as Strava have created a "narrative for place and experience" for users which play a key role in influencing cyclists' practice. Although, as Zook *et al.* (2004) identify, there is a distinct lack of insight into how these emergent fitness technologies are transforming individuals' interactions with different everyday 'athletic places' (Edensor and Larsen 2017). Previous research does clearly identify an increasing convergence between physical and digital spaces, a phenomenon that Leszczynski (2018) describes as 'hybrid spaces'. She suggests that previously disconnected notions of space have become increasingly inseparable due to the proliferation of spatially-enabled digital technologies (Leszczynski 2018). Existing work discusses how digital spaces are almost always grounded in the physical world (Ash *et al.* 2018), although their focus has tended to be infrastructural – exploring the data centres, deep sea cables, and satellites which enable the function of these technologies – rather than how the digital can contribute new meanings to existing material spaces.

2.5.5. Summary

Insightful research has begun to unpack the complex interconnections between physical and digital practices (see Barratt 2017; Carlèn and Maivorsdotter 2017), although there is still a gap in the literature that explores the role that these activity tracking applications have in influencing individuals' spatial practices, as well as the influence they have on participants' sense of place. As the practices of individuals are made quantifiable and measurable through the use of digital tracking applications, it is important to examine how this translation "shapes and transforms individual bodily and emotional awareness, memory processes and sense of places and geography" (Klauser and Albrechtslund 2014: 279). People engaged in sport and fitness activities are becoming increasingly reliant on connected devices and activity-specific social media platforms, and the growing pervasiveness of the digital is likely to transform individuals' understandings of both physical and digital spaces (Lane 2012). In addition, paying closer attention to how social difference manifests itself in the digital practices of sports participants can make important contributions

to our understandings of the motives and experiences of different users, and to tailor future promotional schemes to encourage participation for all (Barratt 2017).

2.6. Conclusion

This chapter has considered the body of existing literature surrounding the research aim and objectives that constitute this doctoral research project. Four key areas of academic debate have been discussed: profiles and practices, spatialities of physical activity, social worlds of leisure activities, and the emergent digital worlds that exist alongside them. A comprehensive review of existing literature has identified several gaps in contemporary geographical understandings of sport and leisure activities, gaps which the objectives of this research aim to address.

On the whole there has been a relative lack of engagement with practices of physical activity within the field of geography, and especially the profiles and practices of amateur leisure participants (Latham and Layton 2019). For triathlon specifically, there is an absence of exploration into the facets of triathlon engagement. Triathlon as a sport that demands a substantial degree of dedication and investment whilst simultaneously providing meaning, identity and a range of benefits to participants, makes it a suitable activity to analyse using the notion of 'serious leisure' (Stebbins 1992). Previous studies have made this association between triathlon and serious leisure but have yet to have comprehensively explored this association.

Geographers are well-placed to investigate the relationship between sport participation and the spaces where it takes place, however, the locational geographies of everyday physical activity have been largely overlooked. Similarly, there has been very little consideration of issues concerning accessibility to different physical activity spaces and how these manifest themselves in contemporary leisure. Triathlon as an activity that takes place in a range of more or less specialised spaces acts as a useful context through which to explore these issues.

A growing number of academics have drawn upon existing sociological theories in order to enhance understandings of contemporary sporting practices. One such theory is the notion of 'social worlds' adapted in the context of distance running by

Shipway *et al.* (2012). However, there is a paucity of research which utilises such theoretical approaches to better understand the triathlon community. Inspired by Shipway *et al.*'s (2012) reimagining of the social world framework, this research attempts to further contribute to understandings of triathlon engagement by exploring the importance of particular spaces (both physical and virtual) within the social world, the importance of the triathlon club for fostering meaningful social connections, and developing an awareness of social identity development within the community, all topics that have received limited attention to date.

It is widely acknowledged that the digital realm is becoming an increasingly pervasive and ubiquitous space of interaction in our everyday lives. The same is true for sport and leisure, which has experienced substantial technological change. Yet, there is a clear lack of focus on how these emergent fitness technologies are transforming individuals' interactions with different everyday 'athletic places' (Edensor and Larsen 2017), and the extent to which their accompanying social platforms have become engrained within contemporary physical activity practices in different ways (Barratt 2017). Triathlon as an activity which embraces this change, and continues to remain at the forefront of technological advancement, both at an elite level and an amateur level, provides an important lens through which to explore the growing importance of an expanding digital world that accompanies and supports the social world.

The work of Stebbins (1992) and Shipway *et al.* (2012) has been reviewed to assess their utilisation of the concepts of serious leisure and social worlds, respectively, in order to adapt their approaches to gain a better understanding of the locational, social and digital geographies of triathlon participation. Despite a transformation in the way in which leisure is now performed and experienced within our increasingly digitised and connected society, these existing theoretical frameworks continue to be valuable tools through which to study everyday leisure engagement, but require further development and re-imagination in the context of physical activity in this thesis. Drawing on a large body of multidisciplinary work, this research attempts to respond to the gaps in the literature identified above, to provide

new knowledge on the locational, social and digital geographies of triathlon participation.

The following chapter outlines the methodological approach that was utilised for this research project, and provides detailed insight into data collection, positionality, and ethical considerations.

3. Methodology

This chapter provides an outline of the research methods that were adopted and utilised in this study. The following chapter is comprised of five key sections which will be followed by a short summary. Section 3.1 will focus on the decision to utilise a mixed methods approach and discuss the research methods which were adopted for this research project, outlining how the various methods were designed and implemented to effectively answer the research aim and objectives detailed in Section 2.1. Section 3.2 describes the process and rationale for determining the research population and case study sites and discusses the method of participant recruitment for each of the individual research methods. The chapter then turns its attention to data collection and analysis in Section 3.3, describing the procedure of assembling and evaluating the empirical data, and the tools used to do so. Positionality, reflexivity and ethics are important considerations for any social science research project, and Section 3.4 will address these concerns. The final key section (Section 3.5) reflects on the research process, before briefly summarising the chapter.

3.1. Mixed method approach

Since the 1990s there has been a destabilisation of the quantitative/qualitative dualism (Secor 2010), and a surge of research that mixes, or combines the two strands of research techniques, methods, and approaches into a single study (Johnson and Onwuegbuzie 2004). Such an approach combines the reliability and generalisability of quantitative research (Brown 2015), with the complex holistic understanding that can be gained from qualitative research (Creswell 2014). For such an approach to be useful, Creswell *et al.* (2003: 176) suggest that:

> the mixed methods researcher needs to design a study with a clear understanding of the stage or stages at which the data will be integrated and the form this integration will take.

When implemented effectively, a mixed method approach is a tool which permits a broader, but still detailed, understanding of the phenomena under study. By uniting quantitative and qualitative research methods within one research project, the

researcher can find answers to questions that may be more suited to different research tools. However, it is imperative to ensure that qualitative and quantitative findings are 'mutually illuminating' when choosing to adopt a mixed method approach (Bryman 2007). Mixed method approaches have been successfully adopted in a range of geographical research (Cope 2014; Nightingale 2003), most commonly combining questionnaire and interview data in what Winchester (1999: 60) describes as the 'classic triangulation approach'. Hanson and Pratt (2014: 110) give reference to the degree of complementarity between qualitative and quantitative methods, suggesting that “tacking between the two approaches allows you to follow up on surprises or puzzles that emerge, to get a sense of how generalizable certain findings are, and to better understand the causes and meanings of the patterns you see”. Previous studies into triathlon practices have been predominantly quantitative and have provided useful generalised insights but combining this with the in-depth knowledge ascertained from qualitative research arguably permits a greater holistic understanding of triathletes unique practices and experiences.

Creswell *et al.* (2003) outline six key research designs for conducting research which synthesise quantitative and qualitative data collection methods, expanding on Morse’s (1991) earlier conceptualisation of four designs. Three of these approaches describe a design whereby qualitative and quantitative research is performed simultaneously, these are labelled as ‘concurrent’ approaches. Whereas the other three are labelled ‘sequential’, where one form of data collection typically precedes and influences another. This research utilises a variation of what Creswell *et al.* (2003) describe as a ‘sequential explanatory design’, beginning with quantitative research by means of a large-scale online survey with triathletes, before exploring some of the key themes identified in this first phase using the qualitative methods of participant observation and semi-structured interviews in phase two. Integration, the combination of quantitative and qualitative research, took place at two notable stages in the research design. The first during preliminary analysis of the survey data, which was used to target observational foci, and during interview design. The second at the end of the research during the interpretation of the overall data.

To attain a nuanced understanding of triathletes in the United Kingdom, this research utilises both established and more innovative techniques from geography and cultural studies, including a large-scale online survey, participant observation and semi-structured interviews. Creswell *et al.* (2003) suggest that frameworks for mixed method research are flexible, in that they can be modified to fit a specific research situation. Accordingly, this research adopts a variation of sequential explanatory design, whereby the quantitative element of the research explicitly focused on certain research objectives which were not explored in the following qualitative phase (see Figure 3.1). It can be very difficult to transform quantitative data into a form that allows it to be effectively compared with qualitative findings and vice versa. In this study, the analysis of qualitative and quantitative data was performed separately, and preliminary quantitative analysis, used to influence the direction of qualitative research, was used as a form of guidance, as opposed to an attempt to explicitly compare results from the different approaches (Creswell *et al.* 2003). Therefore, standard data analysis techniques were primarily used for both quantitative and qualitative analysis – e.g. statistical analysis of questionnaire results, and thematic analysis of observational and interview data – but with moments of integration throughout the research project.

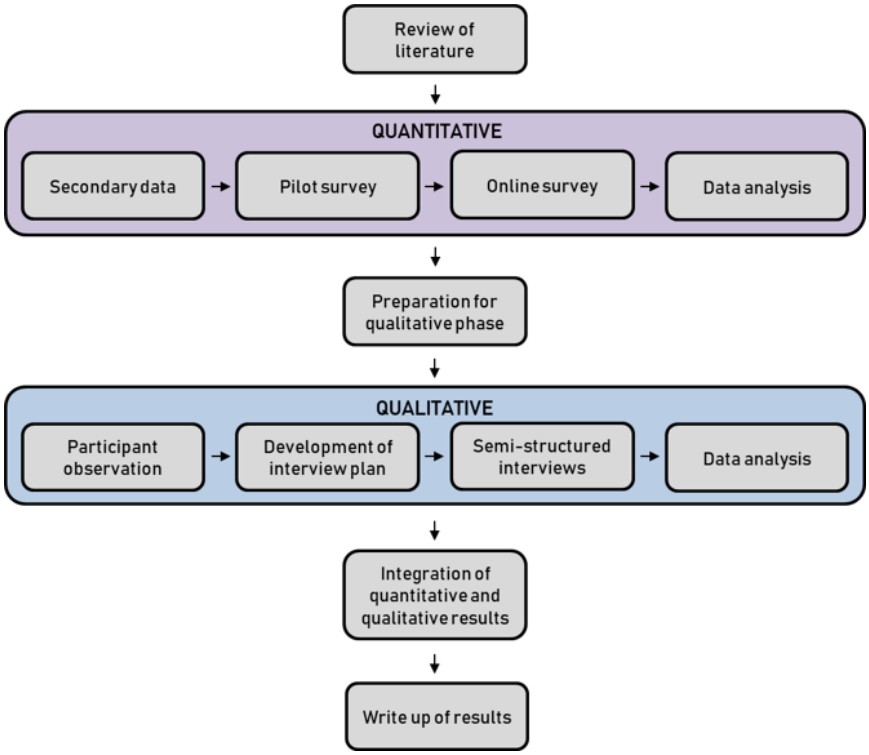


Figure 3.1 *- Explanatory sequential design for mixed method research approach (Creswell et al. 2003).*

3.1.1. Quantitative research methods

3.1.1.1. Online survey

In times of ubiquitous and pervasive computing (Duggan 2017), online surveys have become an increasingly popular tool for geographical research (McLafferty 2016). Administering a survey online is inexpensive, convenient for both respondents and the researcher, and increases the number of responses that are possible to collect whilst simultaneously reducing time spent on data entry (McLafferty 2016; Van Selm and Jankowski 2006). Notably, the self-administered nature of online surveys allows researchers to work on other tasks in between bouts of survey dissemination (Andrews *et al.* 2003). Online surveys are particularly practical when the target respondents are more active on online social spaces than in everyday physical spaces, particularly as these online spaces are typically tailored to focus on particular shared interests, attitudes and beliefs (Matsuo *et al.* 2005: Wright 2005). McLafferty (2016) highlights how online surveys are more regularly playing an important role in mixed methodologies, acting as a common ground between quantitative and qualitative methods. This is to some extent aided by Van Selm and

Jankowski's (2006) finding that respondents were more likely to provide greater detail in open-ended questions of an online survey, potentially due to its self-administered nature, and the reduced pressure from researcher absence.

In the context of this research, an online survey was deemed as an appropriate methodological choice to overcome the difficulties and challenges that geographical distance can cause, particularly when attempting to get a broad picture of triathlon participation. The suitability of online surveys for this research project is reinforced by the finding that triathletes are increasingly active on social media sites, with a recent survey suggesting that 82% of triathletes are using Facebook and 52% are engaging with Strava (MultiSport Research 2017b). Preliminary analysis of secondary data highlighted how triathletes are primarily an affluent group, and therefore, it was assumed that internet access would not be a barrier to participation for the majority of potential respondents (see Triathlon Industry Association 2016). My personal experience as an active runner, who is regularly engaged with a number of running clubs, has highlighted the importance of social media platforms for club organisation, and as a source of information, guidance, and communication. From initial background research it became clear that time was a resource which triathletes valued and had to manage effectively, and the utilisation of a convenient and flexible online survey was essential to maximise response rates. Additionally, positioning online surveys at the beginning of an explanatory mixed method design allowed me to reformulate and hone my research questions prior to moving on to the qualitative phase. It is the combination of these factors and assumptions that led to the choice of online surveys as a key research method.

Initially online survey questions were generated with reference to the aim and objectives of my research, using literature related to the topic to help draft questions which had the potential to provide useful data in order to achieve the objectives of my research. During this stage, relevant concepts and theories – such as ‘serious leisure’ (Stebbins 1992) and ‘social worlds’ (Unruh 1980) – were important underlying themes concerning many of the survey questions. Once a sufficient number of effective questions had been drafted, they were imported into Bristol Online Survey (BOS) – now rebranded to ‘Online Surveys’ - a tool that allows the

creation, dissemination and analysis of surveys using the internet. BOS was chosen as the survey tool for my research as it offered several key features, such as the ability to route respondents to and from sections based on previous answers, to immediately analyse and visualise results while the survey remained open, and to export the data in a format that was compatible with the statistical analysis software SPSS, which made it an effective tool for this project. The survey followed a structure that reflected the objectives of the research, with an initial section on general triathlon practices, followed by a section on activity tracking applications, and a final section on the social world of triathlon (See Figure 3.2). The survey was preceded by two screening questions which ensured that survey respondents were either currently active within triathlon, or planning on completing a triathlon event in the near future, effectively filtering out respondents who did not fit the desired sample (Van Selm and Jankowski 2006). Personal demographic questions were positioned at the very end of the survey.

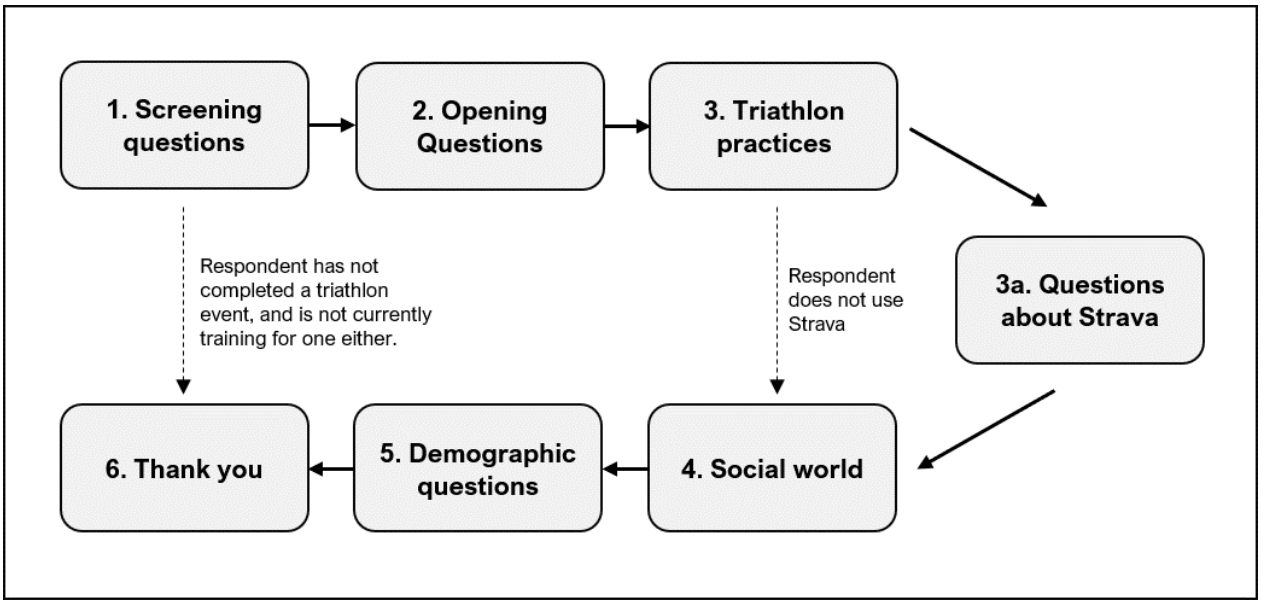


Figure 3.2 *- Simplified survey structure.*

Before being distributed to respondents, the survey went through a brief pilot testing phase, which tested question quality, survey structure, instruction clarity, and allowed me to increase my familiarity and competence with the software. Pretesting is “an essential step in ensuring a successful questionnaire survey” (McLafferty 2016: 134). The pilot survey was sent to a number of triathlon contacts who were

invited to test the survey and to make any comments regarding the survey platform more generally. The pilot survey was completed by 5 individuals. There were no notable suggestions or comments regarding the survey from the pilot testers, although it was made clear that despite being on the upper end of the scale, the survey length was reasonable, and did not result in any problematic form of 'survey fatigue'. Van Selm and Jankowski (2006) suggest that ensuring a survey is of an effective length, thus maximising information collected and minimising respondent loss, is a key aspect of online survey creation. The pilot survey was useful, in that the analysis of the limited responses indicated that questions appeared to be clear and resulted in expected responses most the time. The small number of potentially misinterpreted questions were reworded for clarity.

After making some minor amendments to the pilot survey, the final survey became active on 8th January 2018 (Appendix B). The survey was distributed using a screened snowball sample, whereby individuals were contacted using various forms of social media (Triathlon Club's Facebook Groups, Twitter, Strava Clubs, Triathlon Forums, etc.) and encouraged to share the survey with other triathletes. These online spaces are an important arena for semi-formal mediated communication, an essential element of many sporting social worlds (Shipway *et al.* 2012). The screening questions at the start of the survey ensured that only respondents that provide useful information to the research would take the survey (Evans and Mathur 2005). Between the activation of the survey and its deactivation on 1st March 2018, the survey was intermittently advertised using Twitter, Triathlon Forums, and most importantly Triathlon Groups Facebook pages (See Appendix A). Survey dissemination was aided by an advertising campaign style of approach, utilising promotional images and accompanying posts on social media (Figure 3.3). The images were designed to make the social media posts more eye-catching, using triathlon-based imagery, overlaid with a memorable survey name – 'The Great British Triathlete Survey' – and a link to the survey, a technique used by 'jographer' Simon Cook in his research on run-commuting (Cook 2016a, 2016b).

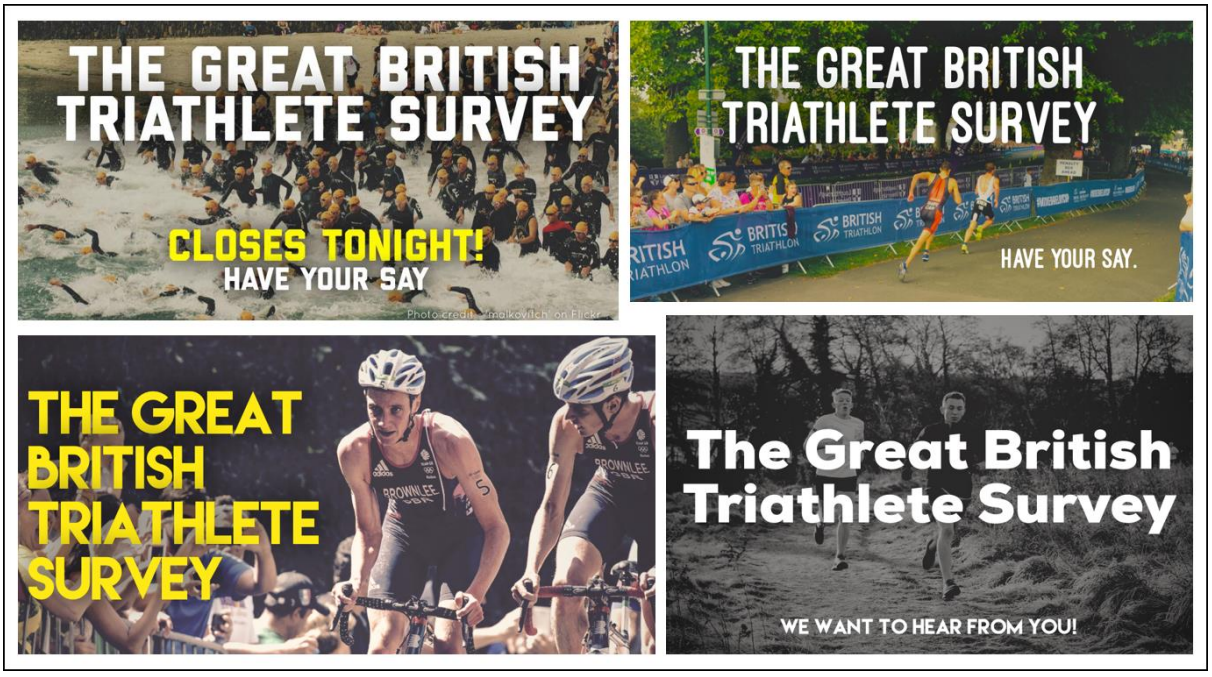


Figure 3.3 *- Online survey advertisement images.*

In total 155 British-based triathlon-related Facebook groups were identified using a variety of search terms, 104 were deemed suitable and were contacted (by direct messaging an administrator of the group or member of the club's committee), of which 73 granted me permission to share the survey on their Facebook page. With regards to accessing Facebook groups I had a 70.9% success rate but calculating the response rate of online surveys is known to be extremely difficult, if not impossible (Van Selm and Jankowski 2006). The online survey closed on 2nd March and had a total of 607 responses. After the removal of ineligible respondents, 591 of these were suitable for further analysis.

3.1.1.2. Secondary sources

Secondary data was an important source of supplementary information during the project, but more importantly, as an inexpensive and effective means of informing and justifying the research aim and objectives, and providing contextual grounding, prior to data collection (Tyrrell 2016). Secondary data collected by institutions or organisations often appears to have an aura of authority and robustness (Flowerdew and Martin 2005). However, under almost all circumstances, the sourced data has been collected and interpreted by another individual, group or organisation, for a purpose that is dissimilar to the aims of one's own specific project, and therefore,

being mindful of how and why this data has been produced is essential (Gomez and Jones 2010). Secondary data comes in many different formats, and accordingly, a wide range of sources were used throughout the research process.

Triathlon data is notably sparse in nature, and most large-scale quantitative studies are either kept within organisations, such as most of the data held by British Triathlon, or restricted behind paywalls, such as detailed results from the TIA's annual survey (2017). Due to the national scale of the data collected by these two organisations, both were contacted with the hope of being granted access to their data. Unfortunately, I was unable to obtain access British Triathlon's data, but I did manage to get access to a summary of the key findings from the TIA annual survey through a contact in the triathlon industry. The data included important background information regarding demographics of the UK triathlon population as a whole, which was useful for sampling strategies and for providing context to the research, but without having the full dataset it was impossible to do any effective statistical analysis of the findings.

Over the past two decades the internet has rapidly become a prime source of readily-available, detailed secondary data (Flowerdew and Martin 2005). Within the context of this research, online sources of relevant data include British Triathlons database of triathlon events and triathlon clubs, media outlets such as 220Triathlon, Tri Radar and tri247.com, social data from online spaces like Facebook, and spatially referenced data taken from applications like Strava. The British Triathlon event and club lists are typically used as a means of locating local clubs and events in order to get involved in triathlon, containing information regarding location, and to a certain degree size (in terms of number of members or participants). Despite having most of the key information, an inability to download all of the data easily meant that days of data mining and additional research were required to create a useable, and useful, database. Once completed, the database allowed me to create maps using GIS software demonstrating club and event coverage across Britain (see Figure 3.4), and to create a slightly more detailed picture of triathlon's locational geographies within Great Britain. This also acted as the initial stage of case study club identification.

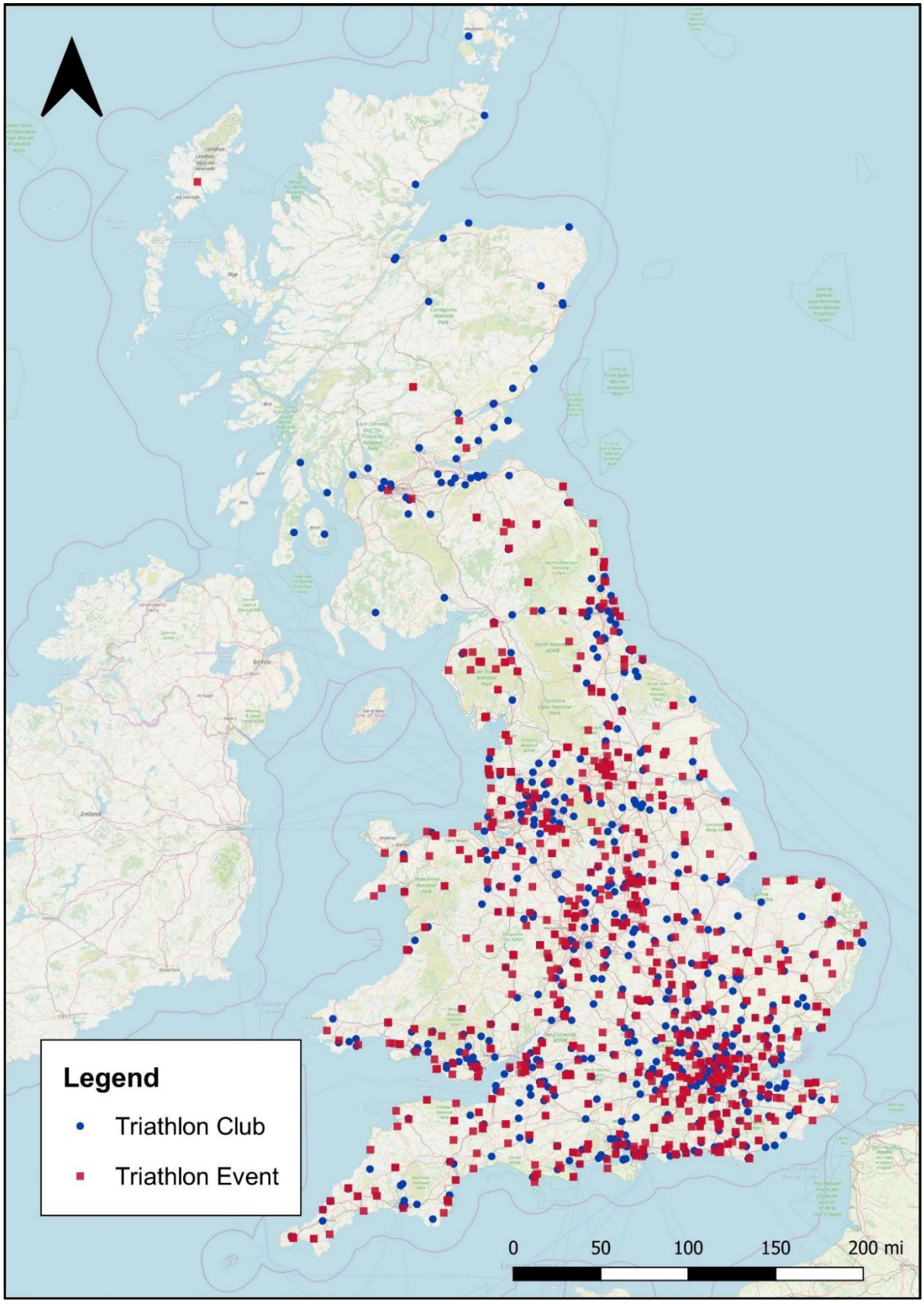


Figure 3.4 *- Spatial distribution of triathlon clubs and events in Great Britain. (Source: British Triathlon 2017a, 2017b).*

Overall, searching for secondary data was a significant stage in helping to determine the initial aim and objectives for the research process, and for identifying gaps in current research regarding the practices and experiences of triathlete's (Flowerdew and Martin 2005). Furthermore, secondary data helped to supplement findings from later empirical research and provided a degree of context for the wider topic under study.

3.1.2. Qualitative research methods

The qualitative elements of the research process followed the initial quantitative survey, in line with the sequential explanatory design detailed in Figure 3.1.

3.1.2.1. Participant observation

Participant observation was utilised as a supplementary qualitative research method during the data collection phase of this research. Participant observation is a well-established qualitative tool which involves "spending time being, living or working with people or communities in order to understand them" (Laurier 2004: 133). Atkinson and Hammersley (2007) describe participant observation as a cumulative way of seeing, recording and writing about a phenomenon, as opposed to simply a method. The researcher becomes the research tool. As a researcher, getting involved in the practice one is studying, can generate a corporeal understanding of what it takes to learn and perform the practice in question (Larsen 2018). Similarly, Laurier (2016) argues that a researcher's understanding of the embodied practice of mobility is enriched by participation in, and the development of, specific embodied skills of that sport or movement. Having some shared understanding of an activity, the culture associated with the activity, and some degree of associated physical prowess can be beneficial during ethnographic research, allowing the researcher to uncover new insights and understandings of participants' practices and experiences from a more empathetic perspective (Ward 2017). If conducted effectively, participant observation can help to generate a higher quality of understanding of the practices, experiences and behaviours of the target community (Sparkes and Smith 2014).

Participant observation has been used to great effect in a wide range of sport-focused geographical and social sciences research, including research on the distance running social world (Shipway *et al.* 2012), the perspectives and experiences of aging cycling enthusiasts (Sirna 2016), comparing park skating and street skating in New York (Chiu 2009), the shared leisure space of parkrun (Hindley 2018) and the use of persuasive technologies in cycling (Barratt 2017). Within triathlon, Atkinson (2008) used this interactive method to explore the unique pain community present in the sport and suggested that participant observation was critical for developing an in-depth understanding of how subcultural techniques of endurance are embodied and represented. Academics have also given credit to participant observation as a means of identifying important topics and the generation or adaptation of research questions through continuous reassessment and increasing familiarity with the topic under study (DeWalt and DeWalt 2010). The potential of this method for generating in-depth insights into triathletes' everyday experiences and practices, and for improving the quality and relevance of the research questions, are key reasons for adopting participant observation in this research.

The significant period of participant observation began at the beginning of May 2018 and reduced in intensity towards the end of August. During this time, I was regularly engaged with the case study clubs. Participant observation continued in a more reduced format until the completion of the research project, although after the end of the triathlon season in October 2018, observations had less of an impact on research findings and analysis. Observations were undertaken with two different triathlon clubs, and committee members from both clubs were contacted prior to the research to ensure that there were no issues surrounding my presence as a researcher. For both clubs, observation took place primarily during running and swimming sessions, as formal cycling sessions were surprisingly absent from both clubs' weekly schedules. Observations were not limited to training session involvement, but also included a whole day volunteering at a club-run children's triathlon event, at interviews in one of the club's café, and during my participation in my first official triathlon event.

‘Overt’ participant observation was utilised for this research project. Participants were made aware that I was conducting triathlon-related research for my PhD, and that my time at the club was in-part a means of observing ‘triathletes’ in action. Notes were taken for each of the observation periods, normally immediately after the event to retain the accuracy and level of detail included in the observations (DeLyser *et al.* 2009). Due to the nature of the training session, it was almost impossible to take notes during the activity. Initial field notes were thorough, typically describing what had happened, details about the people who attended the sessions, my personal thoughts and feelings about the experience, and any other interesting occurrences. As I became more familiar with the members of the community, and more confident with the expectation and structure of the triathlon training sessions, the notes became less detailed, and focused primarily on interesting social interactions, recurring themes, and noticeable temporal changes. Taking notes throughout the participant observation process was an important way to look back at how personal experiences and perceptions have changed over time (Laurier 2004). These notes document my change of positionality from an ‘outsider’ to an insider. As my research has explored the triathlon social world, and aspects of identification and entry, observation of this temporal change was an important factor to consider throughout.

Participant observation, and the eventual recruitment of interviewees from the two case study triathlon clubs was in no small part aided by a number of select individuals – ‘gatekeepers’ – who provided access to key informational, logistical and human resources (Campbell *et al.* 2006). In particular, my initial point of contact with one of the clubs, with the club secretary, was invaluable in gaining information regarding training details, introducing me to other members, and offering her services as a participant in the research itself. In ethnographic research, ‘gatekeepers’ can be key facilitators to research into a community of interest (DeWalt and DeWalt 2010), or alternatively they can cause obstructions to the research. Although one of the case study triathlon clubs was extremely receptive, aided by a facilitating gatekeeper, the other appeared to lack a notable point of access into the community, and any attempts to recruit participants further were unreceptive, which led to a change of case study site, which is detailed in Section 3.2.2.

Participant observation was an important step in determining what themes to explore during the subsequent interview process, by identifying which findings from the survey had relevance in practice and recognising any topics which had not been covered by the online survey. Through sharing the experiences of training and socialising with the triathlon club during this phase of participant observation, I became recognised as an accepted member of the club's social world, in turn helping me develop a greater rapport with other members of the club, and providing me a more in-depth, and better quality, access to their everyday lives (Kitchin and Tate 2000; Macpherson 2016; Robinson *et al.* 2014). It also had a vital impact on the success and efficiency of interviewee recruitment, as I had the chance to explain my research in person, and the opportunity to build rapport with club members before inviting them for a one-on-one interview. The process of participating in a club's triathlon sessions, engaging with its members, and observing their everyday practices played a key role in shaping the qualitative research associated with the project going forward.

3.1.2.2. Semi-structured interviews

Interviews are an established tool of social sciences research, and particularly in the realms of human geography. Semi-structured interviews have been a popular tool among geographers for many years, as they allow participants to have some input in the research process, which is particularly important with regards to establishing empowering research relations (Stone and Priestly 1996). A semi-structured interview is a form of qualitative research, which uses a list of pre-determined questions to ascertain information about a topic from a participant, following a more natural conversational flow than questionnaires and more structured interviews, allowing for deviations by the interviewee to topics they feel are important (Longhurst 2010). In comparison to structured interviews, semi-structured interviews yield a greater amount of open-ended data, which typically requires a thorough process of analysis and coding to utilise effectively (Valentine 2013). Semi-structured interviews are valuable tools for geographers, allowing the investigation of complex behaviours, aiding the researcher to understand participants' experiences and opinions on a variety of subjects (Castillo-Montoya 2016; Longhurst 2010):

> the interview allows a more thorough examination of experiences, feelings or opinions that closed questions could never hope to capture (Kitchin and Tate 2000: 213).

Much of the research on sport and leisure activities in the social sciences has effectively implemented interviews as a means of collecting in-depth knowledge regarding individuals' experiences and practices (see Eden and Barratt 2010; Foley 2015; Hindley 2018; Shipway and Jones 2008). In relation to studies of triathlon, Bridel (2010) used semi-structured interviews to explore experiences of pain and pleasure in Ironman triathlons. Lamont and Kennelly (2012) adopted the method to investigate motivations among committed amateur triathletes, and Simmons *et al.* (2016) used interviews to see how long-distance triathletes balanced the triumvirate of family, work and leisure.

In the context of this research, interviews were used as the final stage of the sequential explanatory design (Figure 3.1). Following from the identification of key themes in the initial online survey, and the refinement of the research objectives resulting from participant observation, semi-structured interviews were conducted in order to explore the in-depth practices and experiences of triathletes, primarily focusing on Research Objective II and III (see Section 1.3). Interview questions covered a wide range of topics, including; the spaces and places used for training and events, the role that their triathlon club played in their experiences of triathlon, the importance of social media and fitness-specific applications in triathlon at a micro and macro level, and ideas surrounding identity and the triathlon social world.

The interview process started on 2nd July 2018 and came to an end on 20th August – with the exception of one additional interview on 23rd October. A total of 22 interviews were conducted in this period, with members from both of the two case study clubs (Appendix C). The process of recruiting and interviewing triathletes continued until theoretical saturation was reached during the transcription phase (Bryman 2015). All interviews were conducted face-to-face and in person, which is encouraged by many as it offers a more personal experience, permits the researcher to analyse interviewee reactions based on physical cues, and builds greater rapport with the interviewee (Kitchin and Tate 2000). Due to the medium of the interviews, it

was necessary to consider carefully the location where said interviews would take place (Longhurst 2010). The majority of interviews were conducted in cafés local to where the participant was living. Three interviews were conducted at participants' homes, and the rest of the interviews took place at 'Tri Base' in Riderby – a triathlon-orientated café, shop and training venue located next to an open water swimming lake.

Many of the triathletes I spoke to during the research process were extremely busy most of the time, and to make participation in the research as easy as possible, I would regularly offer to come to somewhere convenient for them to conduct the interview. Quite often I would make my way to the interview locations on my bicycle, which I found had an interesting impact on the power relations of the interview, giving the impression that I had common interests, and in some ways, was an insider to the social world they were operating in. I found this appeared to have a predominantly positive impact on how receptive participants related to me as an interviewer. However, it is important to consider the effect that this dynamic may have had on participants' responses, and it is also essential to consider how my own biases and preconceptions as an interviewer, as someone now engaged in the sport of triathlon, as a committed endurance athlete, as a male, and as a young person, could impact on the interview and analysis process (Rubin and Rubin 1995). This will be explored further in Section 3.4.

A short survey was administered to participants prior to the interview as a means of gaining consent for the collected data, whilst simultaneously collecting useful demographic data, which helped to provide context to the qualitative data that has been collected. This was particularly useful when looking/listening back to conversations that occurred some time ago (see Emerson *et al.* 1995).

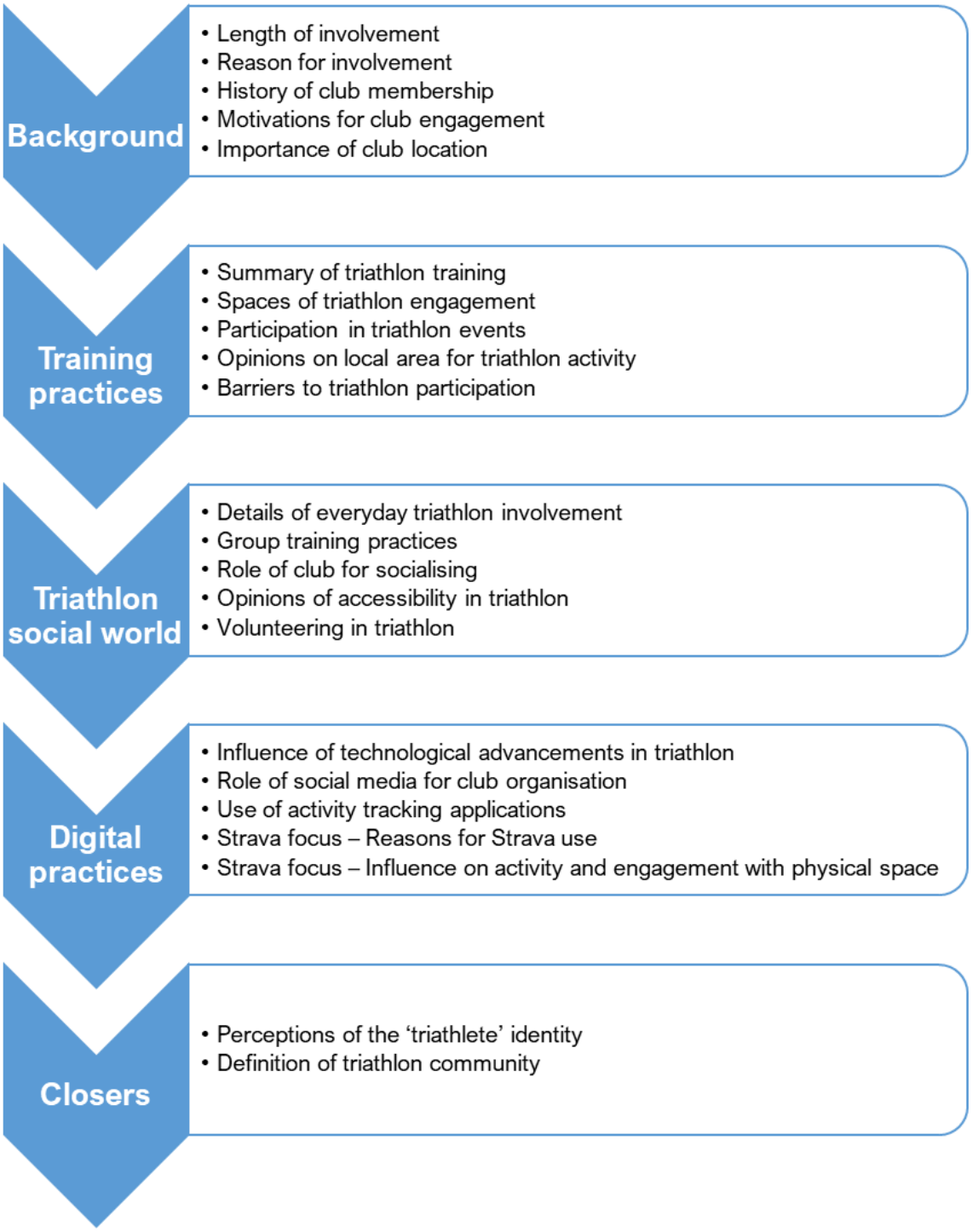


Figure 3.5 *- Concise semi-structured interview guide.*

Castillo-Montoya (2016) suggests that such an alignment increases the effectiveness of interviews within the research process. The process of creating an interview guide followed Castillo-Montoya's (2016) concept of the Interview Protocol Refinement method (see Figure 3.6). The interviews consisted of approximately 40 questions covering 5 key themes, lasted between 45 minutes and 2 hours, and were

all recorded using a dictaphone. Following advice from academics such as Kitchin and Tate (2000) who advocate the use of an interview guide, the conversation primarily followed the structure of a preconceived list of questions, but frequently deviated when probing participants for further detail, when the interviewee addressed issues regarding later or earlier questions, and when relevant deviations materialised (Galletta 2013). Over time the interviews increasingly began to follow a more fluid structure reflecting the conversational direction, and accordingly, a more concise and adaptable interview guide was utilised (Figure 3.5). For a more detailed interview guide, see Appendix D. The questions from the interview guide were formed and structured in a way that aligned with the research objectives of the project (see Section 1.3). The interviews were transcribed as soon as possible because delaying transcription can increase the likelihood that "some elements [of the encounter] will be misremembered or not remembered at all", which should be avoided (Murchinson 2010: 71).

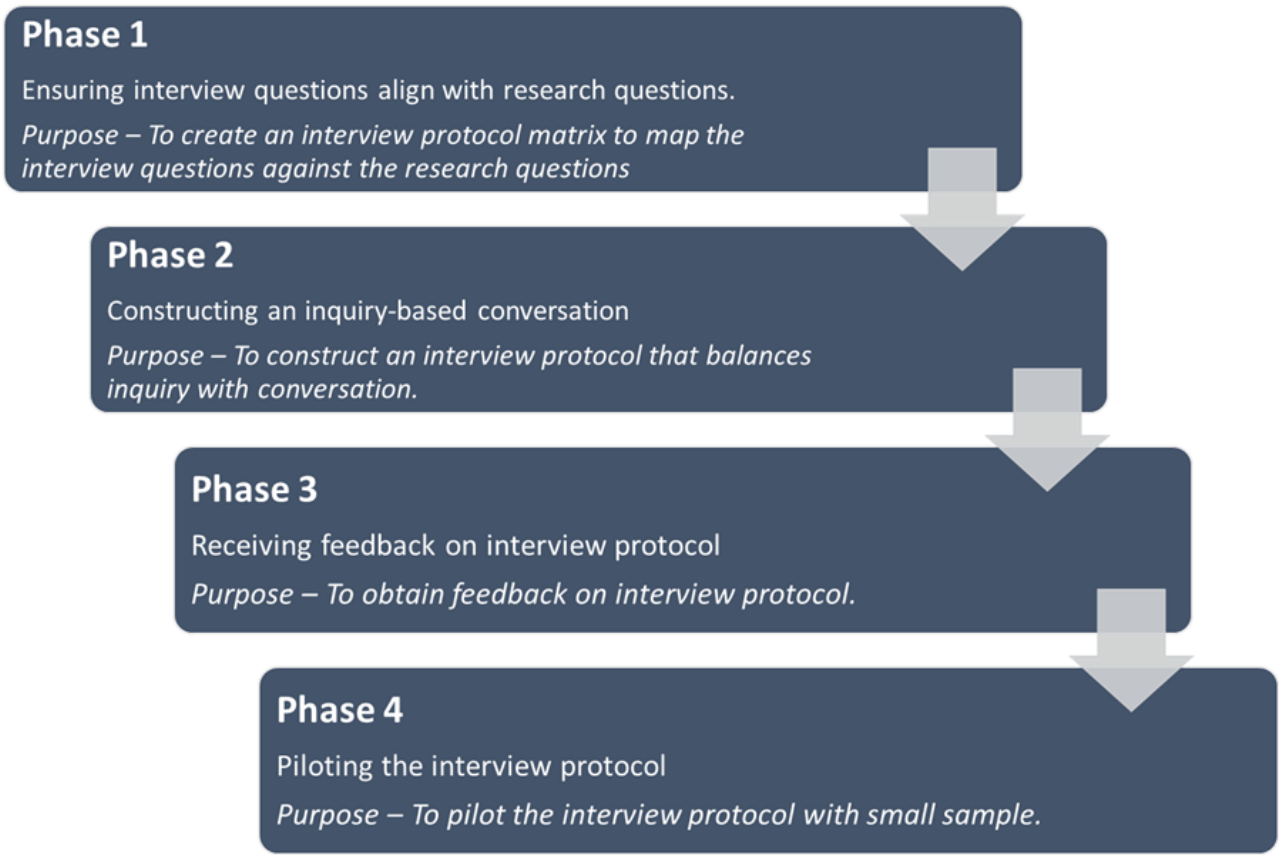


Figure 3.6 *- Interview Protocol Refinement method (Adapted from Castillo-Montoya 2016).*

The first phase of data analysis was conducted during the transcription phase, whereby key themes were identified from the interview text, some of this inductive, where themes emerged from the data naturally, and some deductive, where preconceived hypotheses were explicitly looked for throughout the transcript (Braun and Clarke 2006; Ezzy 2002; Hinch and Kono 2017). The process of data analysis will be detailed in Section 3.3.

3.2. Research population and recruitment

3.2.1. Survey sampling

For the online survey element of the research, a broad inclusion criterion was implemented in order to collect nationwide data on triathlon from a wide and diverse range of individuals. The desired population for the survey were triathletes currently residing in Great Britain, who had either completed, or were currently training for, a triathlon event. The annual survey of triathletes by the Triathlon Industry Association (2017) identified a triathlete as someone who had completed a triathlon event, however, this research had an interest in individuals at all stages of their triathlon engagement, and thus did not want to exclude individuals who were engaged in triathlon by training for an event, but had yet to participate in an event – which can often be impacted by entry costs, injuries, and other internal and external factors. In order to ensure that survey respondents met this criterion, two screening questions were implemented, which directed respondents who did not meet that criterion to a page thanking them for their time and filtering out ineligible respondents (Van Selm and Jankowski 2006).

A snowball sampling strategy was adopted for the online survey, which was initially posted on a range of triathlon-related Facebook and Twitter pages, and onto several triathlon forums (Appendix A), with the optimism that individuals would then share the survey with other members of the triathlon community. Snowball sampling is a form of convenience sampling, whereby those matching your research criteria are contacted, and then asked to share the research to others, an effective method when contacting a large number of individuals would be difficult (Foster *et al.* 2012). Foster *et al.* (2012) have commented that making a sample representative is not a

straightforward task, and accordingly, there was no explicit sample size for the survey. Rather, the aim was to collect as many responses as possible within a two-month window. Fortunately, the sample population from the survey reasonably accurately reflected the demographics of the triathlete community as indicated by the Triathlon Industry Association (2017), which provided the results with some confidence. One drawback of using an online survey within geographical research is that it can act to exclude those who are not active online, or alternatively favour those who are most active (Vicente and Reis 2010). However, the considerable majority of triathletes who are active on social media sites are likely to outnumber those who attend triathlon club activities, and thus could be physically contacted. Therefore, online surveys were deemed an appropriate means to contact a reasonable proportion of the triathlon community.

Much like in Barratt's (2017) study of gamification in cycling, a stratified sample was employed when recruiting participants for the semi-structured interviews. A stratified sample is valuable when trying to make the sample representative of the target population based on one or more of their characteristics (Teddlie and Yu 2007). To get a comprehensive array of responses, and to get some insight into temporal change within the sport of triathlon, the sample was stratified with regards to age. Gender was also identified as an influential factor from the initial quantitative phase, and accordingly, an even representation of men and women was targeted within the sample. Demographic data from the 2017 TIA triathlon survey was used as a basis for the sample, with a specific focus on attaining a similar age profile of British triathletes (Figure 3.7). Club members were contacted through their respective Facebook pages, and also in person at my time spent with the clubs during participant observation if possible. After a significant number of triathletes were recruited from each club, I began to target individuals based on demographic factors with the aim of closely resembling the triathlon population identified in previous research by the TIA (2017), specifically focusing on gender and age. The recruitment stage continued until the end of August when drafting additional respondents became difficult. Fortunately, at this stage I was satisfied that theoretical data saturation – where new themes or further insights are obtained (Bowen 2008) - had

been reached during interview transcription, and therefore there was no need to continue pursuing potential interviewees (Mason 2010). A total of 22 interviews were conducted by the time data saturation was reached.

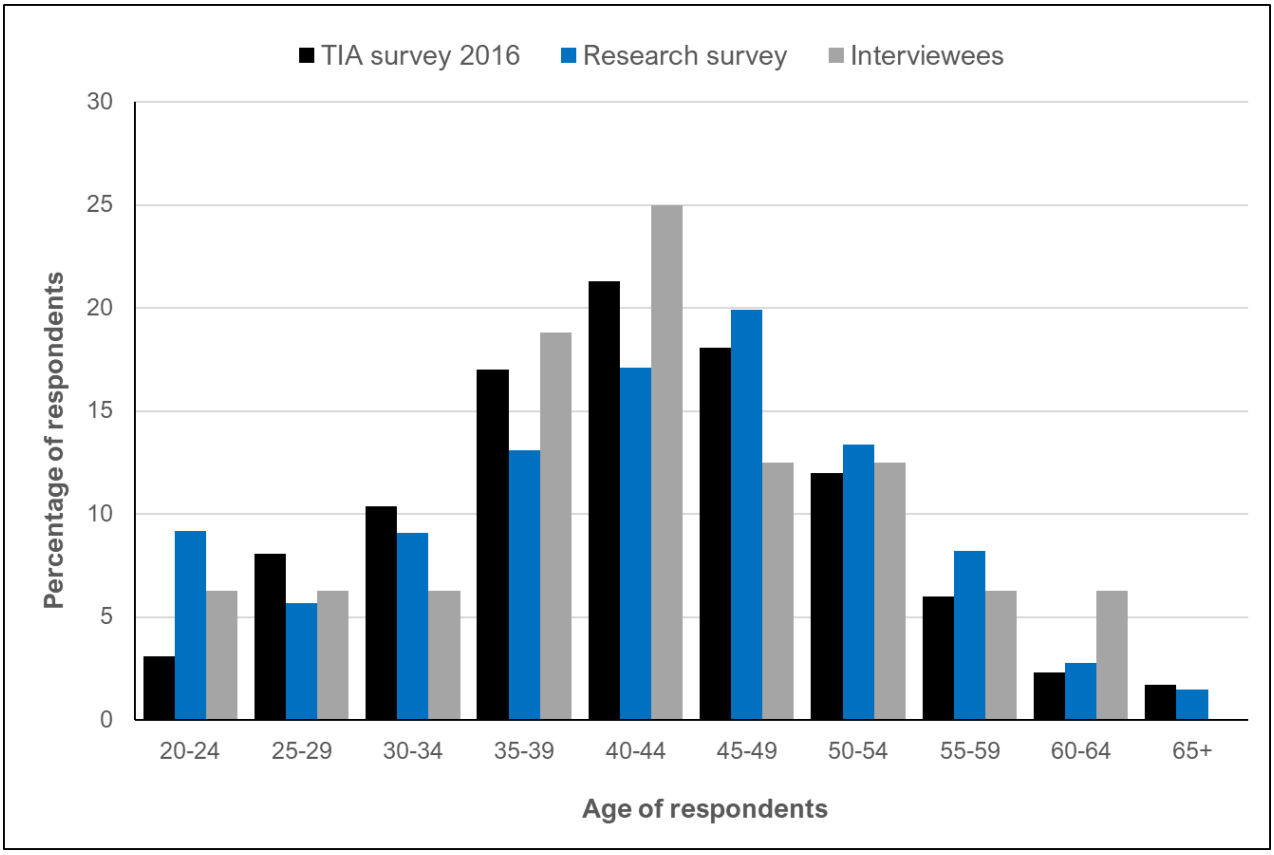


Figure 3.7 *- Age distribution of respondents from Triathlon Industry Association UK Triathlete Survey, online research survey (n = 591) and research interviewees (n = 22). Source: TIA 2016; own survey 2018.*

3.2.2. Selection of case study sites

Ever since the sport of triathlon arrived on British shores following its inception in the United States in the mid-1970s, it has continued to grow in popularity. The total number of triathletes in England has been estimated to be in excess of 160,000, a 7% growth since 2017, and a 60% increase from 2012 (Triradar 2018a). Triathlon data is often broken down into regions for statistical analysis, reflecting the structure of the sport's governing body, British Triathlon (Figure 3.8). The East Midlands is one of the nine regions in England under the European Union's 'Classification of Territorial Units for Statistics' (Figure 3.9), in addition to being one of the ten regional committees created by British Triathlon. The region effectively consists of six English counties;

Derbyshire, Leicestershire, Lincolnshire (excluding North and North East Lincolnshire), Northamptonshire, Nottinghamshire and Rutland. Comparatively, it is the eighth largest of the nine regions, with an estimated population of 4.53 million (7.4% of Great Britain's total population). In the same TIA survey (2018) referenced earlier, the East Midlands was found to host 8.7% of Great Britain's triathletes. Additionally, the East Midlands holds 7.2% of the triathlon events in Great Britain (encompassing 7.6% of all event finishers), most notably the Outlaw Triathlon – a full distance triathlon event which boasts more than 1000 participants – the similarly sized Vitruvian triathlon, and the internationally renowned Nottingham Mixed Relays. In addition to a relatively vibrant triathlon community, the region is also host to 53 triathlon clubs, representing 8.2% of all clubs in Great Britain.

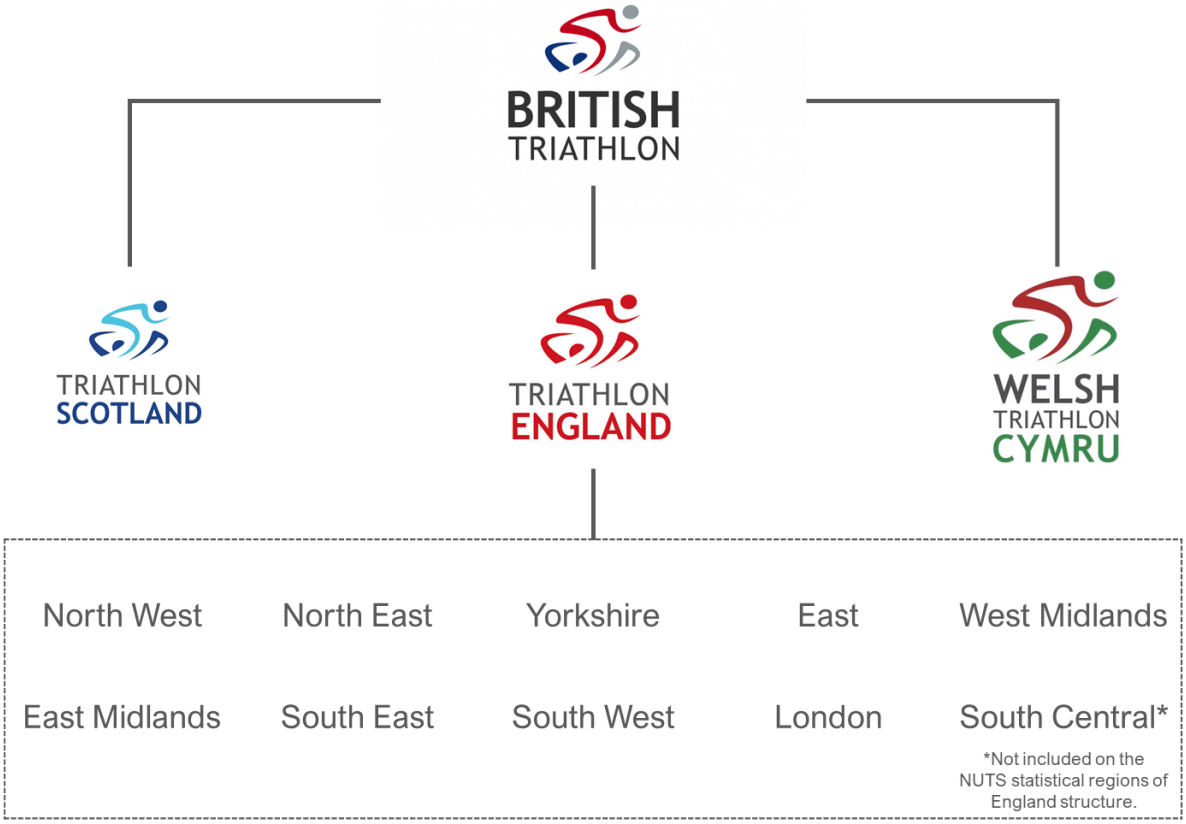


Figure 3.8 *- Regional structure of British Triathlon (British Triathlon 2020a).*

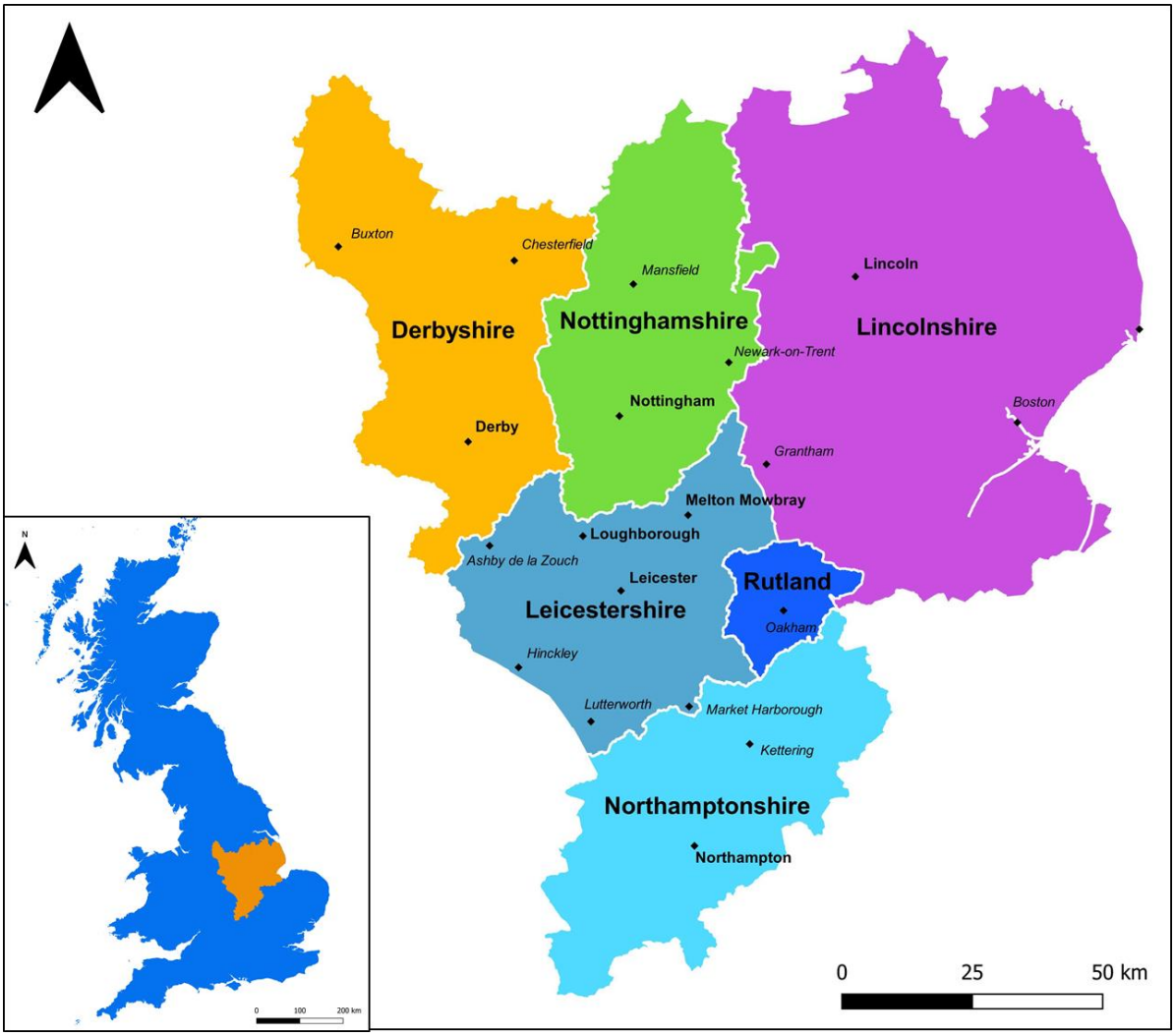


Figure 3.9 *- East Midlands region.*

The justification for selecting the East Midlands as a case study area was twofold. Firstly, and most importantly, the region is well known for being a regional hub for triathlon activity. The presence of the British Triathlon headquarters in the area, the world's only fully-integrated Olympic, Paralympic and university performance programme based at Loughborough University, the number of large triathlon events hosted in this part of the country, and the plethora of high-standard and entry-level events and clubs scattered throughout the region, are all contributing factors to the region's association with the sport (British Triathlon 2017a; 2017b). Secondly, from a more practical standpoint, being based in Loughborough University for the entirety of my studies, I had convenient access to areas within the region in order to conduct fieldwork activities. With the East Midlands being an important region in the sport of triathlon, combined with the convenience of being based at Loughborough University

for the entirety of my research, the East Midlands was identified as an appropriate case study site to explore the research aim and objectives detailed in Section 1.3. A national scale, or regionally comparative research scale may have resulted in a greater variety of qualitative findings, but choosing two sites in the same region was considered appropriate, as it reduced the level of inherent differences between participants, and provided a degree of context to analyse the data.

For the purposes of this research, and in order to explore the role of triathletes' training practices, the role of digital applications in everyday triathlon practices and experiences, and most importantly, the intricacies of the triathlon social world, two case study triathlon clubs were identified. Using two case studies has been done successfully in previous research and allows a direct comparison which has the potential to draw out interesting impacts that the different clubs may have. Shipway *et al.* (2012) used two running clubs as case studies in order to explore the intricacies of the distance running social world, and therefore it was deemed appropriate to use a similar approach to understand aspects of the triathlon social world. Additionally, Barratt (2017), in his study of activity tracking applications in road cycling, suggested that using clubs became an important way of recruiting interview participants, and facilitated the use of a stratified sample, which would be more difficult to achieve outside the structure of the club setting.

Initial research on local triathlon clubs was conducted online, and two triathlon clubs were selected based on their reasonable size, their accessibility to individuals of all abilities, and the presence of a club Strava page and active members on that page. These factors were considered to provide the best chance that there were sufficient members to achieve a good sample size, to ensure people with a wide range of abilities could be interviewed, and that the club had a selection of members who were somewhat regular activity tracking application users. The two clubs selected initially were Transitions Tri Club, located in Runnington, a rural village in the East Midlands, and Swimbourne Triathlon Club, situated in the suburbs of one of the East Midlands major urban centres, Swimbourne. However, after some difficulties gaining access, and a lack of reception to the research project at Swimbourne Triathlon Club, and frequent mentions of an active alternative club from triathletes

during observation, Riderby Triathlon, located at a sports complex on the outskirts of Swimbourne, was then selected as the second, more appropriate, case study. In an effort to protect the anonymity of the clubs and individuals involved in this research project, pseudonyms have been used throughout this thesis for any locations or facilities beneath the scale of the East Midlands region. A more detailed justification of this choice is detailed in Section 3.4.

Transitions Tri Club (TTC) is a triathlon club which is primarily centred around the local leisure centre of a large village called Runnington. The club consists of a junior and an adult section, which perform the majority of their training separately, but many members of the adult training group have children in the junior group, giving the club an interesting family dynamic. The adult club consists of primarily recreational triathletes, but the level of engagement with the sport varies quite dramatically. Transitions Tri Club train regularly on Tuesday, Wednesday and Friday evenings, although occasional informal group runs and rides are infrequently organised using the club's Facebook page. The club prides itself in its accessibility to individuals of all abilities, but also makes reference to its reputation among triathlon clubs in the region. The club itself has approximately 60 adult members, although within that there is a core group of around 25 individuals who regularly train, compete and engage with the club.

Riderby Triathlon (RT) is a triathlon club located in a fairly remote rural area in the East Midlands region, over a mile from the nearest village, next to a large lake – Datton Water - which is used for open water swimming. The club operates out of a central hub – also referred to as ‘Tri Base' - a venue which also hosts services such as a triathlon shop, a café, an exercise bike studio, coaching and physiotherapy services, and bicycle maintenance. The club consists of triathletes with a range of different abilities, but unlike Transitions Tri Club, the club is exclusively for adult members. Despite the range of facilities available, the club only has one regular structured training session, on Thursdays, which is based in a leisure centre almost 10 miles from Tri Base. Additional informal training opportunities available to the club include regular open water swimming sessions in the summer (and a more restricted number in the winter), Wattbike sessions in the purpose-built studio, and a number of

informal running and cycling sessions in the winter months. Although Riderby Triathlon similarly expresses their openness to triathletes of all abilities, the club has a prominent number of successful elite triathletes who make up much of the core social group, making the club stand-out from a performance perspective. The club itself has only been operational for approximately two years but has seen a considerable level of success and growth since its inception. Membership is estimated to be around 100 adult members, but similarly to TTC, having a smaller group of regular core members.

Both Transitions Tri Club and Riderby Triathlon are balanced along the lines of gender, although men formed a small majority. With regards to ability, both clubs had members encompassing a variety of abilities, although Riderby had a greater range of members, from professional triathletes to first-timers. Observational research confirmed that both clubs had vibrant communities whose social engagement extended beyond club sessions, which suggested that these were more than just fleeting social relationships. Both clubs were heavily reliant on digital platforms for the organisation of their club activities, and for communication between club members, but Riderby Triathlon had a significantly more active social media presence as a result of their associated commercial efforts.

3.3. Data analysis

Following the collection of the empirical data, detailed in Section 3.2, the wealth of data then needed to be collated, organised and analysed using a range of techniques and software. One of the potential issues with using a mixed method approach is the failure of the researcher to effectively unify the different methodologies (Bryman 2007). In order to avoid this potential issue, which can harm the methodological soundness of the research, steps were taken to ensure that such an approach was effectively carried out. Although the analysis of quantitative and qualitative data was performed using different techniques and at different times, every care was given to ensure that comparison between the two was considered throughout the data analysis phase. Specifically, using quantitative findings to identify the key themes to explore in later qualitative research, and additionally, comparing the results from the various research methods after the completion of the qualitative research phase.

The analysis stage of this research project utilised a grounded theory approach (Glaser and Strauss 1967). Grounded theory has become an important analytical approach in human geography, and involves inductively deriving theory about any given phenomenon, resulting in an empirically rich interpretation of the data itself, rather than the testing of rigid preconceived hypotheses (Cloke *et al.* 2004; Strauss and Corbin 1998). Theory is generated from, and grounded in, the data itself (Bryman 2008). The limited amount of prior research around the topic of triathlon in academic work, and particularly within geography and the social sciences, justified the use of grounded theory for relevant themes, topics, patterns and theories to materialise from the data organically. The process of analysing the different forms of data collected during the fieldwork stage of the research, and their integration into a mixed method research project is detailed in the following section.

3.3.1. IBM SPSS Statistics

The quantitative analysis of the online survey results was conducted using a range of statistical and thematic analysis techniques and software. BOS, the platform used to design and disperse the survey has a function which permits the user to download questionnaire results in a format that can be directly input into SPSS Statistics, a software package used for statistical data analysis. In addition to initial visualisation of data using charts and tables, the survey data was analysed using a variety of statistical functions, including, frequencies, chi-squared tests, one-way ANOVA, and cross-tabulations of the key demographic variables such as gender, age, and location, and then again by research specific criteria, including Strava versus non-Strava users, hours spent training per week and those who volunteer or do not volunteer. The results included for the purpose of this research typically had a chi-squared value of 0.05 or smaller, which indicates a statistically significant result at a 95% confidence level (Bryman 2015), although interesting findings that were not statistically significant on that level were occasionally used. Following this, results from the online survey, and triathlon event and club datasets, were also implemented into attribute tables on ArcMap, a platform for managing, analysing and mapping spatial data, in order to create visualisations of location-based findings, such as the British triathlon club and event distribution visualised in Figure 3.4. In line with the

grounded theory approach which encompassed the entire data analysis process, statistical analysis using SPSS was not based on any rigid hypothesis testing, but instead used exploratory methods which allowed significant findings to tailor interpretations, and to direct further analysis and qualitative investigation.

3.3.2. NVivo 10

The process of preparing, collating and analysing the qualitative data collected during the research project was conducted using a grounded theory approach. Grounded theory is a methodology established by Glaser and Strauss (1967) which "iteratively and recursively integrates multiple forms of data and analysis in order to build theory that is grounded in empirical data" (Knigge 2017: 1). Rather than testing preconceived hypotheses, grounded theory emphasises the idea of emergence, focusing on creating concepts and theories present within the data during all stages of data collection and analysis (Charmaz 2008; Corbin and Strauss 1990). Early descriptions of grounded theory suggested that such an approach removed the researchers' inherent preconceived bias from the analysis (Glaser and Strauss 1967). However, more recent accounts have challenged this idealistic view, stating that the researcher will always have an interpretive role in the research as data is socially constructed, although a grounded theory approach will help to limit the impact of past experiences and existing assumptions on the direction of analysis (Charmaz 2006). A consideration of the themes and concepts emerging from the data during collection, thematic analysis and confirmation enable the researcher to become intimately familiar with their data, allowing them to derive appropriate theories that are clearly grounded in the empirical data (Charmaz 2008; Knigge 2017).

Following the principles of a grounded theory approach (Glaser and Strauss 1967), qualitative data was subjected to a thorough six-stage process of thematic analysis, detailed by Braun and Clarke (2006) involving; familiarisation, code generation, theme creation, reviewing themes, theme development and writing up (Figure 3.10).

Phase	Examples of procedure for each step
1. Familiarisation *Familiarising oneself with the data*	Transcribing data; reading and re-reading; noting down initial codes
2. Code generation *Generating initial codes*	Coding interesting features of the data in a systematic fashion across the data-set, collating data relevant to each code
3. Theme creation *Searching for the themes*	Collating codes into potential themes, gathering all data relevant to each potential theme
4. Reviewing themes *Involved reviewing the themes*	Checking if the themes work in relation to the coded extracts and the entire data-set; generate a thematic 'map'
5. Theme development *Defining and naming themes*	Ongoing analysis to refine the specifics of each theme; generation of clear names for each theme
6. Writing up *Producing the report*	Final opportunity for analysis selecting appropriate extracts; discussion of the analysis; relate back to research question or literature; produce report

Figure 3.10 - Six-stage process of thematic *analysis (Adapted from Braun and Clarke 2006).*

Analysis of the qualitative data was performed using NVivo 11. NVivo is a qualitative data analysis software package that provides researchers with the tools to perform detailed investigations into text-based or multimedia information sources. Before using NVivo for thematic coding, the collected qualitative data from open-ended survey responses, semi-structured interviews and observation notes needed to be adapted into an appropriate textual format. All interviews were transcribed verbatim using a combination of Microsoft Word and an Olympus transcription pedal. This transcription phase was an important aspect of the analysis process, allowing me to familiarise myself with the data and to note any initial thoughts regarding relevant codes/themes for later analysis (Braun and Clarke 2006; Bird 2005). For example, it was during this transcription phase that I first observed the impact that triathlon practice had on an individual's appreciation of natural space due to their regular immersion and bodily interaction with the environment. As a result, one of the early codes that I noted was 'appreciation of space'. After transcription, the interview text-

files were imported into NVivo 11 ready for coding. Qualitative responses to open-ended survey questions were collated into a number of question-specific word documents and also added into the NVivo database. Similarly, all observational notes were digitised and imported into NVivo for further coding.

> Coding is the process of disassembling and reassembling the data. Data are disassembled when they are broken apart into lines, paragraphs or sections. These fragments are then rearranged, through coding, to produce a new understanding that explores similarities, and differences, across a number of different cases (Ezzy 2002: 94).

Prior to thematic coding, two interview transcripts were coded line-by-line to test the appropriateness of any preconceived codes from the familiarisation phase and to identify appropriate *in vivo* codes – those based on participants' own phrasing (Creswell 2015). Line-by-line coding is an established first step amongst researchers utilising a grounded theory approach (Holton 2007). By breaking down sections of text into smaller segments and encouraging a focus on phrases rather than complete responses, line-by-line coding aims to reduce the degree to which researchers preconceived notions of the data permeate the qualitative analysis and attempt to bring out the nuances inherent in the data (Charmaz 2008).

Following the line-by-line coding, the most frequently occurring and most significant preconceived and *in vivo* codes were consolidated and made increasingly directed in order to perform focused coding (Charmaz 2008). At this stage, overlapping and related codes were categorised into several key themes. These codes were then created in NVivo with an accompanying code description to aid in the coding process. This focused coding – where a series of codes are analysed in relation to a large amount of data - was performed on NVivo, using a mix of researcher constructed codes (e.g. 'proximity and convenience), academic terms ('insider/outsider') and *in vivo* codes ('fitting it in'). These codes were both inductive and deductive, with some being influenced by previous research and experience, and others emerging naturally from the data (Fereday and Muir-Cochrane 2006). Coding is an emergent process, and accordingly, additional codes were generated during focused coding and retroactively analysed within earlier transcripts (Charmaz

2008). Moreover, as more instances of each code or theme appeared in the qualitative data and as my understanding of the data developed, the descriptions of codes were updated and appropriate names were given.

During the writing up stage, NVivo was used to create detailed reports based on the identified themes, containing all relevant extracts from interviews and observations. These reports were used to identify appropriate examples to reinforce and contextualise the discussion of various themes throughout the empirical chapters. In addition to coding, NVivo was used for other qualitative analysis functions. For example, one consideration during the research was to attempt to develop an understanding of what constituted the 'triathlon identity', and accordingly, NVivo was used to create a word cloud based on survey respondents' thoughts on this matter.

3.4. Confidentiality, anonymity and withdrawal

As an institutional requirement within research concerning human participants at Loughborough, the research was approved by the Loughborough University Ethics Advisory Committee. Participants were informed fully about the research process and given an appropriate level of information to make an informed decision about participating in the research. They were also reminded from the start of the research of their right to withdraw from the research, to be able to stop the survey or interview at any point, and their ability to skip questions they did not wish to answer. Before any interviews were recorded, participants were informed that nobody other than myself, or one of my supervisors, would listen to the recording, or see their anonymised survey responses. Additionally, it was made clear that any identifying information from the online survey, observational notes and interviews, would be removed to maintain confidentiality. In any case where an interviewee needed to be distinguished, a pseudonym has been used. Participants were also made aware that all information (transcripts, recording, field notes, survey responses) would be stored on a password protected secure server. Prior to each interview, participants were required to read through a detailed information sheet containing information on the research project, and once it was determined that they were happy with the process,

and fully understood the nature of the research, they were instructed to sign the form.

Despite the need to aim to achieve confidentiality among research participants, and to endeavour to protect their anonymity, it is also important for the researcher to understand that individuals, locations and organisations may be identifiable for their unique stories, experiences, practices and characteristics, which are often the focus of the research project (Clark 2006). In addition to the need to protect the anonymity of individuals during the research process and later publication, there is often a need to further protect these individuals by masking the identity of research locations (Clark 2006; Crow and Wiles 2008). Despite efforts to avoid predictability, Saunders *et al.* (2015: 618) highlight how “academics tend to use geographically convenient locations [making] research sites more easily traceable" (Saunders *et al.* 2015: 618). It is therefore necessary to exercise measures which help to mask the spatial identity of sites that form part of this research.

Due to convenience, financial and temporal limitations, and the presence of existing researcher contacts, fieldwork locations can often be limited to particular geographical areas, which, when not considered appropriately, can challenge the promise of anonymity often provided in geographical research (Walford 2005). Total anonymisation is almost impossible in most scenarios, particularly for individuals who were part of, or aware of the research project (Clark 2006). In addition, attempts at complete anonymisation can result in decontextualisation, and can limit the ability of the researcher to effectively analyse and discuss their findings (Saunders *et al.* 2015). One of the more effective techniques for managing place-specific anonymity, whilst constructing a narrative which continues to remain captivating for the reader, is to utilise location-based pseudonyms. The use of fictitious names to describe specific locations is an approach that helps to protect the identity of individuals and case study sites, without creating a complete disassociation between the research data and reality (Howe and Morris 2009). Throughout this thesis, and during the research process, each of the destinations below the spatial scale of the 'East Midlands' region, was replaced with a pseudonym, and efforts were made to reduce

the level of specificity when talking about these locations, to further protect their identity.

3.5. Methodological reflections

> Mistakes are always forgivable, if one has the courage to admit them (Bruce Lee).

Critically reflecting on the research process, recognising its successes and acknowledging its limitations, is an essential step in any research project. Imperfections are an inherent part of any methodological approach and allocating time to consider why these issues or unexpected outcomes occurred, and how to correct them going forward, can be an important stage of development for any aspiring researcher (Labaree 2009). Additionally, no matter how intricately planned a research project's methodology may be, it is very unlikely that every potential set-back or unforeseen deviation will be accounted for. Considering and discussing these unexpected features of the methodological process can help the researcher make adjustments during the analysis phase, and furthermore, can produce suggestions for future research agendas. Accordingly, the following section will highlight the successes, unexpected occurrences, and limitations identified throughout the various stages of the research approach detailed in this chapter and make suggestions for other research projects going forward. This section will be divided into five separate parts, with the first three sections focusing on method-specific reflections, and then one broader reflection on the research process itself in the final section.

3.5.1. Positionality and reflexivity

Stimulated by feminist and post-structural challenges to geographical research, a comprehensive consideration of positionality, reflexivity and ethical considerations has become an essential step in undertaking effective, sensitive, and robust research (England 1994), although Hitchings and Latham (2019) contend that in recent times there has been reduced attention given to matters of positionality in geographic work. Throughout the research process, I made sure that I remained attentive to my positionality, how this was changing as a result of participant observation and made

an effort to be reflexive when possible. Reflexivity can be defined as “the researcher’s scrutiny of his or her research experience, decisions, and interpretations” and helps the reader to understand how the researcher conducts their research, taking into account their interests, positions and assumptions (Charmaz 2006: 188). Reflecting on one’s own identity and considering how this may influence interactions with others is a critical step to consider throughout the research process (Valentine 2005).

I am a university educated young white male, from a middle-class background, with a low level of disposable income, which already goes some way to positioning myself as both an insider and an outsider to the typical triathlon demographic. I have a well-established knowledge of the sport of triathlon, aided by knowing a range of people involved in the sport and experience participating in each of the constituent disciplines. But prior to initiating research, I had no real experience engaging in triathlon specifically, with the exception of participating in two entry-level 'GO TRI' events on Loughborough University's campus a few years ago. Despite predominantly living in the East Midlands for the past five years, I would not describe myself as closely familiar with the region, and therefore some of the case study sites and locations that triathletes discuss were unfamiliar to me, whereas others I knew intimately.

Spending time at Loughborough University, and having been a member of the Loughborough Students Athletics Club for a few years, I have been exposed to the world of competitive, ‘performance-orientated’, sport, but have less familiarity with engagement at a more recreational level, although regular participation at parkrun events – which sees runners with a wide range of ability participating – provides some form of awareness of those engaged more recreationally. Furthermore, my previous research into the everyday mobilities of recreational runners has provided me with a well-rounded appreciation of, and empathy towards, different forms of engagement with physical activity (Giles 2016). With regards to the focus of the research, I would identify myself as a ‘runner’, and I consider myself part of the running community. I am also a regular user of activity tracking applications, particularly Strava, and I engage with the application to an extent that is likely to be

more intensely and more regularly than the average athlete. Throughout regular engagement with triathlon training and socialising through participant observation, my positionality as a researcher has continued to change, as I have become increasingly familiar with triathlete's everyday practices, more involved in the social world of triathlon, and as my ability level has also changed.

Within geographical research attention has be given to the concepts of being an 'insider' or being an 'outsider' in qualitative research. An 'insider' is a researcher that shares the "characteristics, roles, or experiences under study with participants", whereas an 'outsider' is someone who does not share these commonalities (Dwyer and Buckle 2009: 55). It is important to highlight that the insider-outsider relationship is not a dualism, but rather a spectrum, with some individuals being more of an insider, or outsider, than others (Shipway *et al.* 2012). Whether a researcher is an insider or an outsider to the community under study, it is almost certain to change the dynamic of the research process in ways that can be both positive or negative. For example, Shipway and Jones (2008), in their study of London Marathon runners, argued that spending time with running clubs and participants was an important means of becoming an insider into the runner social world, providing them with a more detailed understanding of the practices under study. However, familiarity with the research topic can also serve to hinder one's analysis. Shipway (2010) noted how his study of the running social world of which he was intimately familiar with caused him to frequently overlook more banal elements which an outsider may find interesting.

As an outsider to triathlon, I found it more difficult to get involved with the club initially, as I was anxious that I did not fully understand the dynamics of a triathlon club. Simultaneously my position as an insider to running culture, and my degree of ability in that discipline helped me to demonstrate my ability as an athlete to other members, which helped to settle me into the group. Although this was positive, I then found that being an insider meant that certain individuals appeared less likely to approach me, perhaps feeling that due to my sporting ability I was likely to exhibit elitist tendencies. Identifying the impact of being on the constantly blurred insider/outsider spectrum requires a degree of constant self-reflection during the

research process. This self-reflection was an important step in determining how I would choose to position myself in certain situations. For example, in training my ability and confidence would position me as an insider, but during interviews, I would make an effort to ensure that the participant felt like the expert in that scenario, making me the outsider and shifting the power relations in different ways (Kinton 2013), often 'playing dumb' in order to achieve this (Harvey 2011).

3.5.2. Online survey

The online survey was implemented as the primary stage in the explanatory sequential design of a mixed method approach that was utilised for this research project (Creswell *et al.* 2003). With hindsight, the decision to structure the methodology in this way was an appropriate choice, particularly as the topic and community under study was one that I, as a researcher, and as an unexperienced triathlon participant, was an outsider to. Having a large-scale online survey which covered a broad range of topics regarding triathletes' practices and experiences was an essential way for gaining knowledge regarding the community and provided me with crucial insight into the subjects that were important to respondents for later qualitative inquiry. However, one element of the survey which could have been executed more effectively was the choice of sampling strategy. As detailed in Section 3.2.1, a snowball sample was used in conjunction with survey screening questions, allowing me to recruit a large number of relevant participants in a shorter period of time. The downside of using a snowball sample was that using a more structured, and targeted, sampling method could have made the results more generalisable, and more applicable to wider research on the British triathlete community. However, the difficulty of obtaining probability samples using an online survey is an issue that is a well-documented drawback of such a methodological approach (Van Selm and Jankowski 2006).

3.5.3. Observations

Participant observation was implemented into the research design in order to provide me with greater personal insight into individuals' everyday triathlon practices, specifically those of the triathlon clubs under study. In addition to being a vital means

of determining the relevance of my initial research aim and objectives, which were influenced by the survey results, participant observation was also unexpectedly integral for entry into the triathlon social world, and for the development of trust with members from the case study sites. The building of rapport with potential respondents through regular engagement with the triathlon clubs significantly aided in the recruitment of interviewees by breaking down boundaries and allowing me to position myself as a 'mutually interested individual' in their triathlon circle (Garton and Copland 2010). Furthermore, engagement in volunteering activities with the case study clubs helped me to demonstrate my 'reciprocal' intentions during my time researching the club. Doing so gave the impression that I was there to be a part of, and to contribute to, their community whilst simultaneously extracting information from them.

3.5.4. Interviews

The final research method that was employed as part of this research approach was semi-structured interviews, and two key considerations emerged from the reflexive process. As an early career researcher, with limited experience of conducting interviews, one of the key practical learning points from the research process was the potential pitfall of balancing interviewee-choice with regards to interview location, and quality of audio. Prior to the interview conducting phase of the research, I had made the decision that unless instructed to, I would allow the interviewee to suggest a location for the interview to take place. My logic for doing so was that it would allow the interviewee to select a location in which they felt comfortable, and to reduce the degree of expectation that they felt was being put upon them by offering their assistance (Herzog 2005).

Interview location often plays an important role in establishing power relations between interviewer and respondent and allowing the interviewee to select the site for the interview helped to ensure that I was not necessarily considered the 'expert' (Elwood and Martin 2000). In the majority of cases this appeared to work extremely well, in fact, some of the suggested interview locations turned out to be important sites in the local triathlon social world, and therefore the interview process also acted as a form of simultaneous informal observation. However, there were a few

occasions where the location selected by the interviewee was not entirely practical from an audio recording perspective. Though this is not necessarily a reason to discourage this particular practice, for all researchers thinking of undertaking this method, it may be useful to consider the impact that this may have on the logistics of data collection, and perhaps take precautionary steps to avoid any unexpected complications.

The benefits of transcribing interviews soon after conducting them are widely acknowledged by those in geography and the social sciences, for it arguably makes transcription easier, and allows one to make notes on tone, gestures, and other observational information whilst the conversation is fresh in one's mind (Longhurst 2010; Murchinson 2010). This is of particular importance in the case where audio-recording equipment fails, like it did during a section of one of my research interviews (Valentine 2013). Of course, realistically, keeping on top of the lengthy transcription process can be very difficult, particularly when interviews are all conducted in a short period of time. However, another benefit of trying to keep on top of transcription, which I found was an essential step as part of a grounded theory approach, was the identification of key themes during transcription which could then be used to focus interviews later in the fieldwork period. Some of these themes may have been identified during the interview itself, but quite often an interview can be a rather frantic event for the researcher, constantly attempting to listen to the responses from the interviewee, planning the next avenue of enquiry, ensuring audio recording equipment continues to work as it should, keeping track of time, among a number of other immediate concerns. In this case certain elements may go under the researchers' radar in the interview scenario, and it is not until the more intimate transcription phase where these themes then re-emerge.

3.5.5. General considerations

Similarly to Waite (2015), a former PhD student at Loughborough University, I experienced that the role of Loughborough as a well-known space for sporting prowess, appeared to have a number of unique effects during the research process. Three primary impacts were identified. Firstly, many of the interviewees were familiar with the university's sporting reputation, and this provided a degree of confidence in

the research project due to its sporting focus, despite being a geographically orientated one. Following this, the second reoccurring theme was a sense of bewilderment when informed the research was coming from a social sciences background, a similar theme experienced by Waite (2015) who had a similarly sport-themed geographical research project. The final trend was the assumption that I, as a young, active person based at Loughborough University, was a highly skilled and knowledgeable athlete, which often resulted in interviewees downplaying their own athletic ability, or assuming that I may judge them based on their own practice. I found that the best way to counter this perception was to 'play dumb' during interviews (Harvey 2011), deliberately querying jargon terms, making an effort to emphasise the value of the interviewees' achievements, and occasionally asking seemingly obvious questions for clarification.

Leech (2002) suggests adopting a position of being professional and knowledgeable, but ensuring the interviewee is seen to be the 'expert' on the topic under query. This raises important considerations about a researcher's positionality, and the approaches that can help researchers to develop a more neutral positioning in the eyes of the respondent. Interviews are social encounters, imbued with complex power-relations, and being attentive to, and reflexive of these throughout the research process is an essential step in ensuring transparency, as both the researcher and researched have an influence on the nature of the whole research project (Probst 2015).

3.6. Conclusion

Through the implementation of a mixed method empirical approach, this research responds to calls for practice-led research in the social sciences surrounding sport and physical activity (Wiltshire and Stevinson 2018). This chapter has detailed the mixed method approach and comprehensive analysis framework that has been utilised in order to explore the training practices, social worlds and everyday experiences of triathletes in Great Britain. Contextual nationwide data was collected using a large-scale online survey, and participant observation and semi-structured interviews with triathletes revealed more personal, in-depth qualitative insights. Following this description of the methodological framework, and a subsequent 'scene

setting' contextual chapter of the sport of triathlon (Chapter 4), the remaining chapters (Chapters 5, 6, 7, and 8) will present the empirical findings generated from the methodological approach outlined in this chapter.

4. Setting the Scene: Triathlon in Great Britain

4.1. Development

Triathlon is a multi-sport that consists of swimming, cycling and running performed sequentially by an individual, or occasionally as a team. The event itself dates back to 1974, when 46 participants took part in the first modern 'triathlon' held at Mission Bay in San Diego, USA (Hargreaves 2012). The emergence of triathlon mirrored ongoing social trends in the United States and Europe, whereby physical activity had transitioned from primarily elite competitions towards mass recreational participation, conceptualised by Scheerder *et al.* (2015) as the 'fitness revolution' or 'first running boom'. Some sport historians have suggested that events may have utilised the triathlon format as far back as the 1920s, with references to a French event titled 'Les Trois Sports' which included the three disciplines but in reverse order. The first official 'Ironman' triathlon event took place in Hawaii in 1978, when Naval Officer John Collins and his wife Judy, after participating in the earlier Mission Bay triathlon, decided to combine the three toughest endurance events on the Hawaiian island of Honolulu; the 'Waikiki Roughwater Swim', the 'Around Oahu Bike Course', and the 'Honolulu Marathon'. The inaugural 140-mile event had 15 participants (of which 12 finished), and the event has continued to increase in popularity and commercial success year-after-year, achieving international recognition after being broadcast in 1981 (Ironman 2018a). Triathlon's initial move 'across the pond' to Europe occurred at the beginning of the 1980s, following the public's fascination with the televised Ironman event in 1981. An increasing number of events began to take place on the continent in the following years, including a variety of shorter distance events, which have since become the most common participation events. In Europe, during this time, many of the national governing bodies for triathlon were being formed, and in 1984 ten of these national federations (including Great Britain) came together to form the European Triathlon Union. The International Triathlon Federation was formed five years later in 1989, and the first of the sports' World Championships later that year saw British triathlete Glenn Cook finishing in 2nd place (British Triathlon 2018b). Subsequently, triathlon has experienced significant development, becoming an Olympic sport in 2000 and a feature of the Commonwealth Games in Manchester in

2002. Triathlon Relays were later added as an additional event to the 2014 Commonwealth Games. In Rio de Janeiro in 2016, triathlon made its debut in the Paralympic Games. Outside of professional sport, triathlon has seen similarly rapid development, with an abundance of competition and club opportunities becoming available, and a rising number of participants all over the world (Roethenbaugh 2015). Today, the Ironman brand alone, which developed from the original event in Hawaii, sees close to 100,000 participants compete in 40 official 'Ironman' distance events, and nearly 300,000 in its entire range of 220 events worldwide every year (Ironman 2018b). Internationally, the sport has experienced substantial growth in many nations of the Global North, including in Germany (Deutsche Triathlon Union 2018), the USA (USA Triathlon 2016), Australia (Triathlon Australia 2017), and in Great Britain (TIA 2017). However, unlike Great Britain which has seen a decelerating but continued growth of their triathlon community, the other three nations have witnessed a stagnation or slight decline in the popularity of the sport in the past two or three years, suggesting geographical differences in triathlon participation.

Triathlon's history within Great Britain began in 1982, following the formation of the British Triathlon Association at a meeting in Reading. Mike Ellis, a former modern pentathlete, had heard about the Hawaii Ironman events, and more recent events on the other side of the English Channel, and had suggested the initiative to put together a governing body for the sport (British Triathlon 2018b). The first triathlon event in Britain, which acted as the first National Championships, took place in Berkshire and hosted approximately 200 participants. Over the following two decades, Great Britain cemented itself as one of the more successful triathlon nations, with its athletes taking a wide range of honours on the international stage. However, the golden era of triathlon in Britain did not occur until the 2012 Olympics in London, when brothers Alistair and Jonathan Brownlee became the first British triathletes to win Olympic medals, achieving gold and bronze respectively. On the women's side, Helen Jenkins became the highest finishing British triathlete with 5th place. These inspirational achievements on home soil had a significant influence on the growth of the sport, increasing its popularity among the general public, and resulting in an influx of amateur participants. Writing in 2012, Miller (2012) suggested that triathlon was one

of the most rapidly growing adult sports globally. Based on estimates from the TIA's annual triathlete survey, triathlon participation in Britain increased by approximately 60% between 2012 and 2017, and an average triathlon-related expenditure of almost £3000 per year (TIA 2013; Triradar 2018a). High profile success of female triathletes over the same period supported a five percent growth in female engagement within the sport (26% to 31%), although men still make up the majority of participants – 69% (Triradar 2018a). British triathletes again demonstrated their prowess and helped to keep triathlon at the forefront of British sport at the Rio Olympic Games in 2016. Alistair Brownlee retained his gold medal, and his brother Jonathan upgraded his bronze from London, to silver in Rio. Vicky Holland became Britain's first female Olympic medal winner in triathlon with a bronze in the women's event, and at the Paralympic games, Britain achieved gold, silver and bronze in the various classifications of triathlon races. Britain's success at an international level has positioned the sport in the minds of the public, evidenced by a continuous growth in the number of active triathletes, triathlon spending, and the number of triathlon clubs and events (TIA 2017).

4.2. Demographics

Although the initial popularity of triathlon in Britain was heavily influenced by its professional subgroup, governing bodies and interested organisations have since adopted the strategy of marketing the activity as an all-inclusive, accessible, and enjoyable, but challenging pursuit. This is a direction that echoes recent societal changes which have positioned physical activity as a key preventive measure for leading a healthy lifestyle, and as a form of neoliberal self-responsibility (Bridel 2013, Public Health England 2018), in a period that Millington (2018) has described as the 'second fitness boom'. On the BBC's 'Get Inspired' A-Z activity guide, triathlon as being for:

> All ages and ambitions, from mini triathlons for kids to GO TRI beginner events or representing GB at amateur level. There are also a number of women-only events (BBC Sport 2018).

The success of this approach is reflected by the varied demographic of triathlon participants, and the vibrant community of actors, practices, events, and organisations, which together form the triathlon community in Great Britain. Recent estimates by the TIA suggest that the number of active triathletes in Great Britain is approximately 160,000, an increase of 6.7% on the previous year, and 60% since 2012 (TIA 2013, 2017; Triradar 2018a). Out of these 160,000 triathletes, over 31,000 are members of the British Triathlon Federation (19%), entitling them to an annual race license, reduced entry fees for some events, certain legal and insurance benefits, and exclusive discounts for partner brands (British Triathlon 2018b). Over the past few years, significant effort has been directed at creating an accessible landscape to attract women to triathlon, including the provision of women-only events and triathlon clubs, increasing media coverage of elite women events, and breaking-down perceptions of certain sports being a site for the expression of masculinity (e.g. 'This Girl Can' campaign). As a result, the number of women participating in triathlon increased 86% between 2009 and 2016 (British Triathlon 2016), however, women's' representation in the sport has not increased at the same rate as the total number of participants, but has seen development nonetheless, with a 5% increase in the proportion of female triathletes, from 26% to 31% between 2013 and 2017 (TIA 2013, Triradar 2018a). Promisingly, the majority of new starters - those participating in shorter-distance entry-level events – are women. In 2015, there were in excess of 10,000 race starts in GO TRI events, of which 47% were by women (British Triathlon 2016). This trend could possibly reflect ongoing social changes, which are resulting in an increasing number of women participating in sport more generally (Sport England 2018).

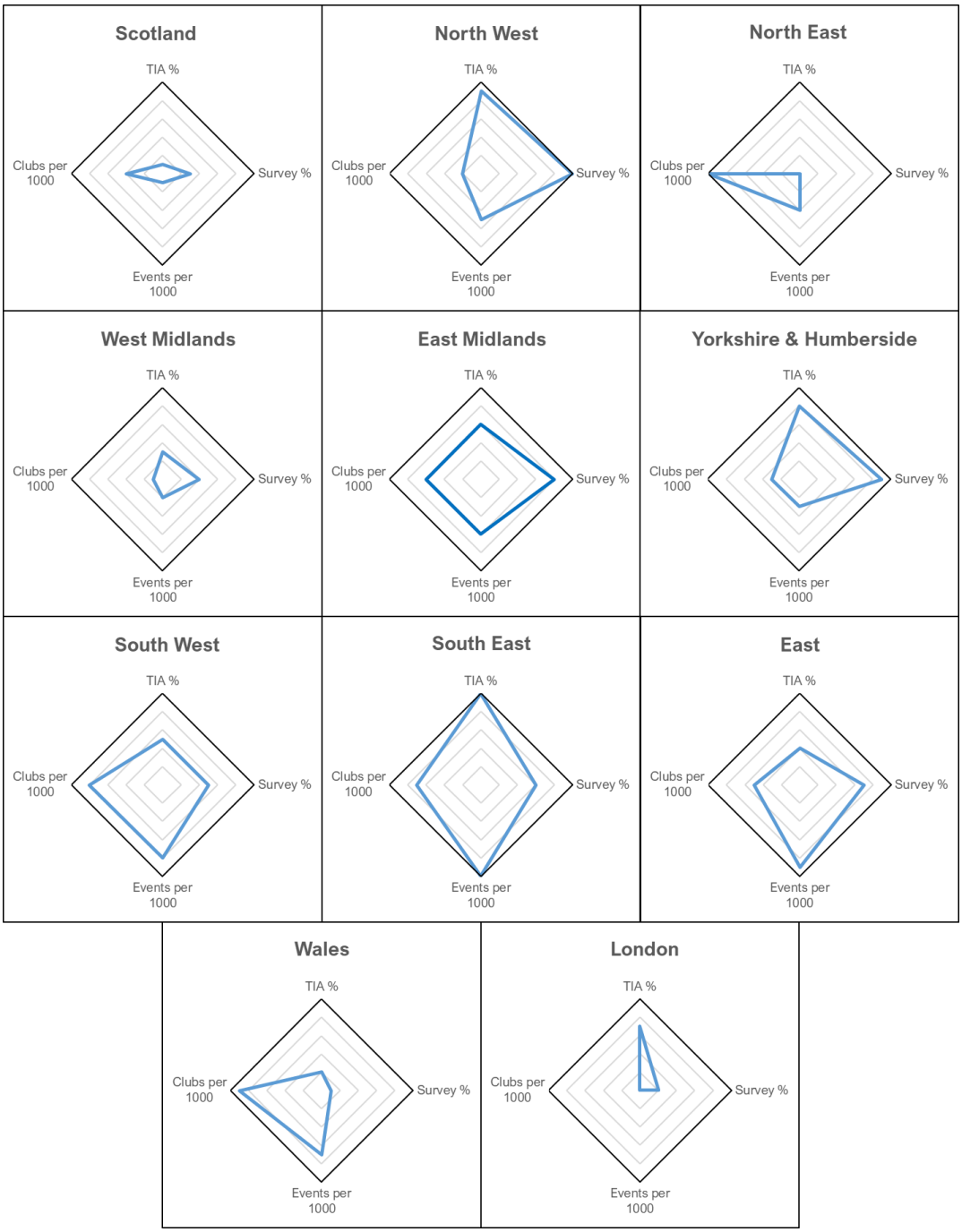
Triathlon participants can be almost any age, with children's 'TriStar' events catering for ages of eight and above, and the upper limit being determined only by an individual's physical ability to get themselves to the finish line. Arthur Gilbert, a British Grandfather from Somerset, completed his 41st triathlon, the Burnham-on-Sea sprint triathlon, at the age of 92 (Evans 2013). Despite an impressive overall range, amateur triathletes are primarily middle-aged, with the peak age group being the 40 to 44 age category, parallel to sports such as cycling, tennis and badminton (Sport England

2018; TIA 2017). Triathlon's two other constituent sports, swimming and running, have a mean participant age of 49 and 39 respectively (Baxter 2017). The combination of equipment, access to training facilities, events and membership often make triathlon an expensive pursuit to engage with, and this is echoed by its primarily affluent participants, with over 50% of triathletes earning more than £40,000 per year, and an average salary of £49,200 (TIA 2017; Wicker *et al.* 2013). However, the 14% of participants who have an annual income of less than £20,000 give evidence that a substantial disposable income is not necessarily a pre-requisite for engagement. Regardless of the significant amount of time triathlon engagement can take up, 63% of triathletes managed to continue taking part whilst having children (TIA 2017).

Triathlon, as a sporting activity, can be observed across the majority of the British Isles, but like many other sports, has its own unique geography, shaped by a range of factors. Figure 3.4 highlights the wide-ranging distribution of triathlon events, and also demonstrates that the presence of triathlon clubs is similarly extensive. Governance of triathlon in Great Britain is overseen by the sport's governing body, British Triathlon, and its three Home Nation Associations, Welsh Triathlon, Triathlon Scotland and Triathlon England. British Triathlon predominantly deals with elite sport, whereas the Home Nation Associations oversee the amateur aspects of the sport, English Triathlon doing so through their ten Regional Committees (See Figure 3.8). As part of UK Sport's ongoing quest for international medal success, British Triathlon has national performance centres in eight cities and towns across Britain, with Loughborough and Leeds also operating World-Class Olympic programmes at their campuses. Results from the TIA's annual survey (2017) indicate that the South East and North West has the highest proportion of British triathletes, with 18.9% and 12.4% respectively (Figure 4.1). Scotland and the North East reside at the bottom of the table, with 4.5% and 3.6%. Collectively, the South of England is home to the greatest share of British triathletes (37.8%), followed by the North of England (26.9%), the Midlands (25.2%) and finally, Wales and Scotland (9.4%). Of course, these figures are difficult to interpret because they do not take into account the regional share of the population. Additionally, there is no guarantee that any attempt

was made to make the survey fully representative of the British regional populations. The fact that triathlete distribution does not directly correlate to factors such as population, income, level of activity, among others, suggests that the underlying geography of the triathlon community is complex, and influenced by a range of different factors. The distribution of important sites within the triathlon social world, namely clubs and events, will be explored in the following two sections (4.3 and 4.4).

Figure 4.1 *– Comparison of regional triathlon representation. Regional share of respondents from TIA annual survey, proportion of respondents from my own survey, number of events per 1000 people, and number of clubs per 1000 people. The data represent regional rank rather than absolute values. Sources: British Triathlon 2016a, 2016b; TIA 2017, Own Survey 2018 (See Appendix E.1 for detailed data).*



The social elements of many forms of exercise are changing, and accordingly, GPS-enabled mobile technologies, and their related applications, have become integral to the everyday practices of triathletes and other endurance sport

participants (Barratt 2017; Hitchings and Latham 2017). During this 'new fitness boom', digital spaces have become important social arenas within the triathlon social world, eliciting opportunities for sharing relevant knowledges, networking, self-reflection, competition, and identity creation without the need for physical presence (Millington 2018). Strava, an application used for collating, analysing and sharing GPS-recorded physical activity, recently reached the milestone of two billion uploaded activities, and experiences 20 uploads to the platform every second (Strava 2018). As was referenced in Chapter 3, triathletes are a group of athletes who have become characterised by their noteworthy level of engagement with social media and other online spaces. The TIA's annual survey in 2017 highlighted that 82% of triathletes are active on Facebook, with 38% using the platform to share their triathlon experiences with their followers (Triradar 2018a). Strava was identified as the tracking application of choice among triathletes, with 52% of triathletes using the platform in 2017 a 9% increase since 2016 (TIA 2017). The influence that club membership and online visibility have on individuals' practice is evident because, those who were members of a club on Strava – meaning that all other club members can see their sporting activity on the club 'dashboard' - uploaded three times as many activities as those who were not. This reflects findings by Paul Barratt on cyclists and the impact digital practices can have on individuals' everyday practices (Barratt 2017; Strava 2018). The growing importance of the digital is not limited to social interaction, but also extends to other aspects of the triathlon social world, including club and event organisation, route planning, and the purchasing of triathlon-related equipment. Consequently, the TIA found that in 2017, 69% of triathletes' expenditure was now online (Triradar 2018a). The role of these online spaces within the triathlon social world, and the impact of digital applications on triathletes' training and competitive practices are significant topics, which have so far eluded academic study, something that this thesis hopes to address.

4.3. Types of triathlon events

Traditionally, those interested in undertaking a triathlon event could choose from four typical triathlon events (sprint, standard, middle and full). Yet, over the years, a number of variant events and disciplines have become increasingly popular, allowing

triathletes to diversify their competitive practices (Table 4.1). This wide range of events has emerged to cater for people of all abilities, levels of commitment, levels of competitiveness, desired expenditures, and discipline preferences. Sprint and standard (sometimes referred to as Olympic) distance triathlon events have been the staple of the triathletes' competitive portfolio for the past few decades and remain popular. Despite the unrivalled commitment, gruelling training, and general physical, mental and monetary expense that longer middle and full distance events require, the sheer challenge and experience offered by these events has resulted in a growing number of finishers in the last few years (Atkinson 2008; Käch *et al.* 2018; Ironman 2018b). At the opposite end of the spectrum, the influx of new primarily recreational participants into triathlon has resulted in the increasing availability of a range of shorter-distance triathlon and variant discipline events. Schemes such as GO TRI, Try a Tri, Come & Tri, among others, offer opportunities to compete in short, inexpensive, 'no thrills' triathlon events, with the aim of teaching new participants the rules and norms of event participation in a relaxed environment, breaking down the barriers to further involvement. Additionally, these schemes regularly offer multisport variant events, such as aquathlons (swim-run), aquabikes (swim-bike) and duathlons (bike-run), to give those with low confidence in a particular discipline, or with certain injuries, a chance to still take part. These variant events also have larger, more serious counterparts, with sprint, standard and long-distance options, and even a world championship available in each discipline.

Table 4.1 *- Common triathlon event types*

Event Type	Swimming distance (m)	Cycling distance (km)	Running distance (km)	Number of events in UK
Super sprint	400	10	2.5	49
Sprint	750	20	5	160
Standard (Olympic)	1500	40	10	69
Middle (70.3)	1900	90	21.1	26
Full (Ironman/120.6)	3900	180	42.2	8

Notes: Other popular multisport events include duathlons (bike-run), aquathlons (swim-run) and aquabikes (swim-bike). Duathlons come in sprint, standard and long course variants. Aquathlons similarly have sprint and standard variations.

For those who have yet to see the appeal of, or have the confidence to complete consecutive activities, want to undertake a challenge with friends, or just want a change from the norm, triathlon relays have become an optional discipline at the majority of sprint, standard, middle and full distance events. Typically, a triathlon relay will involve a team of three individuals, undertaking one of the three constituent disciplines before handing over to the next member of their team, the main benefit being that one does not need to be a triathlete, or have triathlon experience to take part. Another variant of the triathlon relay involves teams of four (often mixed) completing a short triathlon before handing over to the next member. This format stems from elite triathlon, being introduced by the International Triathlon Union in 2009, and then debuting at the Glasgow Commonwealth Games in 2014 but is utilised for the Triathlon England Relay Championships in Nottingham, the largest amateur relay event in Britain. With the growing success of international and domestic relay events, and the recent addition of mixed triathlon relays to the roster at the Tokyo 2020 Olympics (postponed due to the COVID-19 health crisis), it is probable that triathlon relays will continue to increase in popularity at an amateur level too (Cernuda 2017). The majority of seriously inclined amateur triathletes can be categorised as ‘age-groupers’, vying to perform well in comparison to other triathletes in the same age group as themselves. These age groups, as defined by

British Triathlon, begin at age 20 and are categorised in five year increments up to 79, with 80+ being the oldest grouping. Most larger events offer prizes for the top male and female finishers in each age group, creating a competitive atmosphere that extends beyond the younger, peak physical condition of athletes who dominate most endurance events. Certain 'Championship' events provide age-group athletes with the opportunity to qualify and compete internationally for Great Britain after the prime ages of performance, perhaps one of the factors that contributes to triathlon's older demographic compared to other sports. Despite not being in the remit of this research project, it is important to highlight the dynamic junior triathlon culture in Great Britain. The British Triathlon event list suggests that there are over 500 events which have specific children-friendly races available, almost as many as for adults (British Triathlon 2017a). However, junior triathlon events and clubs have been excluded from the following analysis, as participants under the age of 18 were excluded from all research samples. Junior triathlon is equally, if not more vibrant than adult triathlon, and would form an interesting research project in itself.

4.4. Clubs

Sports clubs are widely recognised as being important sites within sporting social worlds, acting as a space for community interaction, for the expression of sporting identities, and for sharing relevant knowledge and information (Shipway *et al.* 2012). Accordingly, these clubs often act as local centres of triathlon activity, offering opportunities to introduce new people to the sport. Established triathletes have the chance to train and socialise together, and often to help organising and providing volunteers for the abundance of triathlon events. Figure 3.4 helps to visualise Great Britain's vibrant triathlon club landscape, with more than 600 active clubs based in locations across all regions, and an additional collection of online-based club-like communities situated in digital space (British Triathlon 2017b). It is widely accepted that both running and cycling can be performed almost anywhere, and do not necessarily require purpose-built facilities to be practiced (Cidell 2014; Giles 2016; Qviström 2017). Therefore, the much less spatially flexible discipline of swimming often becomes the anchor and social centre of many triathlon clubs. British Triathlon sort their recognised clubs into four different classifications; community (76.8%),

informal (11.2%), trade (7.5%), and internet-based clubs (4.5%). The term ‘community’ describes an organised amateur not-for-profit club with regular club activities. ‘Informal’ associations are private athlete groups formed for race participation alone, and ‘trade’ clubs encompass sponsored race teams and closed performance-orientated racing teams (British Triathlon 2018c). ‘Internet based’ clubs are a very loosely defined group of adults who are connected through their representation within a web-based forum, although one could argue that the sheer number of online forums on platforms such as Facebook, Instagram, and Strava would be impossible to quantify, and therefore have been excluded from club counts. Nonetheless, the attempt to account for digitally-located clubs is telling regarding the importance of the digital in triathletes’ social practices.

The majority of triathlon clubs are located in the South East (18.0%), which stands out quite significantly over the next closest regions, with the North East demonstrating the lowest share, having only 5.9% of British Triathlon recognised clubs (Figure 4.1). Taking the South West out of the equation highlights a much smaller level of variation among the other British regions, ranging from 14.3% of events in the South West, and 7.2% in the North East. Accounting for regional population by calculating the ratio of people in the region per triathlon club, the North East, the region with the lowest share of events, emerges as a hotspot of triathlon activity (Figure 4.1). Wales also rises up the ranks substantially, with an impressive one club for every 74,700 Welsh residents. London, due to its extensive population, and low share of events, falls far behind the other regions, with a mediocre one club for every 227,000 individuals. Combing regions in order to represent larger geographical areas results in a slightly clearer picture of triathlon club distribution (Table 4.2). In terms of the share of total clubs, there is a clear decrease in club numbers moving from the South (35.8%), up through the Midlands (26.4%), to the North of England (21.4%), with the more sparsely populated Scotland and Wales having a modest combined share of clubs (16.4%). Looking at the ratio of clubs to population, gives us a changed understanding of the triathlon club landscape, with Scotland and Wales leading the way, followed by the Midlands, the South, and the North remains unchanged with the highest ratio of people per club (Table 4.2).

Table 4.2 *- Extended geographical region overview of triathlon clubs in Great Britain (British Triathlon 2017a).*

Region	**Population** (millions)	**Triathlon clubs**	**Ratio of clubs to population** (Clubs per 100,000 people)
Scotland and Wales	8.36	105	1.26
Midlands	13.33	162	1.22
South	18.63	225	1.21
North	12.34	129	1.05

4.5. Events

In order to provide for the diverse needs of the growing triathlon participant base, a range of events offering an assortment of distances, discipline combinations and swim types exist in the contemporary triathlon landscape (See Table 4.1). Traditional triathlons, such as Ironman, continue to flourish among hyper-motivated, experienced athletes, and a plethora of accessible events aimed at beginners and recreationally-inclined individuals have become increasingly popular over the last decade, attracting a new demographic to the activity (Graham 2016). Much like triathlon clubs, events act as important spaces within the triathlon social world, encouraging interaction and the sharing of experiences (Shipway *et al.* 2012). Additionally, volunteering, which is regarded as one of the features of serious leisure engagement, and a regular characteristic of social world membership, is considered to be integral to the running of triathlon events and clubs (Stebbins 2001).

Based on a compilation of data from British Triathlon's 'find an event' section on their website, 517 officially recognised adult triathlon events were identified in 2017 (British Triathlon 2017a), a number that has been increasing for, at least, the last decade (Arnott 2008). Searching on the website whilst writing this section highlights a 2.6% increase in the number of events for 2018, a sign that the triathlon event scene is still dynamic and growing. Of these 517 events identified in 2017, the

majority are shorter-distance events, such as sprints (30.4%), aquathlons (19.9%) and super sprints (18.8%). These short distance events typically have fewer logistical challenges associated with them, such as the number of road closures and the level of event insurance required, and are therefore easier to organise, resulting in their greater quantity. In the same vein, long-distance triathlon events are limited in number due to the complexity of their organisation, although their exclusivity and the degree of challenge they offer results in the largest average number of participants compared to any other multisport event (see Table 4.3). Triathlon is often associated with high levels of expenditure, and analysis of event entry costs goes some way to confirm these connotations. Generally, event cost increases with the length of an event, because of staff, road closures, insurance and other costs, and therefore, it is expected for a participant to depart with at least £100 to take part in the longer distance events. A full-distance Ironman alone would amount to £400, not including the price of travel, accommodation, equipment and all of the training required to complete one. Fortunately, for those with limited disposable income, short-distance entry level events are significantly more affordable, at the same time as being more regularly available (Table 4.3). Despite being accessible to most at some level, triathlon event participation is clearly to some extent dependent on income, and therefore, shaped by socio-economic differences.

Table 4.3 *- Details regarding triathlon events in Great Britain in 2017. Data amalgamated from more than 500 specific event websites.*

Event type	**Number of events**	**Average price** (£)	**Average size** (No. of competitors)
Sprint	157	45	194
Aquathon	103	14	70
Super Sprint	97	26	88
Standard	71	64	250
Duathlon	39	25	49
Middle	30	137	366
Other	12	48	113
Full	8	312	775

Some of the more popular triathlon events in Great Britain are those which have combined with existing elite events, allowing amateur participants to compete on the same course as their professional counterparts. Having a corresponding elite contingent is one of the determining factors for making an activity a form of 'serious leisure', as conceptualised by Stebbins (1992). Additionally, the ability to perform triathlon activity in spaces that are typically reserved realms of motorised transport creates an extra appeal of permitting a temporary transgressive occupation of certain spaces (Cidell 2014). The AJ Bell London Triathlon is the largest event that Britain has to offer, with over 3500 taking part in the Standard distance event around the streets of London, and over 2000 opting for the shorter sprint distance option. The allure of Ironman events is clearly evident, with close to 3000 undertaking the challenge of a full distance triathlon at Ironman Bolton, and 2400 taking part in what is considered one of the more challenging events worldwide, Ironman Wales. Ironman's middle-distance variants were similarly popular, witnessing 2700 and 2000 athletes completing events at Weymouth and Edinburgh respectively. Following these major events, is the AJ Bell World Triathlon Leeds, which sees close to 1500

amateur participants completing the standard distance event on the course that is later used for the International Triathlon Union elite event in the afternoon. One final notable event worth mentioning is the largest ‘relay’ event in Britain, the Triathlon England Club Relays hosted at Holme Pierrepont in Nottingham, involving 860 athletes in 215 four-person teams, representing 50 different clubs from across the country.

Similarly to triathlon’s participants and clubs, despite a generally well dispersed availability of events across Britain, event locations are clearly influenced by a range of spatial factors, giving them a unique geography. Generally, the number of events closely corresponds to the number of active clubs in a region, highlighting the role of clubs in the organisation of and participation in these events. Of the 517 events in Britain, the majority are located in the South East (25.1%), taking into account regional population, this results in one event for every 66,000 residents. In stark comparison, London, as a national centre for many other sports, has a disappointing one event for every 389,000 of its residents. In comparison to its number of clubs, the East emerges as an important site for event hosting, with the second highest number of events per person in the region, followed by the South West, Wales and the East Midlands (Figure 4.1). The number of events that a region hosts goes some way to help determine how active its triathlon community is, however, it is essential to consider the mobility of triathletes with regards to participation in events. Research by the TIA (2017) identified that the majority of triathlete’s are inclined to travel considerable distances in order to compete in triathlon events. This trend is further reflected by the 24% of triathletes who have taken part in a triathlon race overseas (TIA 2017). Grouping together regions and events into broader categories indicates that longer events are primarily located in the South of England, and their regularity decreases moving North, where shorter events take precedence. Swim type is the one variable that is understandably determined by physical geography, with access to open water being the limiting factor, and this is no more evident than in the case of sea swims (Figure 4.2). The size of the event is also liked to the limitation of swimming pool sizes because larger events often utilise open water sources where space is less restricted. Lakes and reservoirs are typically preferred as open water

swimming venues due to their predictability and high visibility, whereas sea swims are less regularly used because of their potential to be dangerous, although the challenge – and their cold nature - can be appealing to the resolute few. Smaller events, such as super sprint and sprint events, are almost exclusively performed in swimming pools, due to the desire to keep event costs down. Accordingly, 50% of events held their swims in swimming pools, 31% in lakes, 8% in the sea, and the remaining events in rivers or docks.

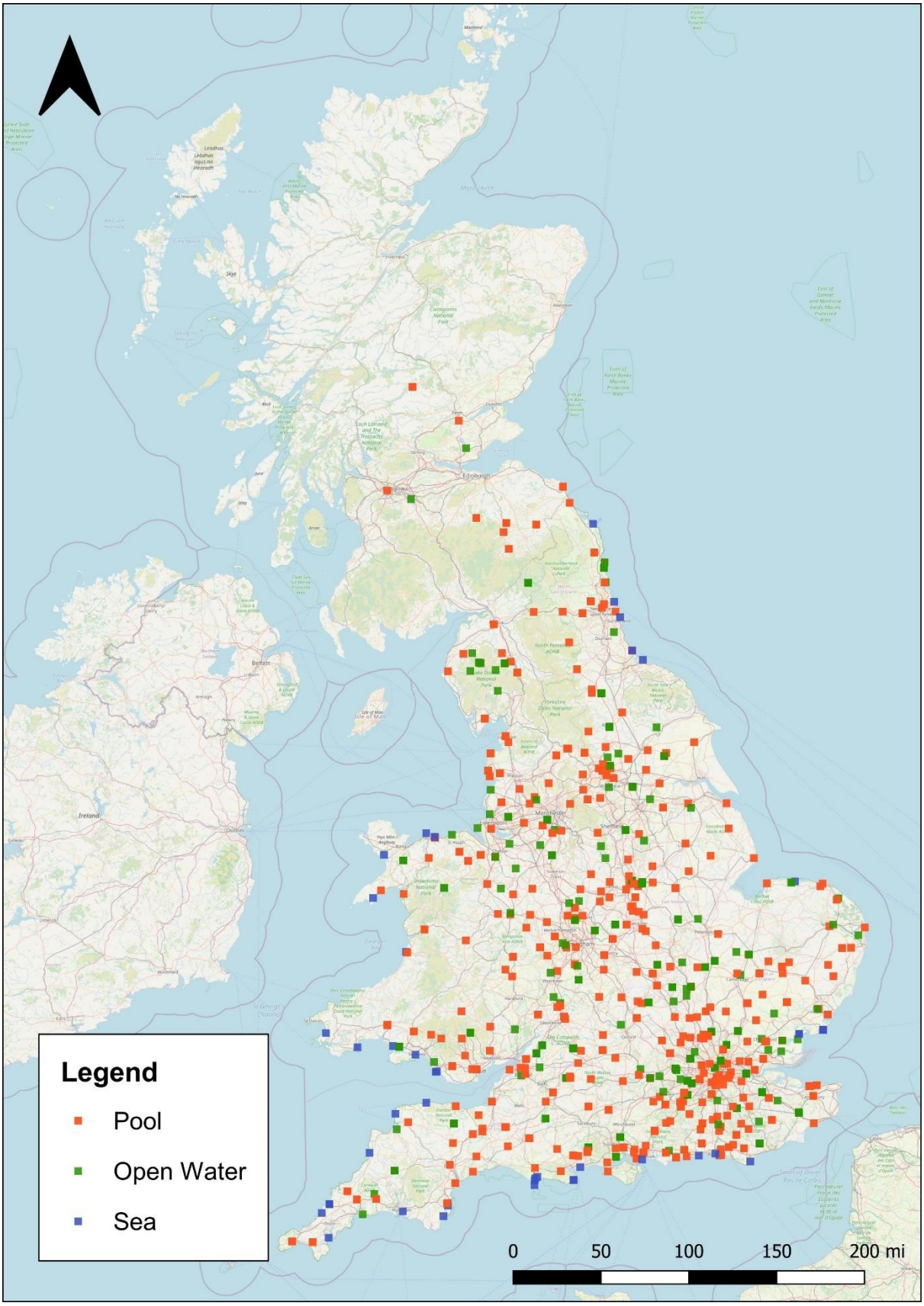


Figure 4.2 *– Spatial distribution of triathlon events in Great Britain by swim type (Source: British Triathlon 2017a, 2017b).*

4.6. Summary

In comparison to many of the sports widely practiced in Great Britain, triathlon stands out as a relatively new, but widely appealing activity. The past 30 years have witnessed exceptional levels of success of professional British athletes, resulting in a continued growth in the sport's popularity, and a substantial increase in the number of amateur participants, clubs and events (TIA 2017). Today, the triathlon community in Great Britain is widespread, with a vibrant club and event scene, a large number of different event variants and different forms of triathlon engagement. The world of triathlon has its own unique geography, one that has a growing digital counterpart, evidenced by the increasing use of GPS tracking technologies and their associated social platforms. Using a combination of quantitative and qualitative research methods, the following four sections will examine different aspects of the triathlon community in Great Britain. The first will expand on previous national-scale research on triathlon, with a specific focus on the everyday practices of triathletes in the context of 'serious leisure'. The second will explore the geographies and spatialities of triathletes' training and competition practices. The third section will then discuss the social elements of triathlon involvement, specifically club membership and identity, through the theoretical lens of the triathlon 'social world'. The fourth empirical section then uses detailed qualitative insights to explore the role of the digital – such as social media platforms and activity tracking and sharing applications – within the triathlon social world.

5. Triathlon as Serious Leisure

5.1. Introduction

5.1.1. Participants and their practices

Triathlon is an activity that has experienced considerable growth over the past decade, particularly in Great Britain where the number of participants has increased from an estimated 100,000 in 2013 to almost 165,000 in 2019 (MultiSport Research 2019). Despite this growth, triathlon has generally eluded significant study within the social sciences, especially using the conceptual and analytical tools that have come to define human geography.

The profiles, practices and motivations of triathletes have been the focus of a limited number of academic research papers and organisational reports, but these have typically originated with a commercial focus in order to demonstrate the marketing potential of triathlon (MultiSport Research, 2017b; Triathlon Industry Association, 2017; Wicker *et al.* 2013). Previous research has also explored the motivations and barriers to triathletes' level of engagement within the activity (Simmons *et al.* 2016). These insights have been illuminating with regards to the demographic makeup of the triathlon participant base and have provided basic details related to their training practices and motivations but have been notably lacking in consideration of the influence of social difference, involvement intensity and the role of socialising in clubs to provide deeper insight into the triathlon community. Simply, very little attention has been given to the question of how distinct combinations of profiles and motivations coalesce into training practices and types of serious leisure engagement.

Following suggestions that there is an absence of research into the sporting activity practices in different nations, this research contributes to new limited insights into recreational and competitive triathlon in Great Britain, and triathletes' associated practices (Cleland *et al.* 2019). Accordingly, the following section focuses on empirical findings from a quantitative online survey, the scope of which extends beyond previous understandings of triathletes in Great Britain, covering topics such as triathlete profiles in addition to training, social and digital practices. To better

understand the defining characteristics of triathlon engagement within the wider triathlon community, an analytical typology is proposed to analyse the social nature of the British triathlon world. This typology helps to identify the key influences of competitiveness, training intensity and club membership in the training and social practices of triathletes and how these aspects relate to different axes of social difference.

The following chapter explores the key question to what extent triathletes' engagement with the activity reflect one of serious leisure. By viewing triathlon through the lens of the serious leisure framework (Stebbins 1992), the following chapter aims to provide detailed insight into the social profiles and lifeworld's of British triathletes to better understand the demographic and cultural landscape of triathlon in Great Britain, and to identify the characteristics which have come to define this burgeoning, active and passionate community (Stebbins 1992).

5.1.2. Chapter overview

The following chapter starts by providing an overview on the demographic profiles of triathletes based on an online survey of 591 active participants, comparing the sample to previous surveys of the triathlete population. Section 5.2 continues by proposing a seven-category typology of triathletes based on training intensity, competitiveness and club membership. This typology acts as an analytical focus for further detailed comparisons of social differentiations in the triathlon world throughout this chapter. Section 5.3 then focusses on the variety of facilitators and barriers to triathlon engagement, with a particular focus on how these vary based on social difference and the extent of triathlon commitment. The intense level of commitment and dedication required to permit sustained involvement in triathlon has resulted in the activity being considered as a form of 'serious leisure' (Atkinson 2008; Stebbins 1992). Yet, this association has often meant that academics have focused their attention on the most committed sub-section of triathletes. Accordingly, Section 5.4 examines practices of training, competition and socialising that characterise everyday triathlon engagement across all degrees of participation.

5.2. Profiles of triathletes

Before understanding the practices that come to define a particular cultural group, it is important to understand the complex, yet distinct, characteristics of the individuals who collectively make up the community in question. Previous large-scale surveys of the triathlon population have identified that, similarly to running, triathlon is a sport with an atypical participant base in terms of age (Breedveld *et al.* 2015; Giles 2016). Most sport participation generally decreases with age, whereas triathlon participation peaks later, with participants in their 40s making up the largest group of triathletes (TIA 2017; USA Triathlon 2016; Wicker *et al.* 2013). Physical activity choices during leisure time are significantly impacted by socioeconomic status, and triathlon is no exception. Triathlon is widely associated with being a middle-class endeavour, with some academics suggesting that ideologies of consumption and individualism, and the neoliberal discourse of self-responsibility for one's own health, have encouraged middle-class citizens to seek out distinct fitness activities (Atkinson 2008; Bridel 2013; Niedzviecki 2004).

In this wider context, triathlon participants typically have a higher average income than participants in many other sports, with suggestions by the TIA (2017) that, in the United Kingdom, the average triathlete income was £49,200 per year - in comparison to approximately £29,600 nationally (Office for National Statistics 2018b). Additionally, the average annual individual expenditure on the sport was just shy of £2,900 (MultiSport Research 2019). Previous research has also underlined triathletes' exceptional training practices, with Atkinson's (2008) Ironman-specific research suggesting that triathletes trained an average of 15 hours over 6 days every week. Less competitively-focused research from Germany suggests that triathletes devote 9 hours to training per week (Wicker *et al.* 2013). The triathletes in this survey had an average age of 42, a median income of £34,930, and a mean of 6 years of involvement in the sport. On average, they have taken part in 5 events every year, and trained for 9 hours over 8 sessions every week. The following analysis is based on Table 5.1, which provides a summary of the key demographic and training practice indicators of triathletes from the online survey conducted as the primary quantitative aspect of this research. Furthermore, Table 5.2 compares some of the

key indicators of triathlon engagement in this study with previous surveys of triathlon populations across the world to provide some comparative context.

Table 5.1 *- Demographic characteristics and practices of survey respondents (n=591).*

Indicator	n	(%)
Gender		
Male	343	58.1
Female	247	41.9
Age		
18 to 29	103	17.4
30 to 39	127	21.5
40 to 49	212	35.9
50 or more	149	25.2
Marital Status		
Married	415	70.2
Single	134	22.7
Divorced	29	4.9
Separated	13	2.2
Ethnicity		
White British	548	92.7
White (other)	28	4.7
Other	7	1.2
Mixed/Multiple ethnicity	5	0.8
Asian/Asian British	3	0.5
Income		
Less than £20,000	124	23.0
£20,000 to £29,999	92	17.1
£30,000 to £39,999	104	19.3
£40,000 to £59,999	117	21.7
£60,000 or more	102	18.9
Years of Involvement		
Less than 3 years	176	29.8
3 to 5 years	242	40.9
More than 5 years	173	29.3
Training Hours per Week		
0 to 6 hours	197	33.4
7 to 9 hours	191	32.4
10 or more hours	201	34.1
Events per Year		
0 to 2	196	33.2
3 to 5	234	39.6
More than 5	161	27.2

Table 5.2 *- Comparison of key demographic characteristics and practices of triathletes with previous research surveys.*

	Research Survey	**TIA**	**Wicker *et al.***	**USA Triathlon**	**Atkinson**
Location	Great Britain	United Kingdom	Germany	USA	Canada (*Ironman*)
Year	2017	2017	2013	2016	2008
Mean Age	42	43	36.7	40-49	n/a
Male/Female	58/42%	72/28%	78/22%	65/35%	n/a
Average Income	£34,930	£49,200	£22,500	n/a	n/a
Time in the sport	6 years	n/a	7.4 years	n/a	7 years
Weekly training	8.7 hours	n/a	9.1 hours	n/a	14.5 hours
Club membership	84.8%	n/a	74.8%	49%	n/a
Middle-distance event participation	28.8%	n/a	48.7%	n/a	n/a
Events per year	5	n/a	n/a	3.41	n/a

The age distribution of the survey sample reflects previous age profiles from other large-scale studies of triathletes, with the majority of respondents aged in their 40s, and decreasing numbers in age groups on either side (Figure 3.7). Cleland *et al.* (2019) suggest that participation in activities like triathlon represent an important means of developing social capital amongst this older, educated contingent. In contrast to previous studies, triathletes aged between 20 and 24 were overrepresented in this study, likely due to the number of University triathlon clubs that were contacted as part of the survey dispersal strategy (Appendix A). Despite this, the survey effectively represents the entire range of participant ages that engage in the sport. In comparison to previous research on triathletes' demographics, income appears to average lower, which may reflect the slight overrepresentation of the 20 to 24 age group. The presence of 23% of respondents

earning less than the national average could also suggest that attempts to increase the financial accessibility of triathlon, through the provision of low-cost entry-level events, are resulting in some degree of change.

The survey sample echoed assumptions that triathlon is a middle-class endeavour, with 59% of participants educated to a degree-level, and 86% holding an A-level qualification or higher. Typically, higher income respondents were significantly more likely to be educated to a degree-level or above. Furthermore, the survey sample also overrepresented women, with women accounting for a 42% share of respondents. Despite not necessarily accurately reflecting the gender imbalance in triathlon - 68% men and 32% women according to MultiSport Research (2019) - the overrepresentation of women is important for providing an understanding of the varied motivators and barriers, training practices and characteristics of triathletes in Great Britain. With the share of women in a variety of sports, including triathlon, continuing to increase, it has never been more relevant to consider and understand fully the practices and experiences of female triathletes, and the extent to which they mirror or differ from those of their male counterparts (Fink 2015).

Much previous research in geography and the social sciences on physical activity and sport has focused on the most skilled and devoted of participants. Research regarding triathlon has been particularly susceptible to this pigeonholing, with the majority of social science articles focusing specifically on Ironman-branded event participants (Atkinson 2008, Bridel 2013, Granskog 2003, Lamont *et al.* 2014, Lamont and Kennelly 2012). In contrast, this research hopes to respond to recent calls for giving attention to the broad spectrum of sport engagement, to help illuminate the often-overlooked practices and experiences of the average sports participant (Andrews 2016). The demographic and training practice indicators detailed in Table 5.1 support the aim of overcoming this elitist focus, and instead, account for the varied practices and experiences of a great range of triathletes in Great Britain. A brief look at Table 5.1 highlights that the survey respondents are very diverse, encompassing triathletes from a range of social distinctions, stages of experience and levels of engagement.

With the exception of a handful of valuable research studies (Shipway *et al.* 2012), the important roles of activity-specific sports clubs, beyond purely providing individuals with a place and time to perform said activity, have been largely overlooked. Clubs have been identified as key spatial centres for sporting communities and vital entities for fostering social interaction, identity development, a sense of belonging, and enabling the sharing of experiences (Forsdike *et al.* 2017; Shipway *et al.* 2012). Triathlon clubs and communities are important organisations within the triathlon community, with 85% of participants belonging to a triathlon club. The social function of triathlon clubs is also evidenced by the significant proportion of respondents who performed the majority of their training with others (56%). The discrepancy between the high share of club members and the considerable proportion of those who train alone identifies an important consideration for digital practices in Chapter 8. Although 44% of respondents performed the majority of their training alone, social interaction was still a key interest of theirs, evidenced by the lesser, yet still considerable, importance of triathlon as a social activity for those more individualistic triathletes (see Appendix E.2).

Taking gender into account identifies a slightly different picture, with men significantly more likely to train on their own[1] (52% of men in comparison to 31% of women), and women opting to engage more frequently in social training practices. Other triathletes are an essential source of information regarding the unique knowledges and practices of the activity, which is evident from the tendency of newer triathletes to train as part of a group. 53% of respondents who had been involved in triathlon for less than three years trained with a group, whereas only 29% of those in the sport for more than 5 years did the same[2]. Age also had an apparent impact on triathletes' tendency to train with others, with middle-aged triathletes more likely to train on their own[3], which reflects the reduced amount of leisure time typically associated with this stage in one's life, necessitating a greater degree of individualism and reduced flexibility in their leisure practices. The same themes were

[1] X^2 df(5) = 26.687; $p = 0.000$.
[2] X^2 df(2) = 23.601; $p = 0.000$.
[3] X^2 df(3) = 23.717; $p = 0.000$.

observed in relation to income, with a strong positive correlation between annual income and the tendency to train alone[4]. In contrast, the youngest and oldest groups of respondents were more likely to perform their training within a group[3], which was reinforced by the strong relationship between triathletes of these age categories and the importance of triathlon as a means of socialising (Appendix E.2). In addition to increasing individuals' likelihood of training with others, club membership also encourages altruistic social practices, with over two thirds of club-affiliated respondents engaging in some form of volunteering activity[5].

5.2.1. Existing typologies

A typology is an analytical tool that enables the researcher to classify respondents according to defining differences or commonalities, helping to better understand the importance of different factors depending on the interests of the research project. Using a typology selectively limits the number of ways that the data can be explained in order to identify the importance of specific key factors more efficiently and effectively:

> The advantage of the typology approach lies in its ability to focus on specific societal attributes and to group together a number of (people) that share the attributes, without necessarily providing an in-depth and separate analysis for each (Lewin-Epstein and Stier 2006).

Typologies generally assume that individuals' practices, attitudes and behaviours remain static, whereas in reality, triathletes are likely to transition between these groups, and would arguably be more appropriately explained using some form of continuum. As highlighted by Shipway (2010), typologies represent useful analytical tools for understanding sports participants, but it is important to couple their development and application with in-depth qualitative analysis to avoid overlooking participants who fit into multiple classifications or move between them temporally. For the purpose of this section, a typology has been created as an important means of identifying some of the most significant factors differentiating the triathletes in this

[4] X^2 df(4) = 18.671; p = 0.001.
[5] X^2 df(1) = 49.885; p = 0.000.

study's survey (based on a two-step cluster analysis). Before this typology is discussed, existing typologies will be introduced to enable comparisons and make the proposed typology more robust.

An array of previous sport-related research has attempted to sub-categorise physical activity participants (Table 5.3). Sport England, in their 'Getting Active Outdoors' report (2015), have devised eight segments of the outdoor physical activity participant base, differentiated by motivations such as the desire for personal achievement, excitement, and social tendencies. Motivations of sports participants clearly have an important influence on their practices, with a range of other researchers utilising motives as differentiating variable in their analysis. Piwek *et al.* (2015) use a typology based on motivation to distinguish between activity tracking cyclists, whereas Ogles and Masters (2003) use motivations such as physical health orientation, social affiliation, self-esteem and weight-loss to develop categories of marathon runners for further analysis. Other running-based studies that adopted a typology approach include Smith's (1998) typology of long-distance runners, Nettleton and Hardey's (2006) classification of charity runners in mass-participation events, and Shipway *et al.'s* (2012) distance running social world typology (see Figure 2.2).

Table 5.3 *– Overview of existing physical activity typologies.*

Author(s)	Context	Factors considered	Categories
Sport England (2015)	Typology devised for marketing-orientated segmentation of outdoor physical activity participants.	Motivation, level of engagement, solo/group activity, intensity.	Explorer; Challenger; Fitness in Nature; Tribe Member; Adventurer; Learner; Freestyler; Thrill Seeker.
Piwek *et al.* (2015)	Based on an online survey into self-monitoring practices amongst cyclists.	Regularity of self-tracking technology use.	Non-trackers; Trackers (low engagement); Trackers (high engagement).
Ogles and Masters (2003)	Motivation-based typology of marathon runners.	Various physical, social, achievement and psychological motives.	Running enthusiasts; Lifestyle managers; Goal achievers; Personal accomplishers; Competitive achievers.
Smith (1998)	Investigation into British recreational road running participants.	Level of ability.	Athletes; Runners; Joggers.
Nettleton and Hardey (2006)	Considers how fundraising during mass participation running events can contribute to the development of 'charitable bodies'.	Level of orientation to running and level of orientation to charity.	Fun runner; Runner for charity; Leisure runner; Purist runner.
Shipway *et al.* (2012)	Adaptation of Unruh's (1980) social world concept to make it applicable to the social world of distance running.	Level of engagement with distance running community.	Experienced insiders; Regular runners; Occasional runners; Sporting outsiders.
Wicker *et al.* (2012)	Marketing-orientated study on triathletes.	Behaviour, lifestyle and demographic factors.	Serious pursuiters; Sport lovers; Socialisers.
Harada *et al.* (2010)	Development of a typology of triathletes to inform future marketing activities.	Motivations for engagement.	Maniacal triathletes; Potential to become maniacal triathletes; Unclear motivation; Waning motivation.
Myburgh *et al.* (2014)	Motivation-based typology of Ironman athletes.	Seven motivational factors.	Devotees; Enthusiasts; Aspirationals.

Despite the limited research focussing on triathlon, typologies have also been used to classify triathletes for the purpose of more in-depth analysis. Relevant studies include:

- Wicker *et al.*'s (2012) market segmentation of German triathletes into three groups based on orientation to triathlon; 'serious pursuiters', 'sport lovers', and 'socialisers'.
- Harada *et al.*'s (2010) four clusters of Japanese triathletes. 'Maniacal triathletes', 'triathletes with the potential to become maniacal', 'experienced triathletes with a tendency of decreasing motivation', and 'triathletes with unclear motivation'.
- Myburgh *et al.*'s (2014) marketing segmentation typology of South African Ironman participants based on seven motivational factors – 'challenge', 'inner vie', 'health and fitness', 'intrinsic achievement and control', 'event novelty', 'group affiliation and socialisation', and 'respect and risk'.

Despite the presence of these studies, typologies have not yet been used to perform a comprehensive and in-depth analysis of the varying training and social practices of triathletes. Neither have they focussed on the triathlon participant base in Great Britain.

Factors such as intensity (regularity of training vs. level of engagement), competitive motivation and club membership emerged as the most significant factors when comparing variables from the online survey, and accordingly, these three variables were included in a two-step clustering procedure to develop the sevenfold typology on triathlon as serious leisure detailed in the following section (Appendix F). Generating this typology was beneficial in that it enabled the analysis of similarities and differences between different types of triathletes within the empirical data, whilst simultaneously reflecting the importance of intensity, regularity and club membership, something previous typologies of triathletes have not. This typology of triathletes will then be utilised throughout this study as a conceptual frame to investigate the variances in training, social and virtual practices of triathletes.

5.2.2. A sevenfold serious leisure typology of triathletes

This section provides an overview of the variables used to develop the multi-dimensional classifications underlying the typology of triathletes developed in this chapter. Quantitative analysis of the online survey data and a resulting two-step cluster analysis has revealed three key variables which help to differentiate survey participants into seven distinct groups (see Table 5.4 and Figure 5.1). These variables are competitiveness, intensity, and club membership.

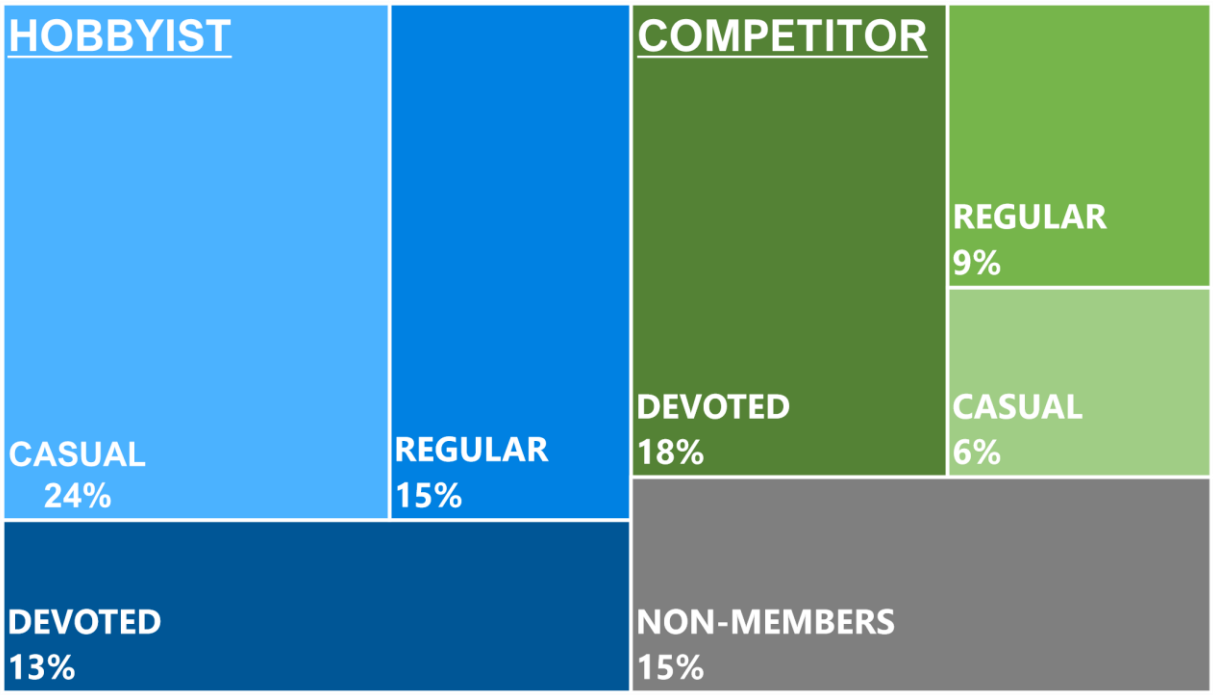


Figure 5.1 *– A serious leisure typology of triathletes. Source: Own survey 2018 (n=591).*

Table 5.4 *- Overview of triathlete typology classification.*

	Intensity	Club Member?	Competitively Motivated?	n	%
Devoted Competitor	High	Yes	Yes	108	18.3
Devoted Hobbyist	High	Yes	No	79	13.4
Regular Competitor	Medium	Yes	Yes	51	8.6
Regular Hobbyist	Medium	Yes	No	87	14.7
Casual Competitor	Low	Yes	Yes	36	6.1
Casual Hobbyist	Low	Yes	No	140	23.7
Non-Members	Low (46%)	No	No (76%)	90	15.2

Competitiveness

Despite not being the most commonly cited motivation for triathlon engagement, competition did emerge as one of the most interesting variables in terms of its relationship with practices and elements of social difference. Competition as a motivation had a significant relationship with gender[6], regularity of training[7] and regularity of competition[8].

It is important to highlight that the nature of competitiveness in this context is subjective and associated with the respondent's perception of themselves and may not necessarily reflect their true competitive tendencies. 'Competitive' survey respondents chose to select competition from a pre-defined list of motivations, but it became clear, when spending time with a range of triathletes, that the definition of being 'competitive' varied considerably between individuals. Nevertheless, the perception of one's competitiveness provides a useful insight into the variations

[6] X^2 df(1) = 10.915; $p = 0.001$.
[7] X^2 df(2) = 51.630; $p = 0.000$.
[8] X^2 df(2) = 39.822; $p = 0.000$.

across triathletes' practices, and accordingly the two following classifications were developed:

Competitor – Competitively motivated. More likely to be men. Not weighted towards any age groups in particular. Takes part in a large number of events each year. More likely to identify as a triathlete. More likely to be under 40. Motivated by testing oneself physically. More likely to identify injuries, time and money as barriers to engagement. More likely to use applications such as Strava.

Hobbyist – Not competitively motivated. Recreational, but not necessarily trivial engagement (a degree of commitment still exercised, but motivations are more recreational and social). Just as likely to be men or women. More likely to be 40+. Takes part in a smaller number of events each year. More likely to identify confidence as a barrier to engagement.

Intensity

An individual's orientation to sporting activity, particularly the degree of intensity to which participants choose to pursue their activity, has been used to define previous classifications of triathlon involvement (Wicker *et al.* 2012 – 'Serious pursuiters'). Intensity, in the context of this research, refers to a combination of hours spent training and the number of events participated in each year. Both regular training and event participation signify devotion to the activity of triathlon, and like competition, showed a significant relationship with a range of other variables, including: GPS-use[9], event participation[10], time in the sport[11], social identification[12], importance of socialising[13] and tendency to volunteer[14]. Based on the comparison of intensity with other survey variables, three distinct categories of intensity have been identified to describe respondents:

[9] X^2 df(6) = 25.606; p = 0.000 [Regularity of training] ; X^2 df(6) = 21.125; p = 0.002 [Event participation]
[10] X^2 df(4) = 73.375; p = 0.000 [Regularity of training] ;
[11] X^2 df(4) = 22.181; p = 0.000 [Regularity of training] ; X^2 df(4) = 17.345; p = 0.002 [Event participation]
[12] X^2 df(2) = 35.857; p = 0.000 [Regularity of training] ; X^2 df(2) = 59.057; p = 0.000 [Event participation]
[13] X^2 df(2) = 37.331; p = 0.000 [Regularity of training] ; X^2 df(2) = 39.640; p = 0.000 [Event participation]
[14] X^2 df(6) = 10.993; p = 0.003 [Regularity of training] ; X^2 df(2) = 19.730; p = 0.000 [Event participation]

Devoted – More likely to identify themselves as a triathlete. More likely to be men. Most likely to use GPS recording technologies on a regular basis (and applications like Strava). Most motivated by physical challenge. More likely to wear triathlon-related clothing and use triathlon-related terminology. More likely to volunteer. Triathlon likely to form an important aspect of their social life. More likely to train in the morning. More likely to be a member of a triathlon club. Motivated by general fitness and health improvements, and competition. More likely to volunteer in roles such as coaching, administration or event organisation. Significantly more likely to take part in longer-distance triathlon events.

Regular - Motivated by challenging themselves and obtaining a sense of achievement. Most likely to be aged under 40. Highly likely to identify themselves as a 'triathlete'. Most motivated by stress relief. Lowest income group, more likely to identify money as a barrier to engagement. For most other variables, regulars generally selected 'average' options between devoted and casual participants.

Casual - More likely to see family commitments and confidence as barriers to participation. Not motivated by competition. Striving for physical improvements, motivated by social experience. Likely to be motivated by weight-loss. Least likely to consider themselves as a 'triathlete'. Least likely to take part in triathlon events. Least motivated by testing oneself physically. More likely to be motivated by weight-loss and body image improvements. Least likely to see money as a barrier to engagement. Least likely to regularly use a GPS device.

Club membership

The final variable, which not only had a clear quantitative impact on the survey analysis but also formed a crucial element of the qualitative phase of the research was the role of club membership. As highlighted earlier in the thesis, club membership continues to play an important role in triathlon participation, despite the increasing prevalence of online triathlon networks and home-based training aids. Crucially, club membership has an important influence on social practices such as interaction and identification (Shipway *et al.* 2012). Like the previous typology

variables, club membership had a significant relationship with variables such as gender[15], age[16], tendency to volunteer[17] and importance of socialising[18].

Members –Club membership was a significant element of triathlon engagement for many respondents, with 85% being involved with a triathlon club. Members were not considered as an explicit category in the typology due to their prevalence, whereas non-members stand out as the exception and therefore, were grouped together for further analysis. All six categories defined by intensity and competitiveness consist entirely of club members, whereas non-members capture the remaining triathletes who stand out based on their lack of triathlon club involvement.

Non-members - Range of commitment and regularity levels, but members of this category are similar in that they do not belong to an official triathlon club. Significantly more likely to be male (72% men; 28% women). Likely to have a higher income. Most likely to be part of the 30 to 49 age bracket. Less likely to consider themselves a triathlete. Triathlon significantly less likely to form an important part of their social life. Significantly less likely to engage in triathlon-related volunteering activities. Less likely to use a leisure centre (clear sign of triathlon club social centre). Significantly less likely to train with a group. Significantly less likely to be motivated by friendship and socialising.

5.3. Facilitators and barriers

The idea that triathlons can be fun is a statement that two-time winner of the Ironman World Championship in Hawaii, Scott Tinley, argues can be seen as an 'athletic oxymoron', comparing it to "having your birthday party at the dentist's office" (Edwards 2001: ix). However, despite the associations between triathlon, physical effort, and mild suffering, there is a significant share of individuals who get satisfaction out of such a pursuit. Understanding the diverse motivations for initial and sustained involvement in triathlon can have positive implications for the

[15] X^2 df(1) = 8.171; $p = 0.004$.
[16] X^2 df(3) = 9.817; $p = 0.020$.
[17] X^2 df(1) = 49.885; $p = 0.000$.
[18] X^2 df(1) = 45.229; $p = 0.000$.

promotion of physical activity (Stevinson *et al.* 2015). Additionally, the resource-intensive nature of triathlon, a sport which requires the application of a considerable amount of physical, economic, social, cultural, temporal and often symbolic capital, makes it a unique but rich case-study for the investigation of motivations and barriers to physical activity participation. Figure 5.2 highlights the range of facilitators and barriers to triathlon engagement identified by survey respondents.

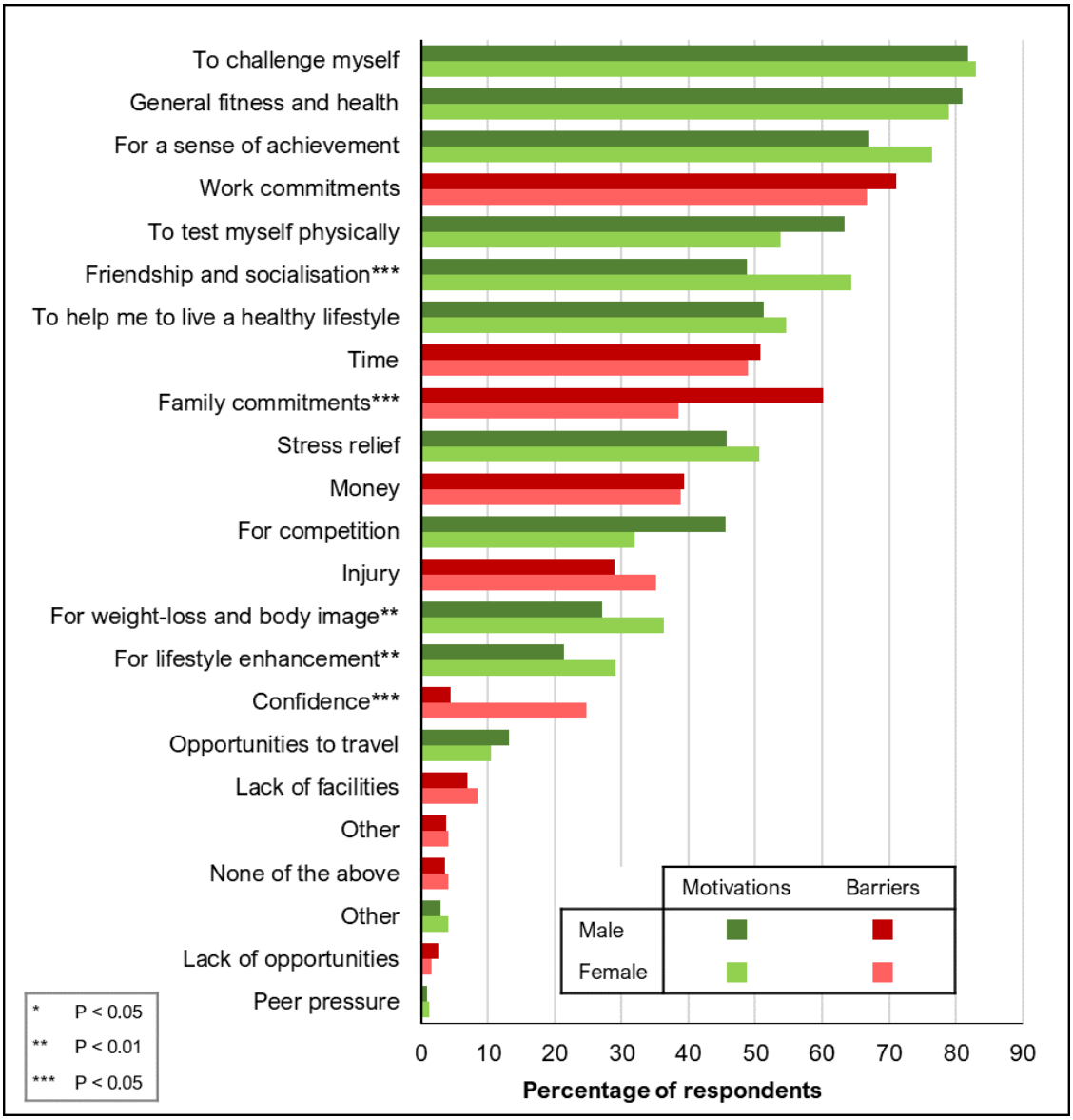


Figure 5.2 *- Motivations and barriers to triathlon participation by gender. Source: Own survey 2018 (n=591).*

Previous research on the reasons for physical activity engagement emphasises that initial motivations for involvement are likely to transform into different drivers for ongoing participation (Stevinson *et al.* 2015). Accordingly, the following section will

focus on the initial motivations for triathlon engagement and the benefits of triathlon that encourage sustained participation. Section 5.3.2 will then consider the perceived barriers to respondents' triathlon practices.

5.3.1. Facilitators

5.3.1.1. Initial motivations

Among survey respondents, the main reason for initial involvement in triathlon was encouragement from others (30%), with family, friends, and fellow sport club members being the most important actors in this process. The dominance of this narrative among survey respondents highlights the importance of social connections for providing individuals with the opportunity to begin engagement in sporting activity, and the key role that 'insiders' to sporting social worlds have in recruiting individuals to partake in their leisure pursuit (Shipway *et al.* 2012). This process took several different forms, ranging from direct verbal encouragement from significant others, to more subtle encouragement from spectating. One respondent detailed their initial motivation, explaining that:

> I have always enjoyed swimming and running and was influenced to join by a friend who was already a member of the triathlon club (Qualitative survey response – F, 20-24).

Another respondent highlighted how their inclination to take part in triathlon emerged from spectating, stating that:

> I was a fan of the sport and when they brought the ITU event to Leeds it was amazing to watch. I decided if it came again I'd be on the start line and I was the very next year (Qualitative survey response – F, 35-39).

Following encouragement from others, the second most common reason for initial participation was the idea of challenging oneself (22%). Triathlon is widely accepted as an activity that can require the investment of a significant amount of time and effort, and the range of events available provide the opportunity for individuals of all physical abilities to push themselves in the pursuit of a sense of achievement and self-enrichment, reflecting the characteristics of what Stebbins (1992) conceptualises as 'serious leisure' (explored further in Section 5.4.1). One respondent stated that

they were “intrigued to see how I would handle the training and endurance, essentially the challenge to complete an actual triathlon” (Qualitative survey response – M, 25-29).

The health benefits associated with triathlon engagement are extensive (see Section 2.1), yet surprisingly, general health and fitness was only an initial motivation to 10% of respondents. This finding suggests that many of the individuals who come into triathlon are perhaps already in good physical condition or were primarily motivated by other factors. The majority of respondents had transitioned into triathlon from its constituent activities, with 64% running, 40% cycling, and 30% swimming before moving to triathlon, reflecting how the activity was often perceived as the ‘next logical step’ (14%) for many respondents. Likewise, only 13% of respondents had not participated in any sport prior to their triathlon engagement. Social differences had no noticeable impact on individuals’ sporting trajectory prior to triathlon. Arguably, attempting to understand the initial barriers to participation would be an equally valuable investigation, but was outside of the remit of this study.

5.3.1.2. Continued involvement

Motivations for engagement tend to change over time, associated with the acquisition of experience, and the accompanying attitude changes that come with continued involvement (Lamont and Kennelly 2012; Ryan *et al.* 1997). Despite this, the notion of personal challenge associated with triathlon involvement continues to be a key motivation for continued involvement, with 82% of respondents sharing this sentiment. Personal challenge was reasonably consistent throughout different age groups, but interestingly, triathletes aged 50 and above were significantly less likely to be incentivised by the notion of challenge[19] (73%). Likewise, the idea of challenging oneself decreased with duration of involvement in the sport, suggesting that challenge was a strong initial motivation, but decreased in importance with sustained engagement in triathlon (Appendix E.3). Similar to the idea of a challenge, was the ‘physical test’ associated with triathlon, which motivated 59% of participants,

[19] X^2 df(3) = 12.305; p = 0.006.

and reflected the notable decline of importance with age and experience associated with personal challenge. The motivation to test oneself physically was also dependent on gender, with men significantly more likely to desire pushing the limits of their physical ability through regular engagement[20]. Although physical exertion and the large investment of time, money and effort in pursuit of physical improvement are strongly linked to regular engagement, the Department for Digital, Culture, Media and Sport (DCMS 2015: 36) emphasise that "[h]aving a good time when taking part in sport or being physically active affects whether an individual is likely to take up the activity regularly". Fortunately, triathletes clearly get pleasure in undertaking triathlon as a pursuit, with 71% of survey respondents stating a sense of achievement, and 48% stress relief, as a motivation for their participation. Taking into account social differences, women were significantly more likely to be motivated by a sense of achievement than men[21] (77% vs. 67%), and respondents aged under 40 more likely to partake in the sport for its stress-relieving properties[22] (54% vs. 44% for >40 year-olds).

As noted by Stamatakis and Chaudhury (2008), there has been a significant rise in health awareness which in turn has increased the social desirability of physical activity. Although the wealth of health and fitness benefits was surprisingly not an important initial motivation for survey respondents, it was identified as the second most common reason for continued engagement with the activity. 80% of respondents indicated general fitness as a motivation, and 53% were motivated by the pursuit of a healthy lifestyle. This reflects the desires of recreational runners in a research study by Asics (2009), which indicated that 54% of their respondents ran to improve their fitness. Motivations have also been found to vary with regards to degree of commitment or engagement with an activity, notably highlighted by Shipway *et al.* (2012) in their study of runners. Consequently, the pursuit of more general health and fitness benefits were heavily linked to the degree of engagement with the sport of triathlon and were adversely influenced by the age of the triathlete.

---

[20] X^2 df(1) = 5.279; $p = 0.022$.
[21] X^2 df(1) = 6.247; $p = 0.012$.
[22] X^2 df(3) = 9.714; $p = 0.021$.

Triathletes training on a more regular basis, and at a greater intensity, were significantly less likely to be motivated by general fitness improvements (Appendix E.4). Accordingly, 'devoted competitors' who invested a significant amount of time and effort in pursuit of performance were generally less likely to see general fitness improvements as a motivation, whereas all other classifications were relatively consistent. Reflecting research by the World Health Organisation (2003) on healthy ageing and reflecting findings by Lamont and Kennelly (2012), the motivation of general fitness became increasingly common as age increased (Appendix E.5).

Socialising is an important aspect of sport involvement for many people, and these social interactions have been conceptualised as one of the 'durable benefits' of engagement with a serious leisure activity, such as triathlon (Atkinson 2008; Stebbins 1992). Many of those who engage in recreational mass-participation events are shown to draw from the motivation of social engagement (Bauman *et al.* 2009), and triathlon is no exception, with 55% of respondents identifying friendship and social experience as a motivation for their engagement. Work by Clopton (2012) suggested that women were more likely to derive communal values from a team environment, and that social capital from team sport benefitted women more than men due to their ability to sustain deeper and more meaningful relationships over time. Similarly, Cleland *et al.* (2019: 20) argue that "social support is an important correlate of physical activity, particularly among women". This gendered phenomenon was reflected by respondents, with women having a greater affinity to the appeal of social engagement than men participating in triathlon, which might also be linked to a greater desire for feeling secure when training in public space (Appendix E.6). In addition to being a gendered phenomenon, the presence of this motivation also had some degree of correlation with income, whereby those earning less than £20,000 per year were significantly more likely to be motivated by social considerations, and those earning more than £60,000 had a decreased interest in the social aspects of triathlon engagement (Appendix E.6).

The role of sports clubs for the facilitation of social engagement and for fostering a sense of community around a specific activity of interest has been clearly emphasised by several social scientists (Forsdike *et al.* 2017, Shipway *et al.* 2012).

Appropriately, the importance of triathlon clubs for the facilitation of social engagement was clear from the survey results, with club members being significantly more likely to be motivated by friendship and socialising (Appendix E.6). This sentiment is evident when comparing 'non-members' to other classifications within the typology, with only 24% motivated by the social side of engagement in comparison to 61% across all other groups. The important role of triathlon clubs within the triathlon social world emphasised by these findings helped direct the decision to focus on two case study clubs in later qualitative research, detailed in Section 7.2.

One final variable which had a considerable influence on the social importance of triathlon was whether the respondent engaged in any form of triathlon-related volunteering. Volunteering has previously been identified as a key element of social world engagement, such as in the context of parkrun events, where the reciprocal nature of volunteering permits the 'dual opportunity' for personal development and offering social support to others (Stevinson *et al.* 2015). Most forms of volunteering, especially event marshalling, are inherently social, and provide a greater degree of involvement with the sports social world, and as a result, those who engaged in volunteering activities were significantly more likely to list socialising as one of their main motivations[23]. The importance of social engagement will be explored in greater detail in Section 5.4.2. Other notable motivations among respondents included: competitiveness (40%), improving body image (31%), lifestyle enhancement (25%), and opportunities to travel (12%).

The desire for competition was significantly impacted by a wide range of variables, including gender[24], age[25], income[26], level of engagement[27], length of involvement[28] and regularity[29]. Comparing the competitiveness of the 'devoted', 'regular' and

---

[23] X^2 df(1) = 46.106; $p = 0.000$.
[24] X^2 df(1) = 10.915; $p = 0.001$.
[25] X^2 df(3) = 23.202; $p = 0.000$.
[26] X^2 df(4) = 13.616; $p = 0.009$.
[27] X^2 df(2) = 53.570; $p = 0.000$.
[28] X^2 df(2) = 8.365; $p = 0.015$.
[29] X^2 df(2) = 51.630; $p = 0.000$.

‘casual’ participants separately proves that the motivation of competition continues to be instrumental, with the motivation held by 58%, 37% and 21% of each group, respectively.

Competitiveness and gender also have a unique relationship amongst respondents. Men were significantly more likely than women to be motivated by competition (Appendix E.12), reflecting previous associations between sport and masculinity that have been extensively explored in research from a variety of disciplines (Pfister 2016; Wellard 2016). This association between gender and competitiveness provides an important understanding of gender in triathlon. Accordingly, approaches for promoting physical activity must consist of a range of strategies that cater for the diverse needs and desires of potential active persons, including opportunities for leisure and enjoyment, but also for competition.

The importance of competitiveness is also influenced by age, with a decreasing penchant for competitiveness among older age categories (Appendix E.12), although it is unclear whether there may be a degree of social desirability bias, where older respondents attempt to downplay their competitive nature through their responses (Lewis-Beck *et al.* 2003). The competitive spirit was significantly more common among triathletes earning £20,000 or less[26], but was relatively consistent throughout other income brackets, which confirms that competitiveness prevails more among those below 40 years of age and thus at an early- to mid-career stage. Though not necessarily revealing, it was reassuring to see that those motivated by competition were significantly more likely to take part in a greater number of triathlon events per year[30], confirming the robustness of the survey data. Similarly, those who described their triathlon participation as ‘regular’ (*Regular competitors* or *Regular hobbyists)* were also more likely to be motivated by competition[31], emphasising the degree of consistency required to remain competitive in triathlon.

[30] X^2 df(2) = 39.882, p = 0.000.
[31] X^2 df(6) = 498.222; p = 0.000.

5.3.2. Barriers

Parallel to the array of motivations discussed above, there are a number of 'resource-related' barriers that prevent participants from engaging with the activity of triathlon to the extent which they desire (Lamont and Kennelly 2011). Some of these constraints were seen as expectations of the role of being a 'triathlete', but others appeared to be unexpected barriers to triathlon engagement. Both types required management and negotiation. An awareness of the obstacles that triathletes have to negotiate on an everyday basis is imperative to promote fitness activities effectively and to help develop strategies that allow for the effective management of them to encourage meaningful and positive experiences of physical activity. The main barriers to respondents' triathlon engagement included the following; work (69%), family (51%), time (50%), money (39%), and injury (32%). Promisingly, limited opportunities for participation and a lack of facilities were only perceived barriers to the select few (8% and 2% respectively). Although, as evidenced in Section 6.3.1, individuals do appear to have a number of complaints about the provision of facilities or access to particular training locations in their local area. Previous research on Ironman event participants highlighted how triathletes' attempt to balance the competing priorities of work, family and leisure, something the authors describe as 'inter-role conflict' (Simmons *et al.* 2016). They suggest that:

> The daily lives of Ironman athletes may be thought of as a balancing act as they attempt to juggle the various demands, obligations, and requirements unique to their role set (Simmons *et al.* 2016: 232).

This challenge has relevance in sports other than triathlon because, Edensor and Larsen (2017) have drawn attention to the requirement of runners to 'synchronise' the rhythms of leisure engagement with the responsibilities of family and work. This research does not have the same explicit focus on intensely committed 'Ironman athletes', but the same need of negotiation of challenges associated with their triathlon participation is evident among respondents of all orientations towards the sport, although to varying extents. This constant effort to harmonise work, familial and leisure responsibilities reflects triathlon's position as a form of serious leisure, echoing Stebbins (1992) comment on the challenge of effectively integrating serious

leisure activity with interests and needs of family members. However, the persistence to negotiate and overcome such resource-related obstacles has become an expected characteristic of serious leisure involvement (Lamont and Kennelly 2011; Simmons *et al.* 2016).

Work commitments were identified as the most common barrier that triathletes faced in pursuit of their triathlon involvement (69% of respondents), with both income and age having a substantial impact on the degree of disruption it may cause. The prevalence of this relationship between work and leisure reflects findings by MultiSport Research (2013) who suggest that 78% of triathletes struggled with the management of work pressures. Respondents with a larger income were significantly more likely to identify work commitments as an obstacle they had to negotiate[32], and in relation to age, there was a spike in the 40-49 age category, reflecting how these individuals were more likely to hold positions of responsibility at work, as well as families with young children, and therefore, a greater commitment of time resources was expected. The perception of work as a barrier correlated with an increase in income among survey respondents, again suggesting that those in roles with greater responsibility were more likely to have to negotiate work to fit in time for training (Appendix E.7). Many respondents who appeared to be balancing work responsibilities with triathlon engagement adopted the temporal strategy of training in the early evening (68%), morning (56%), early morning (54%) and late evening (53%), and thus around common working hours.

Following work, family commitments were the next most cited challenge associated with respondents' triathlon engagement (50.9%). Respondents who dedicated a greater amount of time to triathlon training were significantly more likely to consider their family as a barrier to triathlon engagement (see Appendix E.8). Reflecting research on gendered family roles (Martinego *et al.* 2010), the survey confirmed that the perception of family commitments as a barrier to triathlon was also a gendered phenomenon. 60% of men indicated family as a barrier to participation in comparison to only 39% of women. However, conversations with triathletes during participant

[32] X^2 df(4) = 21.304; p = 0.000.

observation, and insights from semi-structured interviews, highlighted that men were unlikely to assume the brunt of familial responsibility. This suggests that female triathletes were more likely to assume traditional 'gendered' conceptions of family responsibility, and accepted this responsibility as opposed to considering it as a barrier. Similarly, Downward and Rasciute (2015) argue that family commitments impact both genders but have an amplified bearing on women's leisure practices. Gendered conceptions of familial responsibilities have been identified before within the context of triathlon, as Simmons *et al.* stated that:

> societal gender role definitions may also play a role in the extent to which home role demands interfere with Ironman training and competition (Simmons *et al.* 2016: 234).

The confirmation of this observation in this study's survey therefore suggests that despite a shift in contemporary gender roles in the family, gendered responsibility for childcare still appears to have a disproportionate impact on women's leisure time (Craig 2007).

Age also had a strong relationship with family commitments, with triathletes aged 40 and above being significantly more likely to be restricted due to familial obligations[33]. Those aged over 40 were significantly more likely to be married[34], and 63% of married respondents indicated family as a barrier, compared to only 15% of single respondents. This suggests that family commitments are typically associated with marriage more than with wider family. Since there was a reduction in the proportion perceiving family a barrier within the 50+ age group, despite 90% in this group being married, it can be argued that older children at school age increase the flexibility of the training schedule the most. Interestingly, married men were more likely than married women to consider family commitments as a barrier to their participation (73% compared to 48%), whilst there were no clear differences in the perception of family as a barrier in terms of gender or age amongst respondents who were single. One final point regarding family is that those who identified family as an

[33] X^2 df(3) = 80.822; $p = 0.000$.
[34] X^2 df(9) = 248.116; $p = 0.000$.

obstacle to their everyday triathlon practices were significantly less likely to be a member of a triathlon club (Appendix E.9).

Talking specifically about Ironman event participants, Simmons *et al.* (2016) highlight that financial commitments, time and the physical exhaustion of training and competing were the key constraints to triathlon participation. Financial capital was one of the main barriers to participation among survey respondents (39%), but physical exhaustion was not considered as much of a barrier, perhaps reflecting the more recreational skew of the survey sample. Injury however, which can be a side effect of physical exhaustion, was a key barrier to 32% of respondents. Injury was especially evident as a concern among those aged between 18 and 29 and aged 50 and above. Interestingly, with the exception of the 50+ age group, perceptions of injury as a barrier had an inverse relationship with age, whereby injury was more of a concern to younger triathletes, perhaps counter to what one would expect, due to the increased potential for injury among older triathletes[35] (Egermann *et al.* 2003). Younger triathletes were significantly more likely to have a higher training volume[36], suggesting that their risk of overtraining was higher, and additionally, this concern over injury may have been linked to their relative inexperience in comparison to older triathletes. Injury had a detrimental impact on triathletes' ability to get the most out of themselves, with respondents who were part of the three 'competitor' classifications being significantly more likely to consider injury as a barrier[37].

Triathlon engagement has often been, problematically, associated with high levels of expenditure and the requirement of substantial financial capital (Simmons *et al.* 2016). Recent research by MultiSport Research (2019) has estimated that triathletes spend an average of £2,880 per year on their engagement with the sport. The accessibility of certain low-cost entry-level events have acted to counter this stereotype, but financial capital still appears to be a barrier to a reasonable proportion of triathletes (39%). However, it is important to highlight that money was especially seen as a barrier to participation among survey respondents who trained

[35] X^2 df(3) = 9.010; $p = 0.029$.
[36] X^2 df(6) = 24.327; $p = 0.000$.
[37] X^2 df(1) = 5.109; $p = 0.024$.

more regularly, more intensely, and those who were motivated by competition. This reflects an insight from Wicker *et al.* (2013) who suggest that triathletes, and I would argue individuals in almost every sport, who commit more time to training, have a greater sport-related expenditure because of their interest in professionalised equipment in all three sub-sports. This assertion is reinforced by the fact that those competing in middle- and full-distance triathlon events, which require a greater investment of temporal and financial capital, were significantly more likely to have a substantial income (Appendix E.10). Lamont *et al.* (2014) suggest that a strain on finances was evident as an impact on triathletes' ability to engage in 'serious leisure'.

Figure 5.2 demonstrates that overall, confidence was not considered one of the most common barriers to triathlon participation. The confidence to engage in sport and physical activity is one of the key initial steps to encourage participation, but it is widely accepted that lacking confidence can be detrimental to participation (Allender *et al.* 2006). However, there was a distinct gendered aspect to the role of confidence as a barrier to triathlon engagement that necessitates mentioning. Women were significantly more likely to be hindered by a lack of confidence in comparison to men[38] (25% vs. 4%), and a lack of confidence also had a significant impact on an individual's likeliness of identifying themselves as a 'triathlete'[39]. Importantly, confidence was also somewhat influenced by income, with those in the lowest income brackets being most negatively impacted. One solution to overcome this confidence barrier appeared to be the completion of events, which statistically, appeared to result in an increase in confidence (Appendix E.11). Beginner friendly events such as GO TRI have attempted to break down the barriers to triathlon engagement through offering affordable short-distance events with few restrictions on appropriate equipment (GO TRI 2018). A recent study has indicated that over half of the GO TRI online community are now women, and 62% of the finishers from the largest GO TRI event were also women (Triradar 2018b). Increasing the number and regularity of these events, and ensuring they are advertised effectively, could be a

[38] X^2 df(1) = 52.851; $p = 0.000$.
[39] X^2 df(1) = 4.802; $p = 0.028$.

potential approach to continue breaking down these barriers to triathlon engagement.

This section has demonstrated that engagement in serious leisure activities, especially in the case of triathlon, requires the careful balancing and prioritisation of one's temporal resources. Qviström *et al.* (2020) have observed that often constraints cause people to undertake more convenient forms of leisure, but even in a sport which consists of multiple convenient forms of physical activity, these same constraints are present. The identification of a number of facilitators and barriers to triathlon engagement emphasises that this process is not without its challenges. Despite the substantial number of barriers to participation that respondents identified, it was apparent that the benefits associated with their triathlon engagement were valuable enough to warrant the balancing and negotiation of these constraints (Stebbins 1992). Additionally, some of the strategies adopted by triathletes, such as scheduling, prioritisation of family time, and sharing leisure time, could act to enhance individuals' lives and well-being (Simmons *et al.* 2016). As a form of serious leisure, triathlon can become a meaningful social outlet for participants, which warrants effective management of time and responsibilities to enable continued involvement. Robinson *et al.* (2014) allude to this sentiment in their study of long-distance runners by arguing the following:

> The personal sacrifices made along the way, particularly in respect to personal relationships, were compensated for by closer interpersonal relationships with members of the social world, manifest in camaraderie—a value of loyalty to the group (Robinson *et al.* 2014: 390).

It is important to understand the diverse assortment of motivations and barriers which can act to encourage or hinder initial or sustained involvement in physical activity, in order to interrogate the complex relationship of leisure and other aspects of everyday life, and the importance of access, provision, opportunities and flexibility for enabling regular physical activity practices and developing strategies to promote and encourage engagement in physical activity in effective ways.

5.4. Practices and performances

5.4.1. Training and competitions

This section focuses more specifically on the detailed training practices of survey respondents, and how their practices reflect that of serious leisure conceptualised by Stebbins (1992). Adopting a critical approach, the following section suggests that, despite being insightful, some previous conceptualisations of triathlon have failed to account for the range of practices characterising the sport's participants. Additionally, this section will explore the role of volunteering (and how this links to serious leisure, not as a separate entity, but integral and inseparable from triathlon), discuss the role of capital, particularly how temporal capital is managed in novel ways to enable continued triathlon engagement, and the implications this may have for the promotion of physical activity more generally.

Hitchings and Latham (2017) explain that the process of developing the physical capital required for regular involvement in activities such as swimming, climbing, running or martial arts, can be extensive and may require considerable effort. Triathlon requires a similar, if not intensified, investment of personal resources into the practice of its three constituent activities, and the unique process of transition between them, in order to improve and maintain fitness and technical ability (Lamont and Kennelly 2012). The sheer fluctuation in the level of engagement and types of practice that are involved in being an active triathlete, establishes a need to understand how these exercise practices are adopted, and carried out (Hitchings and Latham 2017). Additionally, previous research has emphasised that social difference has a decisive impact on the characteristics of an individual's fitness practices (Hitchings and Latham 2018). Being attentive to the distinct practices of those in different social groups was a recurring consideration throughout the quantitative stage of this research, and correspondingly, will be explored in detail in this section.

Ward (2017) in her research on the experiences of indoor lap-swimmers, categorises a 'regular participant' as an individual who participates in an activity or sport at least once a week on average. With survey respondents training for a mean

of 9 hours over 8 sessions every week, it would be appropriate to consider the survey sample as entirely made up of ‘regular’ participants using this multi-dimensional classification. Instead, the typology defined in Section 5.2 categorises triathletes into three types of orientation towards triathlon – casual, regular and devoted – with the recognition that even casual triathletes’ practice more regularly than Ward’s ‘regulars’. Previous research has emphasised the connections between the activity and serious leisure, but often there has been a neglect of participants who are not necessarily engaging in the most demanding variants of triathlon. Despite this tendency to focus on the extraordinary personal efforts and perseverance of participants in longer-distance triathlon events, triathletes of all abilities express characteristics of serious leisure involvement that extend beyond training and events alone, which provide important insights into how individuals engage with physical activity.

The serious leisure framework, which was outlined in Section 2.2.4, has been utilised as a means of understanding engagement in several endurance sports. For engagement with an activity to fit Stebbins’ conceptualisation, it must reflect six key distinguishing qualities, namely: perseverance, the potential for a long-term leisure career, significant personal effort, a range of durable benefits, a social world with a unique ethos, and a distinctive and attractive social identity (Stebbins 1992). Triathlon, based on the findings from this survey, is arguably well suited for this conceptualisation. In addition to this, Stebbins (1992) categorises those involved in serious leisure into three sub-categories; amateurs, hobbyists and volunteers. Based on Stebbins’ (1992) descriptions, triathlon participants would be classified as ‘amateurs’, because they undertake an activity with a professional counterpart. Although there is also logic for suggesting that a significant proportion of triathletes could also be classified as ‘volunteers’ - a category that classically has been treated as a separate pursuit rather than a role that an accepted and integral accompanying element of ‘amateur’ leisure engagement (Stebbins 1996). Using the typology identified in this study’s survey has the advantage of utilising a set of categories which better reflect the different forms of triathlon engagement in the context of serious leisure to better understand the intricacies of triathletes practice.

It is easy to see why others would have made the connection between triathlon and serious leisure when exploring Ironman participation. Simmons *et al.* (2016) claim that Ironman participation involves four to five months of almost daily training, and the ability to part with up to £16,000 for race entry, accommodation, equipment and training aids. Stebbins (1992) contended that access to financial resources was often a prerequisite to thorough engagement with certain serious leisure activities. This intense investment of financial capital is reinforced by the survey results, which suggest income among those participating in middle and full-distance events was significantly higher (Appendix E.10). Whereas the likelihood of competing in the more expensive longer-distance events was directly linked to a higher income, the adverse is true about shorter, more-accessible events. However, through the analysis of triathletes with varying levels of skill and commitment, it becomes clear that regularity, perseverance, and effort are inherent throughout all forms of triathlon engagement. Those participating in full-distance triathlon events were significantly more likely to train on a regular basis (Figure 5.3), yet 96% of those engaged in GO TRI events, the most accessible and least physically demanding of triathlon events, trained for four or more hours each week, and 59% trained six or more times each week – a level of engagement that, one could argue, warrants its conceptualisation as a form of serious leisure. Based on the findings of the survey, significant effort appears to be synonymous with triathlon engagement.

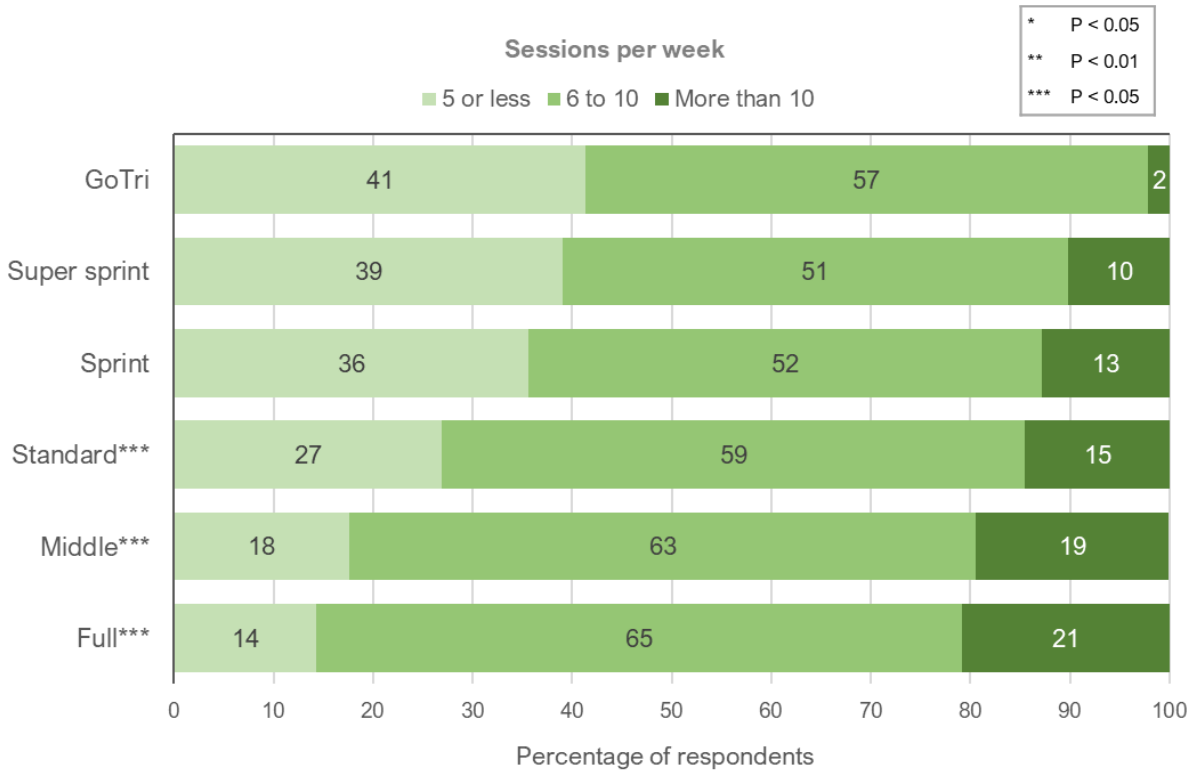


Figure 5.3 *- Relationship between triathlon event type and regularity of training. Source: Own survey 2018 (n=591).*

Despite their limited, or non-existent, opportunity for financial gain, amateur endurance sport athletes are known to dedicate substantial amounts of leisure time to the practice of their chosen pursuit (Lamont and Kennelly 2012, Smith 1998). The population of triathletes that make up the sample of the online survey clearly demonstrate this significant personal effort, with over two thirds training in excess of seven hours every week, and a similar proportion taking part in three or more events every year. A study by MultiSport Research (2019) highlighted that one in five triathletes said they had participated in a training camp in the past year. During the summer months, in the crux of the triathlon season, some of the most committed respondents reach astonishing totals in excess of 18 hours of training over more than 15 sessions in a week. Predictably, the number of events participated in, and hours spent training, were positively correlated[40], suggesting that consistent training is required to maintain a level of fitness appropriate to complete multiple events. This trend was especially evident when the respondent took part in middle- or full-

[40] X^2 df(4) = 73.475; p = 0.000.

distance triathlons, where a substantial amount of regular training was required to complete the formidable challenge (Figure 5.3). In his autoethnographic research on Ironman participation, McCarville (2007) gives attention to this, writing about the demands of the event in terms of training, diet and recovery on the body and his social life. The most common triathlon events were sprint (65%), standard (42%) and middle distance (29%), with a substantial share also engaging in running-only and cycling-only events in addition to their triathlon engagement (70% and 44% respectively). The full-distance triathlon (most commonly associated with the 'Ironman' brand), often regarded as the pinnacle of endurance sport achievement, was an event that 15% of respondents had completed in the past year. Of all the variations of triathlon event, full-distance triathlons were the most divisive in terms of gender, with men being significantly more likely to have undertaken one, most likely because of the social reasons relating to asymmetric social responsibilities discussed previously (Figure 5.4). Although, in line with increasing female involvement in triathlon more generally, the proportion of full-distance event finishers who are women continues to increase year-on-year (Lacke 2020).

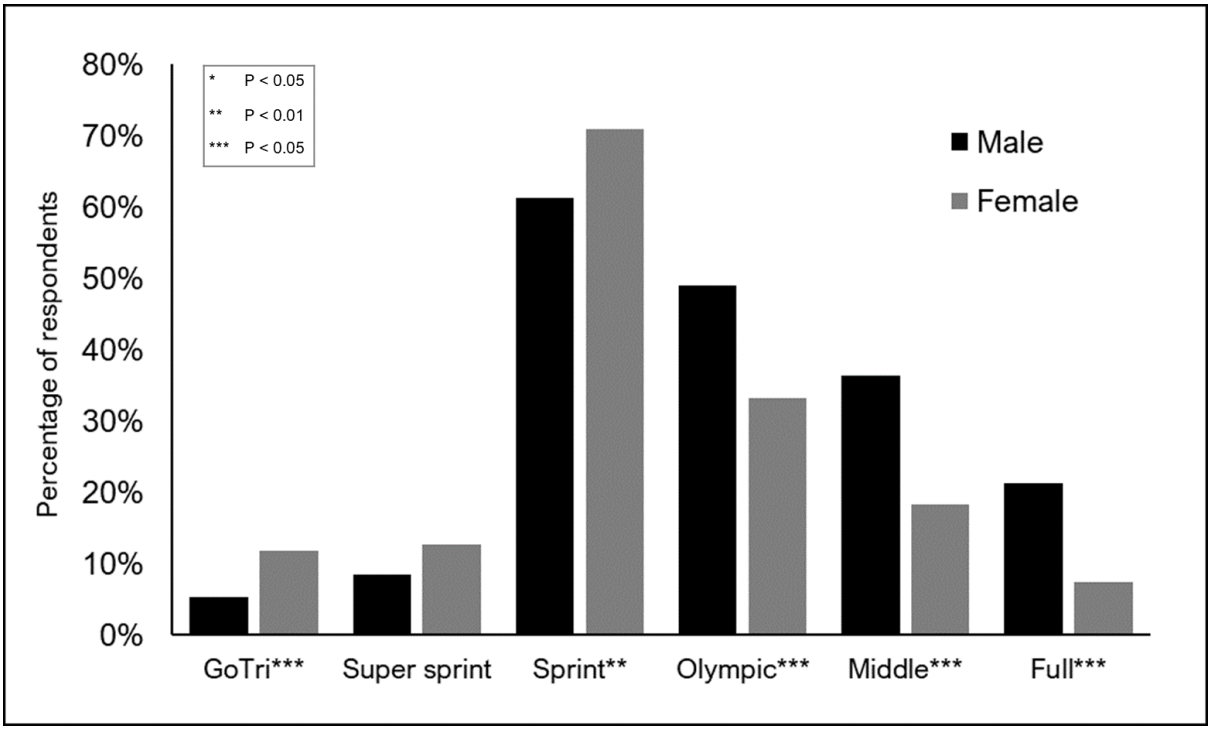


Figure 5.4 *- Participation in triathlon events by gender. Source: Own survey 2018 (n=591).*

One of the debates around the term 'leisure' is that it has the connotation of freedom from obligation, yet Stebbins (1992: 5) argues that "serious leisure enthusiasts are usually more obliged to engage in their pursuits than are their less serious counterparts". Therefore, despite the assumption that triathlon participation is typically a form of leisure, the element of compulsion and commitment emphasises the linkages between work and leisure encapsulated within the serious leisure framework. The personal resources required to continue engagement in serious leisure activities like triathlon, often come into conflict with the demands of work, family and other responsibilities (Simmons *et al.* 2016). This is clearly evident among respondents by the frequent mention of these responsibilities as barriers to triathlon participation from both quantitative and qualitative insights.

5.4.2. Social practices

> They all shared a common reason for being there, a very compelling reason (some called it a curse); an addiction to inordinate amounts of exercise (McDermott 1979 – Describing participants at the 2nd Ironman event).

Two components of Stebbins' (1992) serious leisure conceptualisation that are especially applicable to triathlon, and evident among survey respondents are the presence of a 'social world' with its own unique ethos, and social identification with the activity. The unique practices, values and behaviours associated with certain sport and leisure activities make them predisposed to the creation of unique social identities (Gillespie *et al.* 2002). Atkinson (2008: 177) argues that triathlon "provides an exciting set of corporeal and identity-affirming experiences for many participants". In particular, serious leisure participants are especially interested in aligning themselves with the collective identity of the social world (Green and Jones 2005), often to an extent that their leisure becomes the foundation of their personal and collective identity (Getz and Andersson 2010; Wheaton 2004). This shared culture, reflected by training activities, events, language, and clothing, is often articulated in a number of similar, yet disparate, ways (Granskog and Bolin 2003: 51). Over half of respondents indicated that they often wore clothing and 45% regularly utilised language that highlighted their triathlon engagement. In relation to recreational

runners, Shipway and Jones (2008) explain that the outward projection of identity by wearing activity-specific clothing and displaying other symbolic objects was essential, as the running identity is not typically immediately obvious through physical appearance. Triathletes face a similar situation, with triathletes who actively align themselves with the triathlete identity being significantly more likely to wear triathlon-related clothing and use triathlon-related terminology on a regular basis. The wearing of triathlon-related clothing, which often held sentimental value to triathletes, acts as a means of displaying their subcultural capital within the sport, particularly items associated with events of important subcultural significance, or those from distant parts of the world (Green and Jones 2005; Shipway and Jones 2008; Thornton 1995). The role of clothing as a signifier of community involvement came to my aid during my first encounter with Transitions Tri Club during participant observation:

> I parked up in the car park, looking out for anyone who resembled what I pictured as a triathlete. A few people who looked like they may be part of the club (evident by their T-shirts from completed events, running trainers, and even a few triathlon-based tattoos) walked into the leisure centre (Observation 08.05.2018).

Among self-proclaimed triathletes, there was a prominence of challenge (82%) and achievement (71%) as motivations for their engagement. Previous studies have described characteristics that reflect the 'triathlete identity', identifying the distinct ability to endure pain and suffering (Atkinson 2008), the role of language, apparel and specific training practices.

Figure 5.5 *- Word cloud of responses to Q32 (In your opinion, what does it take for someone to become a 'triathlete'?). Source: Own survey 2018 (n=591).*

Through the amalgamation of individuals' own perceptions of the triathlete identity, Figure 5.5 visualises how, collectively, respondents defined triathlon identity using a variety of recurring terms. Coding respondents' personal descriptions of the triathlete identity determined that the completion of a triathlon event combined with the qualities of determination, perseverance, commitment, dedication and desire were essential elements underlying the triathlete identity. One survey respondent summed up the views of the majority, describing a triathlete as:

> [a]nyone who is prepared to try their best, participate and have fun! You need a certain amount of dedication and organisation to fit in the training whether you do sprint or full distance. Strong body, strong mind (Qualitative Survey Response – F, 50-54).

On the other hand, some respondents highlighted a degree of exclusivity and elitism in their descriptions, with one respondent commenting:

> you'll have to ask someone who identifies as such. I have completed various events up to and including half ironman. I still don't consider myself a triathlete, or even an athlete. It's an odd one (Qualitative Survey Response – M, 35-39).

Despite a general sense of agreement about what constituted the triathlete identity among respondents, there was also an interesting degree of divergence regarding individuals' portrayals of a 'triathlete'. What became evident from comparing the responses is that the 'triathlete' identity is complex, and despite having some generally accepted characteristics, individual perceptions of this identity are highly dependent on personal experiences.

The social features of triathlon engagement were notably absent from most respondents' descriptions of the triathlete identity but were regularly referenced when asked to explain their perceptions of the 'triathlon community'. The main features of the triathlon community include regular involvement, like-minded individuals, friendship, shared passion and support networks. In contrast to the triathlon identity, the descriptions of the triathlon community were overwhelmingly positive, and relatively analogous. One respondent summarised his perception of the triathlon community as such:

> To me it means my Club and its members, the people you meet at events and the online community on social media. What I love about the community is the sense that everyone is supporting each other no matter their ability, the challenge is always against yourself and doing the best you can, and triathletes support each other. [It is] brilliant on this basis (Qualitative Survey Response – M, 25-29).

This unique identity associated with triathlon was prevalent among survey respondents, with 80% of respondents agreeing that they would describe themselves as a 'triathlete'. The association with this identity was significantly higher among respondents who were members of a triathlon club (Appendix E.13), drawing attention to the role of these social institutions for learning about the triathlon identity (Shipway *et al.* 2012). Sports clubs act as applied examples of the interconnectedness between place and social identity, fostering a strong sense of individual and collective identity for their members (Antonsich 2013, Forsdike *et al.* 2017). With reference to the typology, the tendency to identify as a triathlete was high and consistent amongst 'devoted' and 'regular' participants, but significantly lower among 'casual' and 'non-members'[41]. This trend demonstrates how intensity of engagement can, and often does, contribute to an increasing sense of community involvement and associated identification with a particular culture. Social interactions were further emphasised as an integral aspect of the triathlete identity, with those motivated by friendship and socialising being significantly more likely to identify as a triathlete, and additionally, those who agreed that triathlon was an important part of their social life also demonstrating the same sense of identification with the sport (Appendix E.13). Green and Jones (2005) describe the process of developing a unique leisure identity as one that is 'ongoing', rather than a dichotomous scale. Accordingly, respondents who had been involved in triathlon for an extended period of time, were significantly more likely to identify as triathletes[42]. Yet remarkably, the age group with the highest level of identification was actually the 18 to 29 age category, perhaps reflecting a degree of culture change in the accessibility of the triathlon identity. The importance of using one's triathlon-related training in order to successfully complete a triathlon event was also identified as a clear contributor to individuals' likelihood to identify with the activity (Bridel 2010). Accordingly, 76% of survey respondents agreed that completing a triathlon event made their sense of identity stronger, especially in the case of completing branded Ironman events, where completion makes it socially acceptable for the finisher to get an 'Ironman'

[41] X^2 df(6) = 57.559; p = 0.000.
[42] X^2 df(2) = 18.347; p = 0.000.

tattoo - a recognised outward signifier of subcultural capital among Ironman triathletes (Bridel 2010).

5.4.3. Volunteering

It is widely accepted that volunteering is integral to sport (Burgham and Downward 2005, Nichols *et al.* 2016). In few sports is this association as strong as it is in endurance sports such as running, cycling and triathlon (Bang *et al.* 2009, Stevinson *et al.* 2015). Parkrun provides a clear example of this relationship, with over 13,000 volunteers supporting more than 150,000 runners across around 580 parkrun events every Saturday morning in the United Kingdom (Line 2019). Triathlon is similarly reliant on volunteers for the operation of its vibrant club and event network, with 69% of respondents engaging in some form of triathlon-related volunteering. The most common volunteering activities were marshalling at events (52%), helping at other endurance events (30%), administrative and committee roles (23%), and triathlon coaching/instructing (23%). The importance of volunteers in triathlon was not imperceptible to triathletes themselves, with one interviewee stating that without volunteers, "you wouldn't have clubs, you wouldn't have races, you wouldn't have anything" (Rachel, F, 50-54). The tendency for survey respondents to engage in volunteering activities was significantly impacted by the regularity of their engagement[43], training intensity[44], age[45] and gender[46]. Triathlon based volunteering was significantly more common among the 50+ age group[45] (85%), although all age groups demonstrated strong philanthropic tendencies. In addition, women were more likely than men to undertake volunteer roles (78% and 63% respectively), contrasting the national picture of sport volunteering where men are more likely to undertake voluntary roles (Statista 2018a), but instead reflects the more gender-balanced nature of triathlon as a sport. 'Devoted hobbyists' and 'regular hobbyists' were most likely to engage in volunteering activities (both 82%), and 'non-members' least likely by a significant margin (34%). Surprisingly, despite their performance orientated

[43] X^2 df(4) = 10.142; p = 0.038.
[44] X^2 df(2) = 10.993; p = 0.004.
[45] X^2 df(3) = 27.957; p = 0.000.
[46] X^2 df(1) = 14.133; p = 0.000.

motivations, ‘devoted competitors’ also regularly committed time to volunteering (81%).

The number of sport-related volunteers continues to increase year-on-year, and parallel to this, club and event organisers are increasingly reframing the act of volunteering to highlight the potential benefits for the volunteers themselves. The reciprocal benefits of volunteering activity are increasingly being emphasised – the common adage that volunteers ‘give up their time’ is being challenged, with an understanding that volunteering can be a rewarding experience, promoting the development of social capital, personal enrichment and making collective contributions to the wider community (Cuskelly 2008, Stebbins 1996, Stevinson *et al.* 2015). Parkrun Chief Operating Officer Tom Williams summarises this contention, suggesting, “we don’t give up anything when we volunteer, in fact we gain more than we could ever imagine” (Williams 2019). The reciprocal nature of triathlon volunteering – with its twofold opportunity for personal gain and helping others (Stevinson *et al.* 2015) - was clearly evident among interviewees. Oscar, a swim-coach and regular event administrator highlighted that “I’m normally nominated for the volunteer of the year award. But I just do it because I bloody enjoy doing it.” (Oscar, M, 50-54). Another interviewee framed it from the perspective of the triathlon community:

> I think that for triathlon as it is, if you really enjoy it, and you get a lot out of it, then you should give back. So I try to volunteer at least half as much as I race (George, M, 40-45).

A key trend in volunteering practices is the important role that sports clubs play in the provision and recruitment of volunteers. Sport England (2016b) suggest that 75% of volunteers are members of a sports club, and this sentiment was evident among survey respondents, with an identical 75% of those engaging in volunteering being members of a triathlon club. The intense relationship between triathlon club membership and volunteering was made even more apparent, as 92% of respondents who were club members took part in volunteering. One may suggest that this finding would be expected, in that a substantial number of triathlon-related volunteer roles are necessitated within the club environment, whether that be

administration or at club-run events. Hindley's (2018) research on parkrun provides a contrasting picture, in that 88% of his participants were 'unattached', that is, not members of a running club. However, further analysis of the survey results highlighted other potential reasons for this strong association. Those who took part in volunteering opportunities were significantly more likely to be motivated by friendship and socialising[47] (64% of volunteers, and only 34% of non-volunteers), and moreover, were significantly more likely to agree that triathlon formed an important part of their social life[48] (76% of volunteers compared to 45% of non-volunteers). These findings suggest that rather than being a specifically club-related phenomenon, individuals pursue volunteering opportunities as an important means of social engagement.

Triathlon-related volunteering clearly has a central social aspect, but the survey also highlighted the impact of volunteering on individuals' sense of identity, with 84% of respondents who engaged in some form of volunteering identifying themselves as triathletes[49] (versus 72% of non-volunteers).Therefore, it could be argued that volunteering may be considered an alternative method of demonstrating subcultural capital in the context of triathlon. Stebbins (1996) acknowledges that volunteering can allow individuals to simultaneously pursue their serious leisure careers, whilst contributing to the social world of their chosen activity, subsequently benefitting from personal enrichment, self-expression, developing self-image and self-gratification. My own experience of volunteering at a triathlon event provided me with a sense of connection to other members of the club and the triathlon community more generally:

[47] X^2 df(1) = 46.106; p = 0.000.
[48] X^2 df(1) = 52.940; p = 0.000.
[49] X^2 df(1) = 10.576; p = 0.001.

> My role as an event marshal was relatively simple, and not demanding by any means. I just had to ensure that members of the public and spectators crossed over the course safely, and that the participants didn't cycle too fast into the corner and come crashing down! But surprisingly, this simple act of volunteering has been an important step in making me feel like part of the club, especially considering how grateful the other club members were to see me there – especially as a new member with no existing social link to the club (Observation 24.06.2018).

In this sense, volunteering could be considered a place of identity development and confirmation among triathletes. Perhaps suggesting this essential social and identification role of volunteering may be an appropriate strategy to encourage more people to undertake these positions.

Typically, activity engagement and volunteering are often considered to be detached practices, with participants unable to perform both. One of the key reasons expressed by interviewees for not engaging in volunteering, was that they lacked the available time due to their own work-life balance. One interviewee nicely summed up this sentiment by stating the following:

> If I'm going to sacrifice the weekend, I'd probably rather race. If in the years to come I have more time on my hands, then I'd quite fancy doing a bit of volunteering (Craig, M, 45-49).

A key theme among interviewees was a reluctance to spend almost a whole day helping at a triathlon event. However, some of the more attractive roles for volunteers are those which effectively integrate participation and volunteering. For example, parkrun offers several roles that allow individuals to participate in the event whilst performing volunteering roles (tail runner, pacer, car park manager, etc.), and alternatively, some volunteering positions offer the individual other associated benefits. Personally, I was able to take part in my first triathlon event during the observational stage of this research without paying the entry fee, as I offered my time to help set up the transition period the day before.

5.5. Conclusion

Through a thorough quantitative analysis of results from an online survey of 591 triathletes in Great Britain and similarly valuable qualitative insights from participant observation and semi-structured interviews, this chapter has developed an understanding of the complex community of triathletes in Great Britain. Previous research has identified the wide range of intrinsic and extrinsic motivations and barriers that both enable and prevent a triathlete's everyday engagement with the sport (Simmons *et al.* 2016). Building on this work, the role of social difference has been considered to determine the varying importance of these facilitators and barriers, identifying key differences in terms of gender, age, and income. As individuals who are intensely dedicated to their serious leisure pursuit, triathletes find themselves constantly attempting to find an effective balance between the demands of work, family and their chosen leisure activity, which seems to be more challenging for female respondents in this study. Understanding the strategies triathletes use to manage these competing responsibilities can provide valuable lessons to help others integrate physical activity into their lives.

Through the comparison of key variables and a comparison with existing typologies of sports participants, the analysis created a sevenfold typology of triathletes in Britain that clearly demonstrates the key relationship between social difference and triathletes' everyday training practices, competitions, and social practices. Further analysis of survey data utilising this typology of triathletes shed further light on the meaning and experiences of volunteering, competition, and identification within these groups.

With reference to participants' intense commitment to the sport of triathlon, their tendency to identify with the activity and its social world, the clear physical, social and mental benefits of engagement, and the unique ethos that defines the triathlon community, the chapter has demonstrated the applicability of the serious leisure concept for understanding triathlon engagement. In doing so, conceptually, the chapter has introduced the notion of social worlds, something that will be explored further in Chapter 7. Crucially, this chapter provides some quantitative substance that fleshes out the understanding of the individuals' profiles and practices within

triathlon and how they come together to create a triathlon community which will provide a solid foundation for the following empirical chapters.

6. The Locational Geographies of Triathlon

6.1. Introduction

Despite the growing interest in health, leisure and place, and the interconnections between the three, there continues to be a lack of investigation into the locations where activities such as triathlon are performed, particularly from a geographical perspective. More recently there has been a rising interest in the role of the physical environment and place in public health and for physical activity, although understandings of the locational geographies of sporting activity are still under-developed (Cook *et al.* 2016; Das and Horton 2012; Krenichyn 2006; Ward Thompson 2013). Increasing attention has been given to the intimate relationship that physical activity participants have with the environments they utilise, and how the unmediated nature of their encounters can (re)shape their meaning (Simpson 2018). This is especially true in relation to activities such as swimming, cycling and running – the constituent building blocks of triathlon – which are open to the terrain, weather, atmosphere and climate of the physical environment. As Deelen *et al.* (2019: 9) write:

> This flexible and autonomous characteristic of running (and cycling) stimulates runners to go outside, explore new routes and environments and create favourite, attractive and relaxing running routes.

However, despite a clear awareness that physical activity takes place in a range of indoor/outdoor, public/private spaces and that the built-environment is becoming increasingly central to individuals' fitness landscapes, the characteristics of space that are conducive to physical activity and the extent to which their importance varies among different types of sports participants is less well understood (Deelen *et al.* 2019). Previous research by Giles (2016) has demonstrated that seemingly unrestricted activities such as running can be significantly more spatially constrained than one would expect according to a range of physical, social and cultural barriers. Understanding the role of different spaces for individuals undertaking physical activities such as triathlon is an integral step in better understanding the practices associated with physical activity more generally, and for encouraging new and

sustained participation within these activities. In addition, issues of accessibility are central to the promotion of physical activity, however, the extent to which proximity, provision and social access impact the tendency of individuals to use particular spaces for physical activity, is not yet fully understood (Foley and Kistemann 2015).

Accordingly, through developing a greater awareness of the features and meanings associated with different spaces that make them conducive to triathlon activity, and the role of different forms of accessibility in enabling or preventing regular use of these spaces, this chapter aims to develop a more comprehensive understanding of triathletes' locational geographies, thereby contributing to deeper understandings of space for physical activity participants, and adding new insights to both cultural sports studies and human geography (Cook *et al.* 2016).

The following chapter starts by concentrating on the most commonly utilised training locations among triathletes in Great Britain, encompassing an assortment of varyingly specialised training spaces, using a specialisation continuum to direct discussion (Section 6.2). Accordingly, this section emphasises the varying importance of different spaces within the wider triathlon community, highlighting how individuals' unique taskscapes are impacted by intensity of engagement, type of engagement and social interaction. The chapter then builds on the analysis from the previous sections to investigate the impact of accessibility on triathletes' physical taskscapes, focussing specifically on the role of provision, proximity and social access in permitting or preventing triathletes from utilising a range of physical activity-enabling spaces (Section 6.2).

6.2. Training locations

> Sport is inherently geographic (Gaffney 2014: 109).

In contrast to Gaffney's statement that highlights the place-specific nature of sport, Barnfield (2019) argues that physical activity is not restricted to any specific place, be that an environment or a purpose-built facility. Instead, individuals make use of a variety of different spaces for the performance of physical activity. Jansen *et al.* (2017) have also identified this trend, stating that physical activity is rarely performed in one type of sport-specific location. However, the spatiality of sporting practices is

inherently activity-specific (or the sporting activity inherently place-specific), in that certain activities – such as motor racing, or surfing, but also open water swimming in triathlon - cannot be performed 'anywhere'. Factors such as convenience, aesthetics, accessibility, ability, function and even social difference play an important role in determining the areas that are utilised for different forms of physical activity. Therefore, it could be argued that different leisure and sporting activities have their own unique geography (see Cook *et al.* 2016).

Triathlon is an activity that consists of multiple activities, which each individually necessitate the use of a variety of different and distinct spaces. Bale (2003: 9) in his pioneering work on 'sports geography' suggested that sport is almost always "subjected to rigorously enforced spatial parameters", whereas recreation, leisure and play is not. This sentiment remains somewhat true when concerning triathlon events that are subject to a degree of spatial enforcement, and even applies to aspects of triathlon training that are also linked to specific spatial contexts more than others and therefore underline the geographies of recreation and leisure. For example, running and cycling activity can be performed 'almost' anywhere, but in practice are more geographically restricted than is often assumed, and swimming, due to the necessity of a body of water for the activity to be performed, is even more spatially restricted (Cidell 2014, Cook *et al.* 2016, Giles 2016). According to Ward:

> [P]aying closer attention to the spaces in which exercise occurs is important for developing a deeper understanding of what motivates and facilitates exercise and well-being more generally, as well as offering insight into what kinds of policy might help or hinder participation on an individual level (2017: 315).

By focusing on the plethora of places that triathletes utilise outside of the often carefully managed competition environment, this section attempts to explore the spatialities and temporalities of this multi-faceted physical activity in Great Britain. It is increasingly recognised that the quality of an individual's immediate physical environment is an important condition for physical activity engagement, yet there is a notable lack of understanding regarding the particular environmental characteristics that make an attractive, functional and enabling space for different exercisers and

triathletes (Deelen *et al.* 2019). Identifying the factors that stimulate this health-enabling behaviour, and exploring the impact of access and provision, this research aims to identify the 'enabling' factors for triathlon engagement (Barnfield 2019), and to emphasise the integral importance of place within physical activity engagement.

Different locations have varying physical and social functions, and accordingly, this therefore influences the temporality and spatiality of triathletes' practices. A focus on the more banal elements of triathletes' everyday training practices can draw attention to the richness and importance of the locations where physical activity takes place (Eden and Barratt 2010; Ward 2017). Particularly as the places of everyday leisure activities are often underexplored.

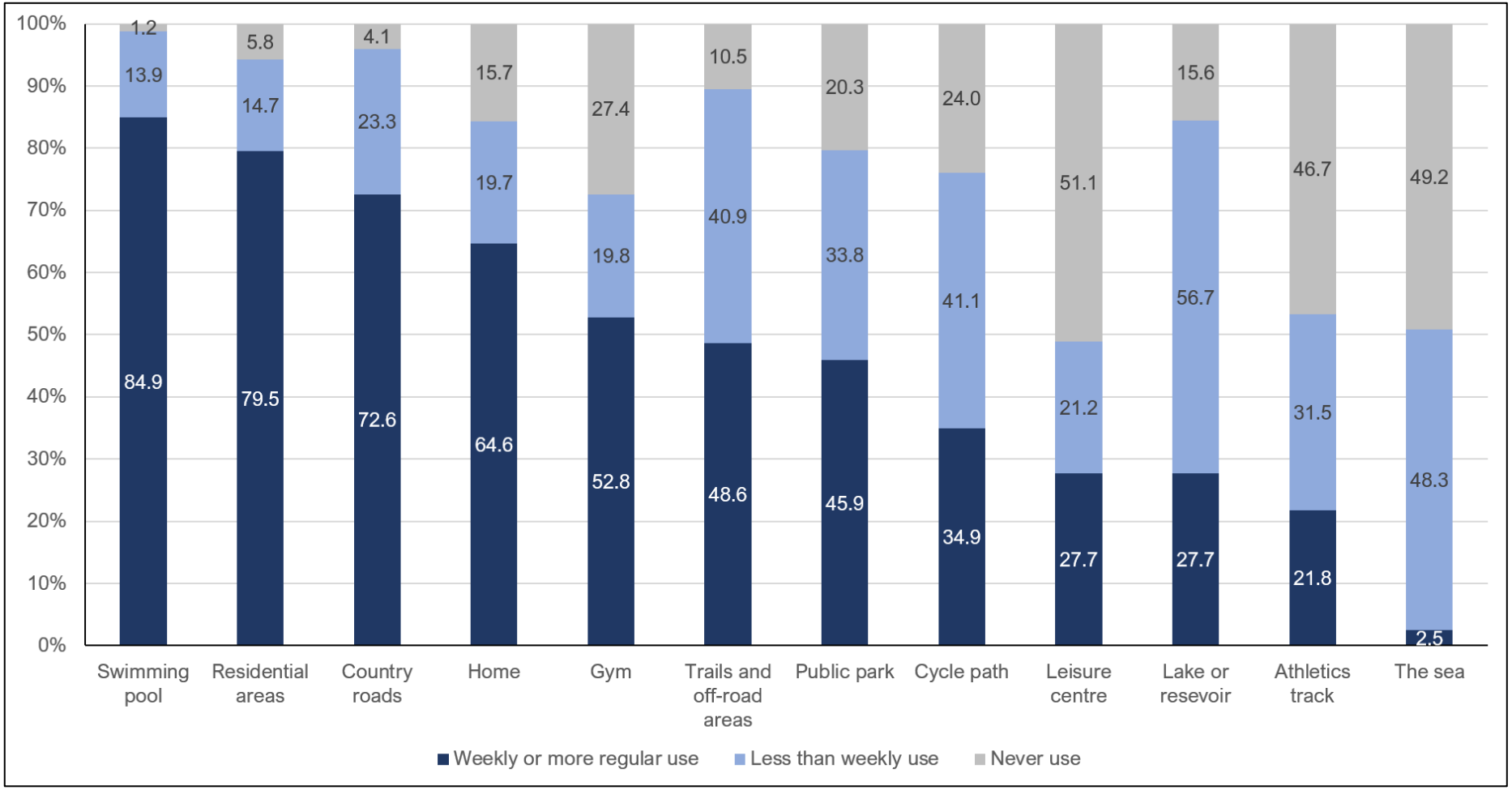


Figure 6.1 *- Regularity of training location use ranked from most to least regularly used. Source: Own survey 2018 (n=591).*

6.2.1. The place-specificity of triathlon training locations

In contrast to activities such as motor racing, surfing or ice hockey, which require particular spaces with very specific attributes for both events and training, triathletes' spatial practices are significantly more flexible, influenced by factors such as convenience, aesthetics, accessibility, function and even social difference. Clearly the spatiality of sport practices is highly activity-dependent and thus the activity of triathletes is very place-specific, linked to varying degrees of specialisation and geographical availability. Yet, in comparison to most other sports, the nature of triathlon means that its different constituent parts have different degrees of spatial limitations on their practice, and therefore, triathletes make use of a variety of different locations for training the different sub-disciplines, using an assortment of indoor/outdoor, public/private and specialised/unspecialised spaces. This point is evidenced by Figure 6.1 because these statistics highlight the range of distinct, characteristically variable locations utilised by triathletes as part of their everyday training regimes, and to a different frequency.

Triathletes tend to divide their training practice between indoor and outdoor specialised areas (such as swimming pools and athletics tracks), semi-specialised spaces (cycle paths and public parks) and unspecialised locations (lakes, trails and country roads). Figure 6.1 confirms that triathletes utilise several outdoor and indoor locations for their training. Convenience of access was most important for preferring training locations in close distance or even within the home, such as swimming pools, residential areas and country roads, while more specialised sites were visited less frequently, such as lakes or reservoirs or the sea, most likely for creating the conditions of open water swimming in competitions.

The wide range of different locations utilised for fitness pursuits have led to an ever-increasing geographical variability of physical activity practice (Deelen *et al.* 2018). Jansen *et al.* (2017: 73) suggest that natural environments can:

> provide opportunities for social interactions, relaxation, recreation, cultural activities and they facilitate physical activity behaviours such as walking, cycling, running and sports.

In addition, there is a wealth of research that has established links between certain outdoor environments and increasing levels of physical activity (Han *et al.* 2013), positive impacts on an individual's mental health and well-being (Little 2017; Thompson Coon *et al.* 2011), and their appropriateness for a range of sporting pursuits (Sport England 2015a). Despite a notable focus on the impacts of more natural spaces on health and activity levels, there is an increasing degree of recognition that the built environment can also have a significant impact on the performance of health-enabling physical activity (Ettema 2016). The underlying design and social expectations associated with certain elements of one's local environment can act to facilitate or impede physical activity in these places. This creates a unique micro-geography of activity spaces that can tell us more about the leisure practices of individuals and how these relate to the local environment.

The relatively unrestricted nature of running and cycling, and the reasonable access to swimming facilities means that British triathlete's make use of a number of different training locations. For some, this freedom is seen as a means of 'spicing up' the monotony of regular training, appropriating scenic, aesthetically pleasing places, and for others this provides an opportunity to utilise the physical functions of certain environments for their training benefits, such as steeper gradients for hill-training, the race-replicating properties of lake swimming or the pure convenience of facilities which allow two or more activities to be performed sequentially (known as a brick sessions in triathlon circles). "[D]ifferent environments facilitate different behaviours" (Jansen *et al.* 2017: 73), and consequently, "sensations of movement and exertion establish specific temporalities and spatialities" (Barnfield 2019: 4). Although it was impossible to explore the unique qualities of every setting used for triathlon training Figure 6.1 highlights the main locations and facilities identified by survey respondents.

On top of the complex relationship between provision, access and the health-enabling properties of outdoor spaces, triathletes experience and interact with these locations in different and complex ways, based on their motivations, objectives, type of engagement, and even social differences (Ettema 2016; Howe and Morris 2009). Some triathletes are explicitly concerned with speed and performance, whereas others seek aesthetically pleasing locations and new environments to break up the monotony of regular training, and this has notable impacts on the spatiality and temporality of their practice. In the case of cycling and running in particular, the less restricted and mobile nature of these practices mean that they often involve the use of multiple outdoor spaces. Additionally, triathletes often execute deliberate spatial alterations to their practice in search for more appropriate, or more visually rewarding locations. For example, a run may begin from a residential area near the home, continue along trails until reaching a turnaround point at a lake in a public park. Therefore, reflecting the sentiment from Cook *et al.* (2016), it is important to consider the places where these active mobile leisure practices take place, rather than just the destination.

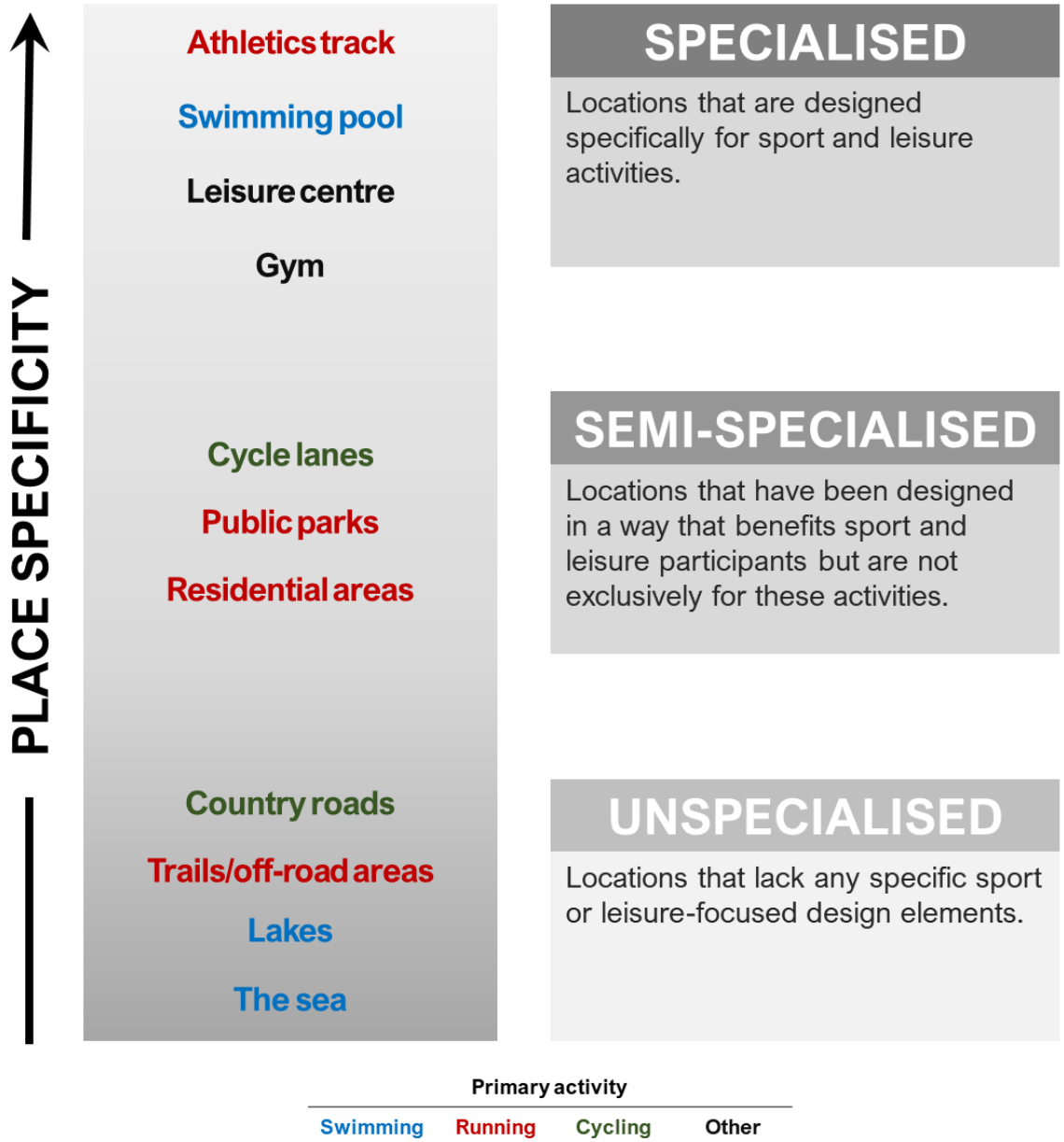


Figure 6.2 *– Conceptual continuum on the specialisation of triathlon training locations.*

Triathletes utilising a variety of quite distinct locations for training raises the question of how integral the provision of activity-specific spaces is for promoting regular engagement in sport and physical activity. Figure 6.2 outlines the result of this thinking, proposing three categories of training locations based on their specificity for a triathlon's constituent activities, encompassing three main descriptors: specialised, semi-specialised, and unspecialised. In reality, different types of locations and different variations of the same location type fit more

appropriately or less appropriately under each of the three headings, hence this diagram represents a conceptual continuum. The following definitions of the three categories of specialised, semi-specialised and unspecialised training locations provides some accompanying information to help aid understanding and contextualisation (Figure 6.2):

Specialised – Locations specifically designed for sport and leisure activities. Their use is typically limited to allow physical activity only (e.g. swimming pools and athletics tracks) and they are created with training and performance in mind, allowing uninterrupted physical activity, and affording the optimal conditions for performance. Specialised locations are often private 'facilities', requiring some form of entry fee from users on exchange for a safe and controlled training environment. In an effort to manage access and demand, usage will be determined by defined schedules, which temporally restrict their use.

Semi-specialised – Locations that have been designed in a way that benefit sport and leisure participants but are not exclusively reserved for these activities. This primarily refers to spaces that have been designed with a consideration for pedestrians and cycle commuters rather than exercisers specifically, but the design considerations in place for these economically important groups are also conducive to physical activity (well-lit, level pavement, separated from motor vehicles, etc.). Based on their development to cater for groups such as pedestrians and cycle commuters, these locations are more commonly situated in urban areas.

Unspecialised – Locations that lack any specific sport or leisure-focused design elements. An increasing amount of physical activity is conducted in the unspecialised spaces that make up a significant amount of urban and rural environments (Qviström *et al.* 2020). The majority of outdoor spaces used by triathletes could be categorised as unspecialised, or in some circumstances semi-specialised (Figure 6.2), and their lack of sport specificity and regimentation means that they are often appropriated by triathletes for a variety of different purposes depending on an individual's

> specific 'taskscape' (Howe and Morris 2009). Despite their lack of triathlon-specific design elements, unspecialised spaces are mostly widely available and accessible - if not bound by physical geography such as lakes and the sea - and are largely unregulated spaces that lack the safety and surveillance of more specialised training and event spaces.

The remainder of Section 6.2 focuses on the range of training locations within each of these three specificity categories, highlighting the spatial, social and cultural affordances of each.

6.2.2. Specialised training locations

6.2.2.1. Swimming pools

Among survey respondents, swimming pools were identified as the location most likely to form part of triathletes' training practices, with 99% of respondents using them as part of their spatial toolkit. Swimming pools are specialised spaces for physical activity, and as a result of their predictable and measurable design, Ward (2017: 318) has described them as a space were the body is subjected to "rigid temporal and spatial disciplines". These purpose-built facilities take away the need for concern regarding extreme temperatures, changing weather conditions and reduce the need for concern about personal security, whilst at the same time providing a more efficient environment for fast swimming and an ease of measurability that many prefer over more unpredictable open water swimming sites (Ward 2017). As Van Leeuwen summarises:

> the pool is the architectural outcome of man's desire to become one with the element of water, privately and free of danger (1999: 2).

Swimming pools are clearly an integral element of triathletes' training regimes. In addition to being the most commonly used location, the use of such pools has become more regular as individuals have committed more time to triathlon. Those triathletes doing more sessions each week than others[50], and respondents who participate in events more often than their counterparts, were significantly more likely

[50] X^2 df(3) = 9.069; p = 0.000.

to use a swimming pool regularly for training[51]. 91% of triathletes who trained more than six times per week, and 94% of those doing more than five events per year used a swimming pool at least weekly. Swimming pool use, gym-use and leisure centre use were all correlated, emphasising the importance of their regular co-location as a convenient means of reducing travel time but maximising leisure time. The survey results demonstrate that triathletes in the lowest income bracket (less than £20,000 per year) rated the provision of swimming pool facilities in their local area more favourably than all other income groups - those earning £60,000 or more were surprisingly the most dissatisfied group - which emphasises the importance of local swimming pools for low income triathletes because they are less flexible with travelling elsewhere for regular training practice. Of the triathletes earning less than £40,000 per year, 100% stated that they made use of a swimming pool. There was no influence of gender with regards to swimming pool use and regularity, with an identical divide (86% and 14%) using swimming pools weekly and less than weekly.

Swimming pools also play an integral role in the operation of certain sports clubs, not just related to swimming, but notably acting as the base location of many triathlon clubs. The combination of physical and social functions enabled by swimming pools is arguably why these leisure spaces have the potential to be valuable to local individuals and communities (Middlestadt *et al.* 2015). As mentioned earlier, swimming is much more geographically restricted than running and cycling activity, and this consistency of usage has meant that these aquatic spaces were typically the organisational centre of many clubs. Accordingly, swimming pool use had a positive correlation increasing significantly with club membership[52].

By catering for participants with a range of abilities, local sport facilities and sports clubs have the potential to provide a place for social interaction and to develop social capital (Grieve and Sherry 2012; Jarvie 2003; Thomson *et al.* 2003). The social role of swimming pools was also evident from further survey analysis, which identified that regular swimming pool users were not only more likely to self-identify as a 'swimmer'[53], but also as a 'triathlete'[54] (Figure 6.3). In fact 99.6% of self-proclaimed

[51] X^2 df(2) = 16.076; $p = 0.000$.
[52] X^2 df(1) = 9.640; $p = 0.002$.
[53] X^2 df(1) = 11.477; $p = 0.001$.
[54] X^2 df(1) = 21.897; $p = 0.000$.

‘triathletes’ used a swimming pool. In a study of triathletes’ motivations, the prospect of developing a unique sporting identity was one of the key social incentives for continued activity engagement (Lamont and Kennelly 2012). Additionally, as mentioned in Chapter 5, identity formation is a process that is integral to serious leisure engagement (Stebbins 1992). The social importance of swimming pools went beyond identity development because respondents who agreed that triathlon played an important part of their social life[55], and those who engaged in volunteering, were also significantly more likely to use the facility regularly[56]. Therefore, swimming pools are arguably one of the core spaces making up the underlying fabric of the triathlon social world, an observation that will be explored further in Chapter 7.

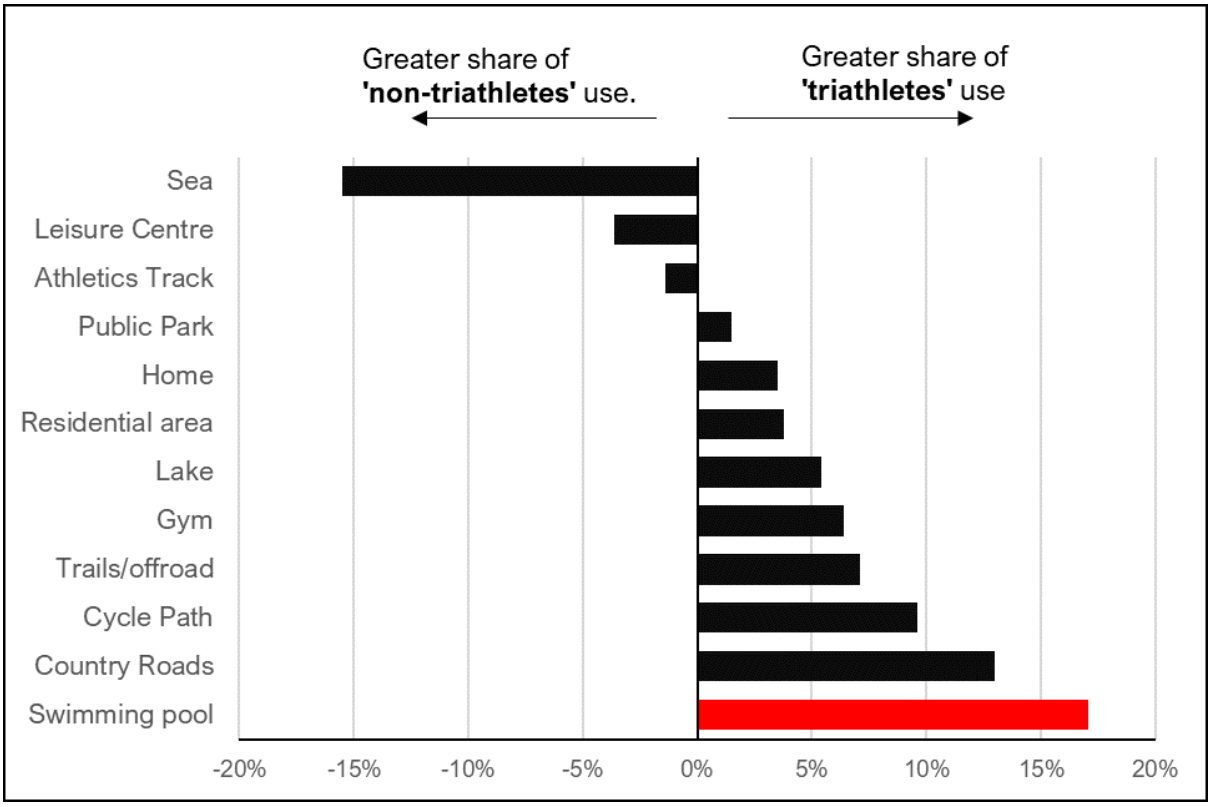


Figure 6.3 *- Proportion of self-identified 'triathletes' who use different training locations compared to those who do not consider themselves as a ‘triathlete’. Source: Own survey 2018 (n=591).*

[55] X^2 df(1) = 52.940; p = 0.000.

[56] X^2 df(4) = 13.034; p = 0.011.

6.2.2.2. Athletics tracks

Another outdoor physical activity space that was utilised by a notable proportion of respondents were athletics tracks, facilities that Cook *et al.* (2017: 160) have described as:

> synthetic, technological and predictable. Designed to produce a near laboratory setting, offering controlled conditions and neutralization from some of the vagaries of nature. It is designed to be replicable anywhere in the world. The encounters had on the athletics track are also highly controlled.

Despite being spaces that have been specifically designed and developed with the needs of runners in mind and presenting an opportunity for unimpeded mobility, the draw of other environments and the 'desportification' of running may have contributed to runners' preference for types of running routes that are not specifically designed for running (Bale 2004). For triathletes, it became clear that convenience was the preferred benefit of athletics tracks as opposed to unimpeded mobility. Amongst respondents who stated that family and time were challenges to their everyday triathlon engagement, the athletics track was seen as an effective place to navigate these competing roles, with significant relationships between both of these attributes and their athletics track use (Appendix E.15).

Over half of triathletes did utilise these specialised athletic spaces (53%), but only 22% did so regularly, especially respondents that engaged in running regularly before starting their triathlon engagement (68%). Respondents living in urban areas[57], who were members of a triathlon club[58], training frequently[59], and competing often[60] were significantly more likely to utilise athletics tracks for training. Additionally, those motivated by competition, and competing in running-only and sprint-distance events – where running speed is of greater importance – used the track more regularly. Yet due to the community aspect of running track organisation, there was also a notable social element associated with the facility. Those motivated

[57] X^2 df(1) = 12.143; $p = 0.000$.
[58] X^2 df(1) = 20.999; $p = 0.000$.
[59] X^2 df(2) = 10.922; $p = 0.004$.
[60] X^2 df(2) = 22.914; $p = 0.000$.

by the social experience, and for respondents to whom triathlon was an important part of their social life, were substantially more likely to use athletics clubs than those who did not (Figure 6.4**).** Accordingly, individuals training on their own were significantly less likely to use an athletics track, and those who did train in groups were more likely to use an athletics track on a regular basis[61]. Triathletes who engaged in some form of volunteering were also significantly more likely to use athletics tracks[62], reflecting the inherent importance of volunteering to the triathlon social world (see Chapter 7).

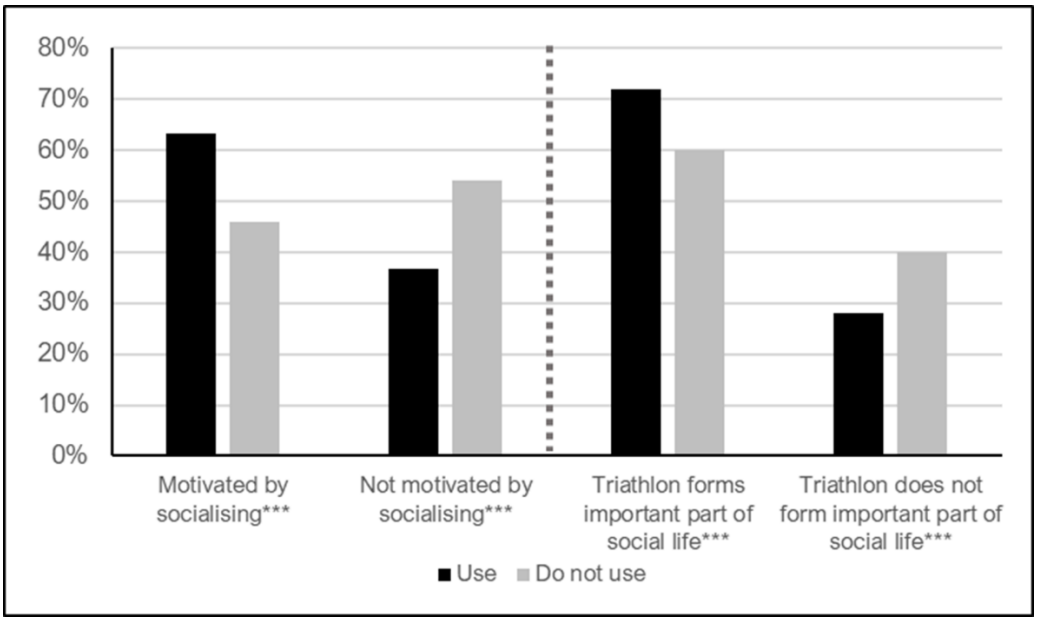


Figure 6.4 *- Bar charts demonstrating that socially-orientated respondents are more likely to use athletics tracks for training. Source: Own survey 2018 (n=591).*

6.2.2.3. Gyms and leisure centres

Gyms and leisure centres are two specialised indoor training facilities that are regularly co-located within the same complex, typically together with a swimming pool in what Parnell *et al.* (2015) describe as 'showpiece' sport centres. Accordingly, there was a significant relationship between leisure centre and gym use[63], and leisure centre and swimming pool use[64]. The two facilities are specialised because, they have been designed for the purpose of physical activity, but among triathletes they

[61] X^2 df(1) = 11.899; p = 0.001.
[62] X^2 df(1) = 20.759; p = 0.000.
[63] X^2 df(1) = 15.322; p = 0.000.
[64] X^2 df(1) = 6.779; p = 0.009.

are typically used for supplemental training activities such as strength-work, recovery and cross-training. Leisure centres were typically utilised for their relevant activity classes, most notably 'spinning' classes (group stationary bicycle workouts typically ran by an assertive, enthusiastic class leader, with loud high-tempo music playing) that were referred to by several interviewees. Gyms were used regularly by more than half of the respondents, but leisure centres were used in total by less than half (Figure 6.1). In stark contrast to swimming pools, leisure centres were significantly more likely to be used regularly by triathletes who were not affiliated with a triathlon club[65]. Their lesser popularity, and their association with non-club members suggest that the wider leisure centre and gym facilities may not have the same degree of association with the triathlon social world as the swimming pool. Similarly, unlike swimming pools, gyms were also not considered as important social sites amongst triathletes. Andrews *et al.* (2005) highlight that the gym is typically a space for 'individual projects' and is not necessarily an ideal place for socialising. Modern gym culture tends to create an environment that emphasises bodily work, maximisation of effort and seriousness over socialising (Andrews *et al.* 2005).

Respondents who were motivated by weight-loss were significantly more likely to utilise gyms during their training[66]. Additionally, those who had had, or were currently facing, challenges with injuries were also more likely to use a gym[67], reflecting their rehabilitative capacities (and perhaps the availability of fitness specialists). Gyms were preferred as a place for triathlon training among younger and lower income respondents and were more likely to be used in the morning, suggesting that respondents utilised these spaces before their typical working hours. Women were more likely to use gyms as part of their training, reflecting the gendered nature of gym use and fitness class attendance at a national level (Sport England 2017).

[65] X^2 df(1) = 11.818; $p = 0.001$.
[66] X^2 df(1) = 7.979; $p = 0.005$.
[67] X^2 df(1) = 11.375; $p = 0.001$.

6.2.3. Semi-specialised training locations

6.2.3.1. Public parks

Of all the semi-specialised spaces that triathletes' regularly implement into their training regimes, parks have received the most attention from multiple disciplines regarding their potential positive impact on physical and mental health of the local population (Dadvand *et al.* 2016; McCormack *et al.* 2010). More recently parks have been subject to further sport and leisure research regarding the massive success of weekly, free, 5km parkrun events that take place in public parks every Saturday morning across the whole of the United Kingdom (Hindley 2018). These events emphasise sociality over physicality and competition and create an inclusive atmosphere within the sensorially pleasing and health-enabling space of public parks. When combined with this volunteer-run community event, parks act as an important 'shared social space' within the running social world, offering opportunities for self-identification and contributions to the community, for example, not only by running in groups but also by volunteering as stewards (Stevinson *et al.* 2015; Wiltshire and Stevinson 2018).

Although urban spaces have become increasingly popular sites for physical activity (Bahrami and Rigal 2017), green spaces continue to be very appealing spaces for practices of sport and leisure, evidenced by the 80% of respondents who used parks for training purposes (Figure 6.1). Deelen *et al.* (2019) found that environmental characteristics of space, especially positive aesthetic characteristics such as the presence of foliage and a lively atmosphere, acted to enhance runners' appreciation of their surroundings, increasing the spaces' restorative capacity. The psychologically beneficial elements of park-use were apparent from respondents, with those motivated by stress relief being significantly more likely to use these spaces on a regular basis[68]. Generally, utilisation of public parks tended not to be influenced by social difference, with the exception of income, with those earning more than £40,000 typically using these spaces more regularly, perhaps because they were living closer to areas with attractive parks.

[68] X^2 df(1) = 8.368; $p = 0.004$.

Research by the Commission for Architecture and the Built Environment (2010) highlights that park provision in affluent areas was superior to more deprived areas, indicating an uneven geography of access to these important health-enabling spaces, which could potentially influence an individual's ability, and the likelihood, to engage in certain forms of physical activity in particular types of spaces. Furthermore, Barnfield (2019: 8) in his study of recreational running in Bulgaria explains that "while there are parks that have the potential to be useful for running, they are not always convenient". This statement highlights a trend throughout this research, that for these activity-facilitating environments to contribute to community leisure practices, they need to be convenient, functional, and designed appropriately in order to encourage different forms of physical activity (explored further in section 6.3).

6.2.3.2. Residential areas

The broadness and complexity of the term 'residential area' means that it covers a wide range of diverse locations, but in the context of this research, the category refers to an area in which housing predominates, and is characterised by the presence of sidewalks, street lighting, and occasionally traffic regulating features. Residential areas were the most regularly used outdoor locations in this study, with 80% of respondents performing elements of their training within them on a weekly or more regular basis (Figure 6.1). This tendency for triathletes to use these areas reflects findings by Giles (2016) that identified residential areas as the most commonly used location among recreational runners, and which is also supported by findings from Sport England (2012). The popularity of these areas for running is associated with their accessibility and abundance and their suitability for on-foot mobility for most runners. Pavements are intentionally well-lit for the safety of pedestrians and are typically 'familiar areas' that can aid navigation for those with less place knowledge. For cycling, despite only making up a minor segment of individuals' activity, residential areas benefit from a reduced level of traffic alongside the above features that provide a general sense of comfort and safety for cyclists (Cyclenation 2014).

The commonality of using residential areas for training practices gives credence to the suggestion that both running and cycling can be considered 'doorstep' activities, with the majority of triathletes completing, or at least initiating, their practice in the densely populated residential areas where much of the population live. Respondents who indicated that a lack of facilities[69] and work commitments[70] were barriers to participation were significantly more likely to use residential areas for training. Clearly, residential areas are not only abundant within the urban and suburban areas of Great Britain, they are typically easily accessible and in close proximity to where individuals live, making them an effective place for training among those pressured for time (Giles-Corti and Donovan 2002). Those who devoted more time to training utilised residential areas more regularly, again reflecting the importance of these areas for fitting physical activity into increasingly time-pressed lifestyles. The strong tendency, particularly among survey respondents, to move to rural areas later in their life resulted in younger triathletes being significantly more likely to utilise residential areas in their training.

6.2.3.3. Cycle lanes

Over the past few decades, cycle lanes have increasingly been implemented into urban areas to encourage cycling (Department for Transport 2017; Laker 2019). Either positioned on the edges of major roads, or integrated into pedestrian space on wide pavements, cycle lanes offer a degree of detachment from motorised traffic that, in theory, contributes to a sense of safety among cyclists. Additionally, these lanes increase the fluidity and connectivity of often fragmented urban cycling practices (Simpson 2017). The primary motivation for the implementation of cycle lanes into the fabric of urban road networks is to support the 740,000 people who use cycling as a means of commuting to work, and only secondary as a means for promoting leisure cycling (Office for National Statistics 2011). Therefore, it is appropriate to consider cycle lanes as a semi-specialised space for cycling practice but without specifically catering for the unique needs of those engaging in cycling as a physical activity (rural bike paths would be considered specialised in this sense).

[69] X^2 df(1) = 8.632; $p = 0.003$.

[70] X^2 df(1) = 10.653; $p = 0.001$.

Accordingly, cycle lanes were regularly used amongst respondents (76%), yet their purpose was primarily to act as a bridge between the home and more desirable training areas outside of the urban centre.

A regular theme among respondents was that if the quality or provision of cycle lanes in their local area were better, then they would be more likely to utilise them. One respondent stated that one major improvement to their local area would be "safe cycle routes to [the] leisure centre and [the] athletics track [because this] would encourage me to cycle there…rather than travelling by car" (Qualitative survey response – F, 50-54). This dissatisfaction with a lack of suitable cycle lanes has also been referenced by Tironi and Valderrama who contend that:

> most cycling infrastructure falls short of basic requirements and standards, which means that cyclists do not use them, and more polluting forms of transportation continue to be preferred (2018: 2).

These sentiments about cycle paths in Great Britain are regularly voiced through newspaper articles, blog posts, and a wealth of photos and videos demonstrating their unsuitability for cycling (Figure 6.5). An improvement in regard to the accessibility and quality of cycle lanes, in order to make them multi-functional places suitable for different types of cyclists, could have important impacts on cycling engagement whilst also contributing to positive environmental change, particularly at a time where local authorities are increasingly declaring 'climate emergencies'. For example, as of 6th February 2020, 277 District, Country, Unitary and Metropolitan Councils in the United Kingdom have declared a Climate Emergency (www.climateemergency.uk).

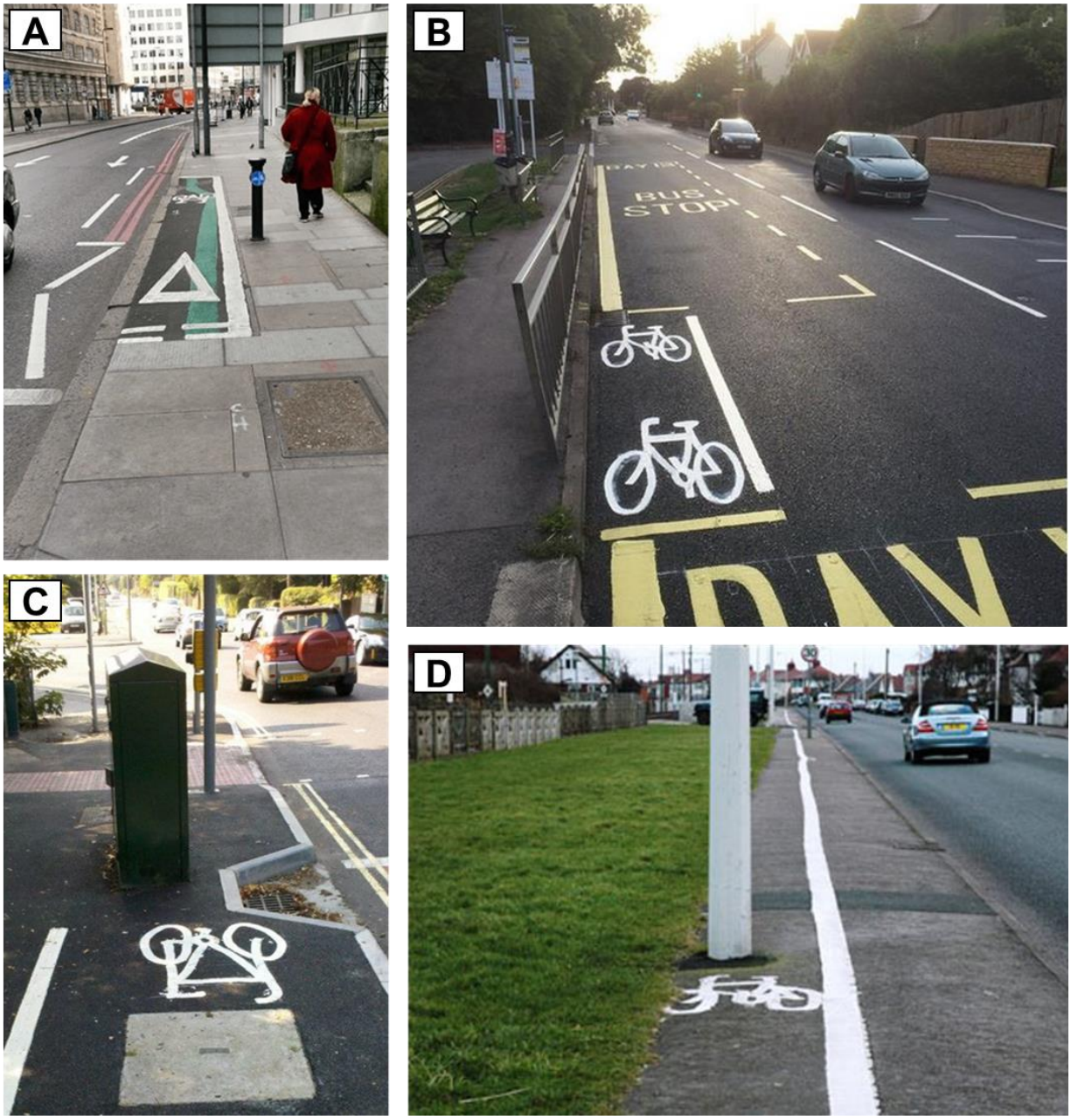


Figure 6.5 *- Examples of poorly implemented cycle lanes (Sources: a) Thorne 2015, b) Laker 2015, c) Brown 2012, d) Kenny 2016).*

Comparing the location of respondents with their interactions and opinions of cycle lanes reveals some notable geographical trends. The tendency for cycle lanes to be situated in urban areas due to the presence of cycle-commuters was echoed by the survey results because urban triathletes were significantly more likely to use them on a regular basis[71]. Urban triathletes also travelled significantly less in order to reach

[71] X^2 df(4) = 11.840; p = 0.019.

these areas[72], reinforcing the idea that cycle lanes were utilised as a connecting space, rather than being sought out specifically by triathletes for training. The South of England, especially the regions of London and the South West, emerged as the part of Great Britain where cycle path provision appeared to be most prevalent, with those living in these regions being significantly more likely to use cycle lanes regularly[73]. This finding reflects general imbalances of infrastructure between the south and the north of England and thus makes cycle training safer in the south of England.

Cycle path use was not only impacted by the geographical location and type of cyclist using these spaces. Black and Street (2014: 73) suggest that "[t]he skill of the cyclist can determine the types of environment they will engage with, and the ways in which they will interact". This sentiment was evident amongst respondents because, those who saw confidence as a barrier to triathlon engagement were more likely to utilise cycle lanes[74], suggesting that the semi-specialised nature of these spaces makes them a preferable location for triathlon engagement in comparison to areas such as country roads that lack a defined barrier between non-motorised and motorised forms of mobility. Furthermore, cycle lane use was more regular among triathletes who saw money as a hinderance to their triathlon engagement, perhaps because these lanes were not restricted by any form of monetary expense, counter to the specialised cycling spaces of gyms and velodromes. In terms of social differences, the main impact on cycle path use was age, with younger respondents being significantly more likely to use cycle paths regularly[75]. Younger triathletes were more likely to live in urban areas[76] and to describe money[77] as a barrier to their overall participation, attributes that this section has emphasised have an important impact on cycle lane usage.

[72] X^2 df(6) = 31.085; $p = 0.000$.
[73] X^2 df(12) = 22.359; $p = 0.034$.
[74] X^2 df(1) = 5.645; $p = 0.018$.
[75] X^2 df(12) = 22.173; $p = 0.036$.
[76] X^2 df(3) = 12.056; $p = 0.007$.
[77] X^2 df(3) = 17.462; $p = 0.001$.

6.2.4. Unspecialised training locations

6.2.4.1. Country roads

As typically motor vehicle-dominated spaces with a lack of pedestrian-enabling infrastructure, country roads fit into the 'unspecialised' section of the conceptual continuum of triathlon training specialisation shown in Figure 6.2. Despite being less regularly used than residential areas, country roads – rurally situated single carriageway roads that typically lack pavements and have a relatively low traffic volume – were used in some degree by a greater percentage of respondents (96% vs. 94%). Country roads formed an element of more committed triathletes regular training practices, suggesting that those who trained more would often direct a significant proportion of this time to training on country roads[78] in comparison to other locations such as public parks and gyms. In addition, country roads were significantly more likely to be used on a more regular basis by triathletes who had been involved with triathlon for longer[79], reflecting ideas surrounding confidence that comes with experience, and a willingness to use less specialised, slightly higher-risk areas (Giles 2016). This suggestion is evidenced by the finding that those living a greater distance from country roads were significantly more likely to identify confidence as a barrier[80] and use country roads on a less regular basis[81]. Older triathletes were significantly more likely to use country roads[82] regularly for two reasons: older triathletes were more likely to live in rural areas and have easier access to these spaces; they were more likely to be experienced, and less likely to highlight confidence as a barrier.

In terms of regional geography, the Midlands emerged as the region with the highest proportion of rural-based respondents, with 52% living in rural areas according to DEFRA's (2016) urban-rural classification. As a result, respondents from the Midlands were more likely to use country roads (86%) in comparison to the South (76%) and North of England (71%). Country roads are inherently rural in terms of location, and it is important to consider the environmental characteristics that can

[78] X^2 df(8) = 42.507; $p = 0.000$.
[79] X^2 df(8) = 19.086; $p = 0.014$.
[80] X^2 df(3) = 10.494; $p = 0.015$.
[81] X^2 df(12) = 126.923; $p = 0.000$.
[82] X^2 df(3) = 16.491; $p = 0.001$.

influence activity practices, in this case, the impact of rurality on everyday leisure practices.

Whereas the popularity of residential areas was primarily attributed to runners, who capitalise on the well-lit and well-maintained concrete armatures of suburban areas, country roads were particularly important spaces of training among those who would describe themselves as 'cyclists' (Giles 2016). Respondents who self-identified as 'cyclists' were significantly more likely to use country roads in comparison to non-cyclists[83], and although runners did make use of country roads, they did so less often. For cyclists, country roads offer the beneficial attributes of low traffic density and the potential for fluid mobility due to the lack of intersections and pedestrian crossings, which often interrupt cyclists' mobility in urban areas. In comparison to specialised training locations, country roads are not subject to monetary restrictions and are therefore accessible to low-income participants, and thus were also more likely to be utilised by those who considered money a barrier to their ongoing triathlon engagement.

Country roads emerged from the data analysis as another training location that had a notable link to triathletes' sense of identity, with 81% of triathletes training on country roads identifying themselves as a 'triathlete', in comparison to 58% who did not utilise them. Contrastingly to previous locations, country road use appeared to contribute to respondents' sense of identity, however, those using this type of training location were less likely to be motivated by socialising. Triathletes who used country roads on a weekly or more regular basis were significantly more likely to do so on their own[84], in comparison to those who used them less than weekly, perhaps evidencing the expectation of individual training within collective conceptualisations of what being a 'triathlete' involves. However, this lack of immediate social motivation does reflect a growing trend in physical activity more generally, whereby the increasing interconnectivity and social features of health and fitness technology are decreasing the need and desire for unmediated face-to-face involvement within sporting social worlds (Carlén and Maivorsdotter 2017; Millington 2018). This

[83] X^2 df(1) = 13.076; p = 0.000.

[84] X^2 df(3) = 9.228; p = 0.026.

relationship between solo physical activity and technology use is reflected by the number of country road users who also used Strava (75%), and the significant positive correlation between regularity of country road use and the use of Strava[85]. This increasingly influential role of technology and the digital within the triathlon community will form the focus of Chapter 8.

6.2.4.2. Trails and off-road areas

Used at some point by 91% of respondents, and regularly by 49%, trails and off-road areas are another of the most widely used unspecialised locations among survey respondents. Trails and off-road areas are preferable areas among runners, providing the benefit of having a more forgiving terrain that reduces the impact that harder surfaces can place on joints and ligaments (Giles 2016; Lorimer 2012).

In Giles' (2016) study of running practices, he suggests that trails and off-road areas were significantly more likely to be utilised by more experienced runners, highlighting the important role of prowess for successfully navigating these often-unpredictable spaces, and the confidence to reach these occasionally-distant areas. Similarly, Deelen *et al.* (2019) referring to recreational runners, suggest that experienced runners have greater capacity to run further, allowing them to escape more crowded urbanised areas and reach alternative training locations. Ettema (2016) contends that the perceived attractiveness of different environments for running, and the impact their aesthetic roles, are likely to vary between novice and experienced runners. Recent research by Deelen *et al.* (2019) alludes to this theory, finding that green spaces and an absence of cars were of greater importance to less experienced runners who are more reliant on aesthetic factors and the security of spaces, particularly those who identify confidence as a barrier.

The online survey demonstrates that this finding is also relevant to triathlon, with those engaged in the sport for more than five years[86] and competing in more than three events each year[87] being significantly more likely to utilise trails regularly in their training. Much like with country roads, age also appeared to influence the

[85] X^2 df(1) = 10.426; $p = 0.001$.
[86] X^2 df(1) = 25.501; $p = 0.001$.
[87] X^2 df(1) = 11.477; $p = 0.001$.

tendency to run on the off-road trails of their local area, with older respondents being significantly more likely to use trails[88] (59% of over 40s used trails weekly or more, compared to only 47% of under 40s), again hinting at an increasing level of confidence throughout the life course.

The rurality and remoteness of trails and off-road areas means that they lack the degree of convenience and accessibility that locations such as residential areas and swimming pools offer. Therefore, triathletes who did not struggle with balancing work commitments and their triathlon engagement were significantly more likely to use trails and off-road areas[89]. Less temporal restriction due to work allows these triathletes to utilise trails which tend to be further away, and offer a more aesthetically rewarding experience, thus contributing to improved mental and physical health (Mitchell 2013; Ward Thompson and Aspinall 2011). This sense of disconnection, and being at one with nature, often experienced when running alone, came through among survey respondents, with those motivated by social experiences being less likely to use trails, and trail use being correlated with solo activity. Off-road areas offer a variety of terrains and gradients that can be utilised as effective training aids, or alternatively, as key rehabilitative spaces during intense training periods, and therefore, triathletes motivated by competition were significantly more likely to use these areas (Lorimer 2012).

6.2.4.3. Open water swimming locations

With more than 5000 swimming pools, more than 120 lakes with open water swimming programmes, and countless 'wild swimming' locations in Great Britain (Rhodes 2016; own research), swimming, in both specialised and unspecialised places, can be described as a "potentially valuable health and wellbeing resource that can be more fully harnessed to inform wider public health policy" (Foley 2015: 218). Compared to other countries, open water swimming opportunities are abundant along the British coast but rare anywhere else. Yet, a re-discovery of water within wider public health is evident in the recent promotion of coasts, rivers and lakes as spaces of leisure, exercise and recovery (see Andrews and Kearns 2005;

[88] X^2 df(1) = 14.592; $p = 0.006$.

[89] X^2 df(1) = 10.372; $p = 0.035$.

Wylie 2009; Thompson Coon *et al.* 2011). Foley and Kistemann (2015: 161) argue that "[b]lue spaces offer versatile and popular places for physical activity". Overall, the activity of swimming has seen a decline in popularity over the last few years, however, outdoor swimming has seen a recent rise in popularity (Sport England 2015a). Rising water quality in Britain's open waters and an increasing desire to become re-connected with the environment are two factors that help to explain the rising popularity of outdoor swimming in Great Britain (Ward 2017).

With regards to triathlon activity, the two main types of open water swimming locations that emerged as popular sites for training activities were lakes and the sea surrounding the island of Great Britain. Just short of 85% of respondents indicated a tendency to train in lakes, although only 28% of them did so regularly. The sea was used by just over half of respondents, with only 3% doing so on a weekly or more regular basis. Lakes and other forms of open water swimming are typically seasonal in nature, with the majority of their use occurring during the warmer summer months that characterise the triathlon competition season, and therefore, the regularity of use of these locations was typically lower than those functioning as sites of running and cycling activity (Sport England 2015a).

Use of open water locations for swimming, like a number of other unspecialised physical activity spaces, was significantly impacted by individuals' level of confidence[90]. Unlike swimming pools, open water swimming necessitates an increased level of awareness and skill to cater for the degree of unpredictability and danger they inherently present. Both lakes and the sea have challenging conditions that may include colder water, a lack of visibility, the presence of flora and fauna, and additionally, the sea presents significant dangers in terms of strong tides and large waves. In this sense, for many, an indoor pool can be seen as a preferable safer space for swimming activity, although the more measurable, predictable and observed nature of these sporting spaces are considered by many to take away the visceral, natural experience associated with swimming in open water (see Ward 2017).

[90] X^2 df(1) = 11.880; $p = 0.001$.

In the survey, the important role of confidence for the choice of training locations was clear, with those indicating a lack of confidence, being significantly less likely to use a lake in their training practices regularly[90] 86% of triathletes who did not identify confidence as a barrier used a lake for training in comparison to 71% of those who did. In contrast, the coasts of Great Britain were significantly more popular among more experienced triathletes[91] [92], older triathletes, and those who would identify themselves as 'triathletes'. These findings suggest a degree of confidence and skill in order to make use of the facility of these open water spaces. In an attempt to break down these confidence barriers, British Triathlon are working with the Royal Life Saving Society UK to offer a programme called SHROUT which aims to encourage safe swimming in open spaces, providing guidance, locations of safe swimming spaces and running quality events to improve access to swimming in the UK (British Triathlon 2017c). Many triathlon clubs and commercial open water swimming venues also offer introductory courses to guide individuals through their first open water experience, which can often be a daunting task. Yet surprisingly, despite the initial barriers associated with sea swimming, the stress-relieving qualities of this space was evident, with triathletes motivated by stress relief being significantly more likely to swim in the sea[93].

Those triathletes who completed more events annually were likely to use open water spaces more often, because this regularity of use rises substantially between those completing three to five events per year (26% weekly) and those doing more than five (50% weekly). In addition, respondents aged 40 or above used open water spaces significantly more often than those under 40[94] [95]- 40% of over 40's used open water for swimming weekly, compared to 21% of those under 40. This tendency demonstrates the rise in confidence gained with regular participation that results in the use of these inherently risky, intimidating spaces for swimming. The use of lakes were significantly more regular among those undertaking more events[96] and those

[91] X^2 df(2) = 18.014; p = 0.000 [Sea]
[92] X^2 df(2) = 26.139; p = 0.000 [Lake]
[93] X^2 df(1) = 5.207; p = 0.022.
[94] X^2 df(1) = 34.832; p = 0.000 [Lake]
[95] X^2 df(1) = 5.385; p = 0.020 [Sea]
[96] X^2 df(8) = 33.948; p = 0.000 [Lake]

who were more confident[97], but their use was also heavily influenced by the type of event that individuals were completing, displaying a degree of event determinism in individuals' training practices. This trend is evidenced by a significant tendency among those completing full-distance or middle-distance triathlon events, to use these environments in their training regimes because these events almost always utilise open water spaces (Appendix E.14). Of those who completed middle- and full-distance triathlon events, 96% and 97% respectively implemented open water spaces into their training practices.

Open water swimming locations, in the majority of cases, are determined by physical geography, with the presence of lakes and the sea resulting from a variety of geomorphological and hydrological processes. Accordingly, there was a unique locational geography to respondents' open water swimming practices with a significant correlation between use of the sea for training and regions with coastal boundaries[98], and also a notable increase in likelihood for those living in the West of England to use lakes more regularly. In some cases, human geography played a role in individuals' open water swimming practices, with rural-respondents being significantly more likely to utilise lakes for training[99], likely due to the heightened levels of pollution and greater number of competing interests which need to be accounted for in the management of water bodies in more populated areas. Survey analysis identified that triathletes from the South of England were more likely to use the sea for training, which may reflect a combination of physical (warmer temperature) and human (thriving beach culture) factors (Mansfield 2009).

6.2.4.4. The home

Since the 1980s, during the cultural 'fitness boom', there has been substantial investment in developing fitness technologies that allow certain physical activity practices to be performed within the confines of one's home (Hay 2003). Triathletes are a group who exploit the convenience of home-based training, with 65% performing household exercise on a weekly basis, and a further 20% having done so

[97] X^2 df(5) = 12.036; p = 0.034 [Lake]
[98] X^2 df(10) = 46.441; p = 0.000.
[99] X^2 df(1) = 7.532; p = 0.006.

at some point over the past year. This tendency to perform physical activity at home reflects the growing sense of self-responsibility for one's own health in neoliberal Western culture, and simultaneously conveys the increasing accessibility and affordability of home-based fitness technologies and applications, which both allow and encourage individuals to perform certain physical activity practices in the space of their own home (Millington 2014). Using the home as a place for training was significantly more common among respondents who trained for a greater amount of time each week[100]. Training at home is an efficient means of fitting in training around other commitments and was utilised more regularly by respondents who were attempting to balance work and family commitments with their triathlon engagement. Furthermore, the convenience of home-based training was evident among rural respondents, as due to the increased likelihood for rural-living respondents to sacrifice a greater amount of time travelling to more distant triathlon facilities, they were significantly more likely to perform some of their training in the space of their own home[101].

Home training demonstrates a clear association with technology use too. Due to the stationary nature of most home-based training activities, there was a reduced use of GPS watches among those who trained regularly at home. But in contrast, there was a significant increase in likelihood that home-training triathletes would utilise technologies such as heart rate monitors[102] and power meters[103] to continue collecting fitness metrics during this activity. Those who trained from home were also more likely to make use of digital training applications such as Training Peaks and Zwift[104], personalised training technologies that provide quantitative representations of bodily metrics to make individuals' fitness measurable and trackable (Millington 2016). Additionally, applications like Zwift and Strava also permit a degree of social interaction with others despite performing training activity alone (for more detail, see Chapter 8). Interestingly, Freudendal-Pedersen (2015) links the accessibility of outdoor cycling in Copenhagen to a societal sentiment that indoor trainers are often

[100] X^2 df(2) = 24.907; $p = 0.000$.
[101] X^2 df(1) = 4.612; $p = 0.032$.
[102] X^2 df(1) = 23.631; $p = 0.000$.
[103] X^2 df(1) = 13.965; $p = 0.000$.
[104] X^2 df(1) = 15.114; $p = 0.000$.

perceived as ‘pointless’. Yet, among triathletes in this study, indoor training technologies offered a convenient opportunity to utilise a controlled environment that eliminates the need for travel and thus to harmonise leisure with other competing priorities in an effective way. One interviewee explained his reasoning, when saying:

> by doing the turbo session first thing in the morning before work, I’m free in the evenings, so I can go and see friends or do other things (Oliver, M, 25-29).

Another interviewee also gave reference to the controlled nature of home-based training when explaining the following:

> I find it easier to do it on the turbo. Rather than try to play with the traffic, or traffic lights and everything else. It’s just easier sometimes to say ‘right’, jump on the turbo, you can ride for quarter of an hour at a set pace, set power, and you’re done. And you don’t have to worry so much about what the weather is doing, and what I’m going to wear (Robert, M, 35-39).

The importance of control and convenience was a reoccurring sentiment throughout the qualitative elements of the research project, and the online survey provided important context to these behaviours. Home training was a practice that was more popular among the triathletes investing the most time into training (typically full and middle-distance participants). These individuals were most likely to face challenges concerning their availability of time, due to the time-intensive nature of their sporting activities, and therefore, the home offered a perfect opportunity to be productive with their leisure time. Home-based training is clearly an important place in triathletes’ everyday taskscape because of its convenience and accessibility, and it also strongly correlates with the triathlete’s identity, suggesting that it may become an accepted practice within the triathlon social world, especially through interaction with others in the digital world (Chapter 8). The home as a training location is unique in that it’s degree of specialisation can vary significantly based on the investment of the resident. A traditionally ‘unspecialised’ home can be made increasingly specialised through the acquisition of home-based training aids, although this typically requires substantial financial investment. Due to its ability to be

unspecialised, semi-specialised, or even specialised, the home has been excluded from Figure 6.2.

6.3. Accessibility

Access to sport and leisure activity is integral for allowing individuals to initiate and maintain participation in almost any sport or leisure activity (Andrade *et al.* 2018). Warn and Witherick (2003) refer to three forms of access in sport and leisure; physical, mobility and social access. Physical access refers to the availability and quality of facilities and locations for the activity to take place, mobility related access concerns travel time and the role of infrastructure and availability of transport types, and finally, social access includes the wider societal factors that can facilitate or restrict an individual's ability to engage with particular forms of physical activity. Warn and Witherick (2003) highlight social class, ethnicity and gender as notable social barriers to sport access. The same three categories of access were evident during survey analysis, with a variety of physical (availability and quality of facilities), mobility (travel time, spatial distribution, respondents' location), and social factors (gender, income and culture) impacting access to locations for triathlon engagement. Deelen *et al.* contend that:

> [i]ncreasing participation in sports and physical activity is an important health objective in developed countries…an important way for (local) governments to achieve this objective is to provide easily accessible facilities where sports can be practised (2018: 2).

Previous research has highlighted that those with greater access to leisure and sport facilities were likely to be more active (Huston *et al.* 2003), although it is evident that access to and provision of these activity-enabling places within Great Britain is not equal with respect to geography and population groups (Panter *et al.* 2008).

Yet, the components of urban and rural, indoor and outdoor, specialised and unspecialised spaces that contribute to improvements in physical and mental health by encouraging particular forms of physical activity are still poorly understood (Foley and Kistemann 2015). Therefore, a greater awareness of the impact of proximity, provision, quality, and the factors impacting social access in relation to physical

activity-enabling locations and facilities, can help to provide better understandings of the physical activity practices of triathletes.

6.3.1. Provision

In the context of this research, provision refers to the supply of facilities and locations that provide sufficient opportunities for individuals to engage in particular physical activity practices. Panter *et al.* (2008) highlight how the adequate provision of active spaces has the potential to positively impact the potential of physical activity occurrence. Additionally, Andrade *et al.* (2018: 9) contend that "access to public spaces for the practice of physical activity is an important factor to reduce environmental barriers related to physical inactivity". Previous research has identified that despite efforts to provide adequate access to facilities and locations for leisure activities, there are notable geographical and demographical differences that impact individuals' access to certain active spaces (Panter *et al.* 2008). Generally, a triathlete's satisfaction with the provision of facilities in the area where they lived was high, with 85% agreeing that their local area was well suited to triathlon, and 89% implying that they had suitable access to the facilities they required for triathlon engagement. Yet, further analysis of survey data did highlight a variety of geographical and demographic factors, in addition to comments on facility quality, creating a more complex picture of provision.

By cross-tabulating locational data provided by respondents with variables concerning access and provision it became clear that there were some key geographical variations in the provision of certain locations and facilities that are utilised by triathletes during their training practices. Provision of and access to several unspecialised outdoor training locations, including green spaces, open water swimming and public parks, were rated highest in Scotland and Wales, whereas respondents from the South were more likely to speak positively about the provision of cycle paths, triathlon clubs and triathlon events, reflecting the spatially distributed club and event network in Great Britain (Figure 3.4). In contrast, those from the Midlands appeared to rate most facility provision more negatively than elsewhere in Great Britain. Perhaps triathletes from the Midlands have greater expectations, or

instead, this may reflect a genuine regional geographical variability of facility provision.

The primary geographical variable which contributed to divergent evaluations of facility provision for triathlon activity was whether respondents lived in rural or urban areas. Triathletes in urban areas were more likely to rate the provision of sports shops, public parks, athletics tracks and activity classes highly, whereas rural triathletes only rated open water swimming facilities more positively than urban respondents. The level of satisfaction with facility availability and access appeared in several cases to be significantly impacted by the proximity of these facilities from respondents, with public parks and athletics tracks being available at a shorter distance from urban triathletes, and open water swimming locations being closer to rural respondents. Triathletes living in urban areas tended to have a greater degree of satisfaction with numerous specialised facilities as they had convenient access to them. Rural triathletes in this sense are clearly more disconnected from a greater variety of specialised and semi-specialised locations but have the distinct advantage of being close to attractive natural unspecialised physical activity spaces. Despite a tendency for respondents to be more satisfied when facilities were in convenient proximate locations, some triathletes pointed out that this may not always be the case. One respondent noted how:

> [i]t would be great to have open-water swimming closer, but it's not possible while also having the trails and cycling opportunities that I have on my doorstep (Qualitative survey response – M, 40-44).

Clearly there is an understanding that a perfect provision scenario, where all the desired facilities for triathlon engagement are on your doorstep, is not realistic, and therefore access to facilities is a balancing act. The high degree of satisfaction with triathletes' local area reflects this statement.

Despite the tendency for triathletes to rate the provision of facilities in their local area highly, there were several recurring suggestions for improving this provision in their local area, including: having more facilities, better facilities, closer facilities, and improved access to facilities. One survey respondent identified their main improvement for their local area, stating that they desired more organised open

water swimming venues. “We are surrounded by reservoirs, but none are open for open water swimming” (Qualitative survey response – F, 50-54). This response draws attention to one of the key issues regarding unspecialised locations, in the sense that the ownership and management of these spaces can act either to promote or constrain physical activity practices (Foley and Kistemann 2015). This sentiment is particularly evident in regard to swimming, which normally takes place in private, restricted venues (DeLuca 2016). Another respondent referred to the impact of management on their perception of a local swimming pool, commenting that, “[o]urs is often closed to the public for school swimming and rarely has lanes available” (Qualitative survey response – F, 45-49). These two examples highlight how the physical provision of facilities alone is not necessarily conducive to physical activity engagement, but the degree and quality of access to these facilities is also essential, including the degree of overcrowding.

This notion of effective provision was also highlighted in relation to the network of cycle lanes available in the urban areas of Great Britain. Freudendal-Pedersen (2015), in his study of cycling in Copenhagen, indicated how a combination of infrastructural and societal factors have created safe and accessible spaces which have led to an increased number of cyclists in the city. However, British triathletes in this survey did not seem to paint the same picture of cycle lane provision, suggesting that despite the presence of these infrastructural cycling lanes, their quality, and the societal position of cycling practice, reinforced over years through a profound lack of safe cycling infrastructure in most urban areas, meant that they were not as accessible as intended. One respondent voiced this lack of quality, claiming that:

> [t]he roads are ridiculously unsafe due to the surface conditions, and road widths are very narrow making cycling a problem (Qualitative survey response – M, 55-59).

Despite efforts to improve cycling provision in Britain, Black and Street (2014: 68) highlight the need for experts from different industries to coalesce to “consider the role that design can play in encouraging cycle participation”.

Respondents who were extremely satisfied with the provision of facilities in their local area were significantly more likely to live within close proximity of swimming

pools[105], leisure centres[106], athletics tracks[107], cycle paths[108], trails and off-road areas[109], and residential areas[110]. They were also more likely to be club members and have better perceived access to triathlon events. Yet those who stated money[111] and lack of opportunities[112] as barriers to their triathlon participation were significantly more likely to be dissatisfied with the provision of events in their local areas. This could reflect a dissatisfaction with the affordability of events, rather than provision, although cost is a key factor when considering the accessibility of facilities and opportunities. Open water swimming locations, gyms, public parks and country roads were not as integral to a triathlete's overall satisfaction. Clearly, proximity and related convenience contribute to a triathlete's sense of satisfaction with their local area but placing new facilities next to all potential exercisers is not a feasible proposition, instead promoting the health-enabling properties of local facilities/locations could help to provide convenient, accessible opportunities for physical activity.

6.3.2. Proximity

In addition to the provision and quality of facilities, the proximity of facilities is another important element of accessibility which has a significant influence on a triathlete's everyday spatial practices. Sport England (2015) highlight this relationship, indicating that 65% of people interested in participating outdoors, or just starting out, are more likely to participate less than 2 miles from home, and that activities such as running and cycling are more likely to be performed within five miles of the home. The nature of proximity means that it is highly dependent on the geographical location of respondents and is likely to vary considerably depending on whether respondents live in metropolitan centres, coastal towns, remote villages or elsewhere. Qviström *et al.* (2020) contend that the limitations in geographical reach for physical activity participants enhanced the importance of their everyday geography. The key themes that emerged from an investigation into the role of proximity as a means of access were: that proximity typically, but not always, resulted

[105] X^2 df(4) = 13.027; $p = 0.011$.
[106] X^2 df(1) = 4.665; $p = 0.031$.
[107] X^2 df(3) = 16.677; $p = 0.003$.
[108] X^2 df(1) = 6.791; $p = 0.009$.
[109] X^2 df(1) = 5.812; $p = 0.016$.
[110] X^2 df(3) = 10.884; $p = 0.012$.
[111] X^2 df(4) = 6.074; $p = 0.037$.
[112] X^2 df(1) = 9.848; $p = 0.002$.

in increasingly regular use of facilities; that there were clear variations between urban and rural spaces, in terms of proximity to specialised and unspecialised spaces; and that respondents' proximity to facilities had a clear relationship with various indicators of social difference.

As demonstrated more than once in this chapter, the importance of convenience in terms of encouraging individuals to pursue certain physical activity practices cannot be overstated. Hodgson and Hitchings (2018: 26) reference this connection arguing that the ability to perform running activity in a multitude of spaces, some of which are close to a participant's doorstep:

> makes running an easily accessible form of exercise, particularly when finding the time to exercise in modern societies means working around what are often felt to be increasingly busy schedules.

This general appreciation of proximity in terms of convenience was clear among respondents, in the sense that the regular use of different facilities closely reflected the amount of time taken to travel there, with closer facilities used more regularly (Figure 6.6).

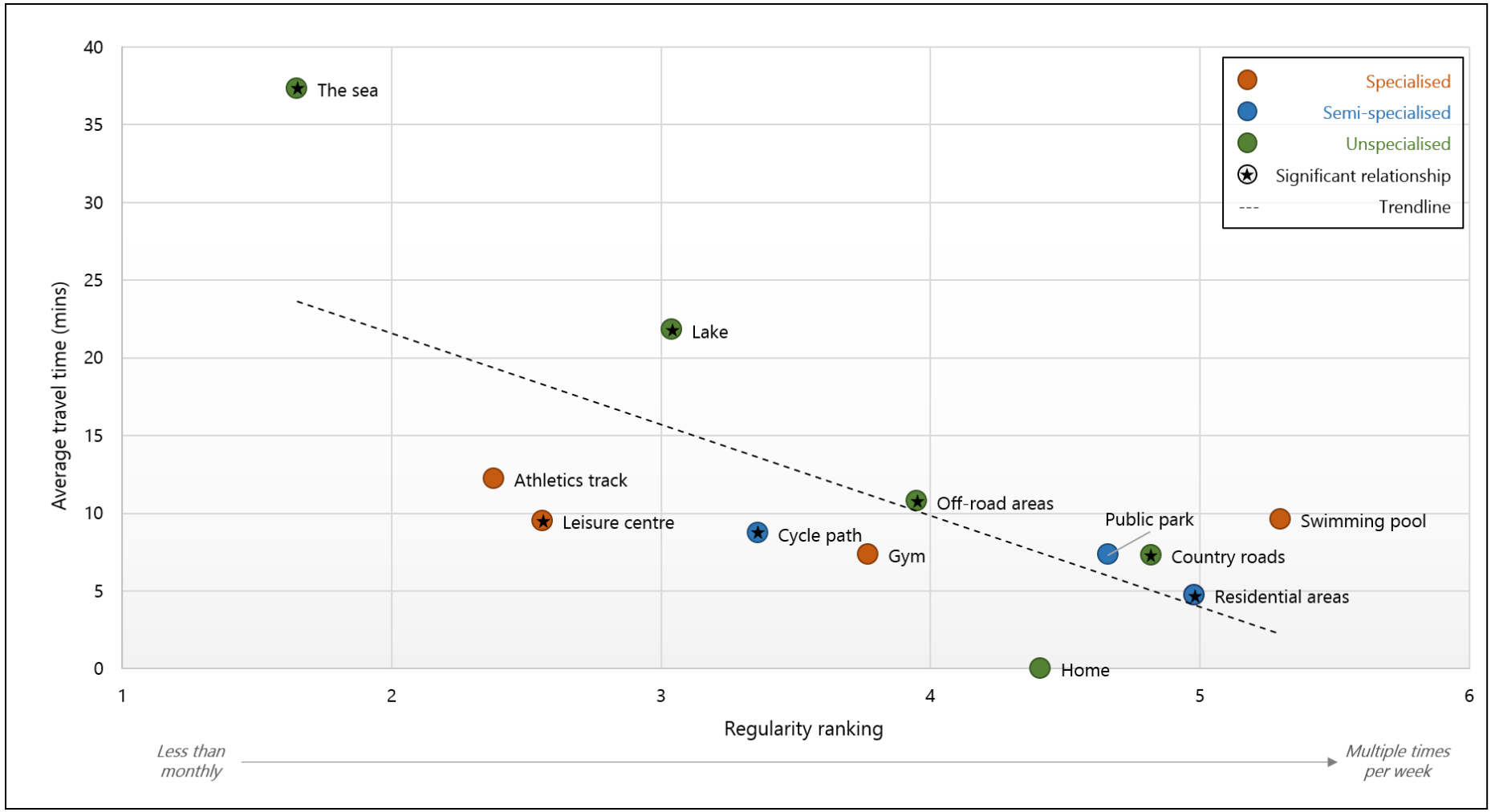


Figure 6.6 *- Regularity of training location use in relation to proximity. Source: Own survey 2018 (n=591).*

Unspecialised and semi-specialised spaces such as residential areas, country roads and cycle paths tended to be closest to respondents' homes due to their ubiquity and the general lack of specificity in terms of their location, reflecting the typical characteristics of suburban areas where much of the population live. Accordingly, more regularly used facilities were almost always closer to triathletes' homes.

The importance of proximity also contributed to the importance of other variables, such as perception of safety and confidence. Barnfield (2019), in his study of running in Bulgaria, discusses how certain respondents were more likely to perform physical activity closer to home, indicating a sense of nervousness about exercising too far away from home, associated with perceived lack of safety, and confidence in ones' ability to utilise areas away from the familiarity and security of the local neighbourhood. The importance of perceived safety on location use has also been discussed by Giles (2016), suggesting that less frequent, less experienced activity participants had a greater concern for safety when considering where to perform physical activity. Convenience is clearly important in many ways, but factors such as confidence, perceived safety and experience often mean that proximity alone is not integral for accessibility. Figure 6.6 highlights the earlier sentiment mentioned in Section 6.2.1.1 that the space of the swimming pool may be so integral to the social world that respondents were willing to travel to use them regularly, whereas open water locations were not important enough to encourage regular use. In contrast, cycle paths were on average the 3rd closest facility to respondents, but were only the 8th most regularly used facility, reflecting their reduced desirability, and again showing how proximity does not always result in increased use, especially when quality is poor, as discussed in Section 6.2.3.3. Generally, it appears that the most regularly used facilities tend to be the closest in terms of proximity, with the exception of swimming pools, which are used regularly considering their distance from respondents, and cycle paths which demonstrate the opposite trend.

Easier access to facilities due to them being nearer also resulted in an increasing likelihood of certain locations to be used on a weekly or more regular basis (Figure 6.6). The role of proximity was also evident in that those who used less common

training locations, like the sea[113] and athletics tracks[114], were significantly more likely to live within 10 minutes of these facilities. The exception to this concerned certain desirable or functionally specific spaces, whereby the experience or training benefits offered by these spaces outweighed the inconvenience of travelling. For example, one respondent noted:

> For some trail and off-road areas I do travel up to 30 minutes in order to find a suitable location if the one near me is not suitable for the set I'm undertaking (Qualitative survey response – M, 35-39).

Some areas may not be as integral to triathlon participation to encourage substantial travel, but if they are close enough to triathletes then they are more likely to utilise them. Overall, proximity of facilities was an important factor encouraging triathletes to continue pursuing their leisure activity to the extent they desired, with a general sense that those who saw their local area as favourable for triathlon engagement, were those who lived closer to a variety of popular training spaces. In particular, living in close proximity to swimming pools, athletics tracks, cycle paths, trails and off-road areas and residential areas all drastically increased the likelihood of being content with their one's local area (Table 6.1).

[113] X^2 df(1) = 41.338; p = 0.000.

[114] X^2 df(1) = 70.790; p = 0.000.

Table 6.1 *- Relationship between proximity to training locations and percentage of respondents who were completely satisfied with their local area for triathlon training. All values in percentages. Source: Own survey (n=591).*

	How long does it take to reach the following training locations?		
	Less than 10 minutes	10 minutes or more	Significance
Trails and off-road areas	46.2	32.6	.006
Swimming pool	45.6	33.6	.011
Athletics track	54.6	36.4	.013
The sea	61.7	37.9	.015
Cycle path	44.0	35.5	.025
Lake/reservoir	63.9	38.2	.031
Residential areas	39.5	41.4	.041
Leisure centre	46.7	36.7	.087
Public Park	40.7	38.8	.106
Gym	43.5	36.6	.250
Country roads	41.3	36.3	.336

One of the key geographical factors which influenced an individual's proximity to different triathlon training locations were the spatial characteristics of urban or rural living, and the subsequent effect on access to indoor and outdoor, specialised, semi-specialised and unspecialised spaces. Respondents living in urban areas lived significantly closer to several notionally specialised and semi-specialised training locations, namely swimming pools[115], leisure centres[116], athletics tracks[117], cycle

[115] X^2 df(3) = 11.126; p = 0.011.
[116] X^2 df(3) = 9.460; p = 0.024.
[117] X^2 df(3) = 29.077; p = 0.000.

paths[118] and public parks[119]. These facilities are typically designed or developed with the means of catering for the local community and maximising their use from a commercial perspective, and therefore they tend to be situated in more densely populated urban areas. In contrast, unspecialised areas such as lakes, country roads and off-road areas are more natural spaces that are appropriated by leisure participants, rather than being specifically designed for them, and are typically nearer to rural respondents. Of those who used indoor facilities, the majority travelled 5 to 20 minutes to reach them (64%), whereas the majority travelled less than 10 minutes for outdoor locations (56%). Additionally, the abundance of unspecialised triathlon spaces meant that they were predominantly within 10 minutes of respondents (56%), whereas the specificity of specialised spaces, which are situated to target certain catchment areas using available development land, meant that they were, on average, 16 minutes from respondents. Encouraging the use of unspecialised outdoor locations, and creating secure environments to do so, could be influential in promoting the sport to inactive, time-pressured individuals. This is particularly relevant as triathlon, specifically running and cycling, can be performed in a variety of semi-specialised and unspecialised spaces, making it an activity with clear potential to be integrated into hectic lifestyles.

6.3.3. Social access

In addition to physical and geographical factors, issues such as social difference and certain facets of modern society referred to by Warn and Witherick (2003) as elements of 'social access', had apparent influences on individuals use of different locations as part of their triathlon training. Panter *et al.* (2008) suggest that it is essential to consider how broader social forces may contribute to the inequitable provision of physical activity-enabling locations and facilities. The main social difference that appeared to impact triathletes' practices in this research, and which has been referenced in a number of previous research studies, was social class and related income. Research by Panter *et al.* (2008) highlighted that individuals with a lower income were more likely to live further away from specialised sporting and

[118] X^2 df(3) = 26.616; p = 0.000.

[119] X^2 df(3) = 30.153; p = 0.000.

recreational facilities, except for gyms, where this trend was reversed. Furthermore, in their report on outdoor activity in England, Sport England (2015) found that people in less affluent areas were significantly less likely to participate in an activity than those in affluent areas. Counter to previous findings, higher income triathletes, despite using lakes and country roads more than lower income participants, were not significantly more likely to use any of the main training locations. However, triathletes earning less than £40,000 per year were significantly more likely to use swimming pools[120], leisure centres[121] and gyms[122], to more regularly use athletics tracks[123] and cycle paths[124], and to live closer to gyms[125] and leisure centres[126]. Proximity to open water swimming locations did have a clear link to income, with those earning more than £40,000 per year significantly more likely to live within close proximity of open water spaces[127].

Despite being seen to have a significant impact on the spatial practices of runners (Giles 2016), it was refreshing to discover that gender had almost no significant impact on the spatial practices of triathletes in this survey. On the other hand, age did appear to have some sort of bearing, primarily reflecting the relationship between age and the tendency to live in urban or rural areas. Younger respondents lived closer to gyms[128], public parks[129] and cycle paths[130], whereas older triathletes had a short distance to reach trails and country roads, reflecting the younger population that characterises urban areas, and the tendency to move to rural areas later in one's life (Office for National Statistics 2017). This relationship between age and access to primarily rural, unspecialised training locations was evident in that more experienced triathletes – who were significantly more likely to be older[131] – lived closer to lakes and trails[132].

[120] X^2 df(1) = 7.374; $p = 0.007$.
[121] X^2 df(1) = 10.512; $p = 0.001$.
[122] X^2 df(1) = 9.284; $p = 0.002$.
[123] X^2 df(1) = 4.866; $p = 0.027$.
[124] X^2 df(16) = 27.759; $p = 0.034$.
[125] X^2 df(6) = 18.538; $p = 0.005$.
[126] X^2 df(6) = 15.662; $p = 0.016$.
[127] X^2 df(24) = 47.396; $p = 0.003$.
[128] X^2 df(3) = 35.376; $p = 0.000$.
[129] X^2 df(3) = 9.297; $p = 0.026$.
[130] X^2 df(3) = 21.844; $p = 0.009$.
[131] X^2 df(6) = 15.343; $p = 0.018$.
[132] X^2 df(2) = 16.665; $p = 0.000$.

Proximity to and quality of certain locations occasionally had an influence on either amplifying or reducing the impact of barriers to triathlete's leisure practices. For example, those living further from country roads were more likely to cite a lack of confidence as a barrier[133], whereas work commitments were less prevalent among those living close to residential areas[134]. Section 6.2.4.1 demonstrates how confidence can be a barrier to country road use, and an increased amount of distance required to get to these areas contributes further to this restricting nature of confidence. In contrast, Section 6.2.3.2 also highlights the convenience of residential areas for maximising the efficiency of physical activity, which has a clear impact on reducing the degree to which work commitments are considered a barrier amongst participants.

One of the most notable social barriers to access was the perception of safety attributed with certain spaces, which Winters *et al.* (2012) suggested can have a substantial impact on mobile behaviours. Survey respondents pointed towards the inherent sense of danger often attributed to cycle lanes, commenting on the dangers of busy roads and the lack of safe cycle infrastructure and general consideration for cyclists. The popularity of bicycle-based commuting has meant that cycling has been the focus of a greater number of policy interventions than other forms of active mobility (Department for Transport 2017; Golbuff and Aldred 2012), yet there have been limited examples of transportation institutions catering for the needs of leisure mobilities. Generally, Great Britain remains a society that is "socially and spatially dominated by motor vehicles to the detriment of other road users" and "likely to generate essentialised and stigmatised cyclist identities" (Aldred 2013: 253). Cycling facilities are often designed as an afterthought and ineffectively integrated into existing motor-dominant transport systems, hence why spaces such as cycle lanes and country roads are used as bridges to more appropriate locations. This cultural position of leisure cycling and dissatisfaction with cycle lanes among British triathletes reflects the outlying connection between cycle lane proximity and regularity of use apparent in Table 6.2.

[133] X^2 df(3) = 10.494; $p = 0.015$.

[134] X^2 df(1) = 6.781; $p = 0.009$.

Table 6.2 *- Comparison of regularity of use and proximity of training locations by rank. Source: Own survey 2018 (n=591).*

	Regularity of use (ranked by mean)	**Travel time (ranked by mean)**
Swimming pool	1	8
Residential areas	2	1
Country roads	3	2
Gyms	4	4
Public parks	5	5
Trails/off-road areas	6	6
Leisure centres	7	7
Cycle paths	8	3
Athletics tracks	9	9
Lakes/reservoirs	10	10
The sea	11	11

In comparison to cycling, running mobility has rarely been considered in the design of everyday shared spaces, and therefore, with the exception of athletics tracks, takes place in a variety of semi- and unspecialised spaces (See Figure 6.2). To the casual observer, it could be suggested that runners are in essence 'faster pedestrians' and can therefore achieve fluid mobility using spaces specifically designed for typical pedestrians. However, what has become clear from work by Giles (2016) and Ettema (2016) is that the specificity of physical activity practices such as running, mean that pedestrian-designed spaces are not necessarily conducive to positive mobility experiences. For example, Ettema (2016: 1144) contends:

Mixed land use, presence of facilities, and high density stimulate walking but likely reduce attractiveness for running because they cause many interactions with other road users and do not allow runners to maintain their momentum.

Simply, physical activity-related mobility cannot be easily grouped together with other forms of mobility when concerning design provision of health-enabling spaces (Giles 2016). Instead, approaches to create effective environments to encourage physical activity practices should integrate the knowledge and practices of cyclists, runners and other mobile groups during the planning process.

6.4. Conclusion

To date, the spaces where physical activity takes place and the characteristics of these spaces that make them conducive to different activities have received limited attention (Das and Horton 2012). Unlike most forms of sport and physical activity, triathlon takes place in a range of different locations, for a variety of different reasons.

Through the development of a conceptual continuum on the specialisation of triathlon training locations, this chapter has emphasised the importance of specialisation of training sites on triathletes' temporal and spatial triathlon practices. Increasing degrees of specialisation bring with them increasing restrictions in terms of social access – specifically in relation to cost of access, time limitations and eligibility restrictions – and accordingly, triathletes were more likely to make use of the more easily accessible, yet less predictable, unspecialised and semi-specialised public spaces. In addition, triathletes' utilisation of specialised, semi-specialised and unspecialised indoor and outdoor locations was significantly influenced by a range of factors, including level of experience, type of engagement, choice of triathlon event, different barriers to participation, and markers of social difference such as age, income and gender. In order to entice people to participate in triathlon, to ensure their involvement continues, and to encourage physical activity more generally, it is important to remain attentive to the characteristics of spaces that are preferential or disadvantageous for exercise practices (Deelen *et al.* 2019).

Drawing on the ideas of Warn and Witherick (2003), this chapter has also discussed issues regarding the accessibility of training locations, with a particular emphasis on provision, proximity and social access. The findings highlight the importance of provision and proximity for encouraging regular use of different training locations, whilst also emphasising the risks of over-restricting access to more specialised facilities. Social difference has a significant impact on triathletes' tendency to utilise different training spaces, primarily concerning age and income. Confidence also emerged as a notable social factor influencing triathletes' locational geographies, with less experienced triathletes avoiding more unpredictable, uncontrolled locations (such as country roads and lakes), whereas more experienced triathletes embrace them.

7. The Social World of Triathlon

> Triathlon, at first, can seem lonely, as the sport is a solitary endeavour most of the time - you swim alone, you run alone, and apart from a few exceptions you ride alone. However, there is a strong community within triathlon, one with particularly great camaraderie (Edwards 2001: 289).

The previous two empirical chapters have begun to reveal the nuanced nature of triathlon engagement in Great Britain, highlighting the array of individuals who make up the triathlon community and their unique practices (Chapter 5), in addition to developing a better understanding of the locational geographies of triathletes' everyday involvement, exploring the socioeconomical, cultural and physical characteristics of triathlon-enabling spaces and how accessibility is crucial for triathletes' ability to utilise these spaces (Chapter 6). This third empirical chapter seeks to extend this understanding further by using the conceptual framework of 'social worlds' proposed by Unruh (1980) and later specifically adapted to amateur sport by Shipway *et al.* (2012) to delve deeper into the intricacies of the social practices of the wider triathlon community and its many localised sub-worlds. Using a combination of quantitative and qualitative analysis, this chapter addresses a gap in the literature surrounding the social aspects of contemporary amateur sport, arguing that the activity of triathlon has an active, dynamic and meaningful social world operating closely together with an expanding and increasingly interconnected virtual world.

Social worlds are highly dynamic 'universes of discourse' that emerge around shared cultures, activities and practices. These large units of social organisation consist of the actors, organisations, events and practices associated with a particular social field or personal network, and emerge as a result of the collective efforts of its members to create, distribute and evaluate said social object (Unruh, 1980). As a result of the changing nature of society in modern times, social worlds are constituted by diverse networks (Castells 2000) and emerge in relation to a variety of interests, experiences, technologies and lifestyles. This chapter builds upon previous

studies exploring the relationship between serious leisure activities and social life to develop a more detailed understanding of the sport of triathlon in Great Britain.

The concept of the 'social world' has been applied to a wide variety of different contexts within the social sciences and beyond, yet there is a scarcity of work that explores the intricacies of the triathlon social world and its importance to the sport within the context of Great Britain. Previous work has also provided limited insight into the inherent geographies of social worlds, notably the physical and digital sites where actors coalesce, interact, and co-produce sporting social worlds. Responding to calls for a better understanding of the intricacies of leisure activities (Duncan, 2017), this research builds on previous conceptualisations of endurance sport social worlds and considers triathlon as a similar, yet notably distinct, activity with its own unique social world. It is important to be attentive to the subtlety of how sociality now animates individuals' exercise, particularly at a time when an increasing number of individuals perform their exercise alone (Hitchings and Latham 2017). Responding to calls from Shipway *et al.* (2012), this research focusses on the experiences of active triathletes within the East Midlands and across the UK to untangle the relationship between an individual activity like triathlon and its collective 'social' world.

The following chapters draw upon quantitative and qualitative insights to investigate the unique constellation of actors, events, practices and organisations that coalesce to form the triathlon social world (Unruh 1980). The first section (7.1) introduces the concept of the triathlon social world, detailing how this research builds-upon and contributes to the academic literature surrounding the social geography of physical activity. Using a combination of observation and interview data, Section 7.2 analyses the importance of triathlon clubs as sites with the potential to support, expand and redefine the triathlon social world, specifically focusing on the benefits of club membership, knowledge sharing processes, the importance of volunteering (for both individuals and the social world as a whole), social networks and social relationships, and the various 'places' of the social world. Following this, Section 7.3 will focus on the unique ethos associated with triathlon involvement with an emphasis on respondents' perceptions of the 'triathlete identity' and the associated importance of symbolic capital among triathlon participants.

7.1. The multi-scalar social world concept

Through a detailed analysis of the profiles and practices of British triathletes, Chapter 5 has made a strong case for the consideration of triathlon as a form of serious leisure. Participants demonstrate a significant degree of commitment, perseverance and effort and refer to several durable benefits of their triathlon engagement – all key characteristics of serious leisure activities (Stebbins, 1992). In addition to these individual characteristics, it would be reasonable to assume that triathlon as a serious leisure activity also possesses its own social world characterised by a unique ethos and social identity that are shared by its members:

> One of the characteristics of any serious leisure activity is the social world that develops over time as a consequence of sustained participation by enthusiasts in that activity (Shipway *et al.* 2012: 260).

Social worlds are highly dynamic 'universes of discourse' that emerge around shared cultures, activities and practices. These large units of social organisation consist of the actors, organisations, events and practices associated with a particular social field, and emerge as a result of the collective efforts of its members to create, distribute and evaluate said social world (Unruh, 1980). As a result of the changing nature of society in modern times, social worlds emerge in relation to a variety of interests, experiences, technologies and lifestyles. The concept of the 'social world' has been applied to a wide variety of different contexts within the social sciences and beyond. Academics have drawn upon the concept of social worlds to better understand the communities associated with barbershop quartets (Stebbins, 1996), chess (Fine, 2015), white water kayaking (Whiting *et al.* 2011), serious yoga (Patterson *et al.* 2016) and distance running (Shipway *et al.* 2012), amongst other interests. Yet, triathlon – a sport with an active, thriving and distinct community – has received limited attention from a social worlds perspective, especially within the context of Great Britain, where it is estimated that more than 160,000 people take part in the sport (MultiSport Research 2019).

This research builds on previous conceptualisations of sporting social worlds, particularly insights into the distance running social world (Shipway *et al.*, 2012) and

considers triathlon as a similar, yet notably distinct, activity with its own social world. Like distance running, the degree of commitment, passion and self-motivation required in triathlon, in addition to the potential for significant achievement and sacrifice shared by its members, results in an associated social world that is often more important to its affiliates than other social groups, such as work colleagues or other hobbies (Shipway *et al.*, 2012). As Robinson *et al.* (2014) argue, sporting social worlds provide important opportunities for interaction, socialising, and the creation of communities bound by a shared dedication and effort which characterise involvement in the sport. However, in contrast to social worlds associated with activities such as football or cheerleading, triathlon as an activity is a primarily individual activity, with the majority of one's training being performed alone. However, as this chapter will demonstrate, triathlon is inherently about an identifiable wider group culture and the social connections it enables are often stronger than in many other activities (Hitchings and Latham 2017):

> Serious leisure, as a meaningful, committed and engaging form of leisure activity, leads to a greater immersion within the social world and produces a stronger and more valued social identity for these participants (Green and Jones 2005).

Previous studies have identified that physical activities have become much more than just individual pursuits to improve an individual's fitness levels. Instead, activities like running and cycling provide participants with the opportunity to develop a socially-important identity that positions them within a meaningful wider group culture (Hitchings and Latham 2017). The following chapter aims to shed light on the process of developing a meaningful identity through triathlon engagement, to highlight the importance of this identity within the context of the social world, and to emphasise how the development of this identity is an inherently social process closely tied to involvement, social ties and certain places, rather than based purely on athletic ability.

Sport enables individuals to develop social capital in the forms of networks with like-minded individuals, build stronger social and community links, achieve a sense of belonging and increase their appreciation of the area in which they live (DCMS

2015). Accordingly, building on the discussions of Chapter 6, this chapter will explore the interconnections between place and social worlds within the context of triathlon, a sport which is inherently tied to, and manifests itself in mobility within various places. Triathlon is an inherently individual activity performed in a wide variety of geographical locations (see Chapter 6), but like many organised social worlds, has some form of geographical dimension with centres and peripheries (Unruh 1980). The triathlon social world is multi-scalar and is both spatially identifiable whilst at the same time spatially ambiguous (Strauss 1978). This chapter builds upon previous studies exploring the relationship between serious leisure activities and social worlds to develop a more detailed understanding of triathlon in Great Britain.

Consisting of a traditional social element and an increasingly prevalent virtual component, the triathlon social world manifests at a range of scales, bound by a shared interest and involvement in the sport. Unruh (1980) refers to four scales of social world analysis (see Figure 7.1), ranging from an investigation into national/international social world systems to the intricacies of locally situated sub-worlds.

At its largest scale, the triathlon social world exists internationally, with triathlon events taking place on all seven continents, albeit disproportionately concentrated in the Global North. Subworlds and micro-scale social circles are seen to embody the same processes, characteristics and structures associated with larger social worlds:

> social worlds are ultimately reducible to amalgams of subworlds and social circles (Unruh 1980: 285).

The focus of the quantitative phase of this research project has been on the triathlon social world within Great Britain, arguably an example of a dispersed social world which reflects a multitude of sub-worlds. Whereas the qualitative elements of this study focus predominantly on the intricacies of the triathlon sub-worlds surrounding two clubs in the East Midlands covering a level of analysis somewhere between regional and local social worlds. The interactions between these various scales of the social world system are relational in the sense that the expectations and ethoses associated with the wider social world have a direct impact on the practices and expectations of local sub-worlds, whilst simultaneously the sub-world has its own role

in (re)producing these norms and propagating them to regional social worlds and beyond. Lamont and Ross (2019) comment on his relationship between the various scales of the social world, stating that:

> Members of sub-worlds share an overarching interest with members of a broader social world, though they are identifiable by nuanced norms and values that distinguish a smaller group within the social world (Lamont and Ross 2019: 342).

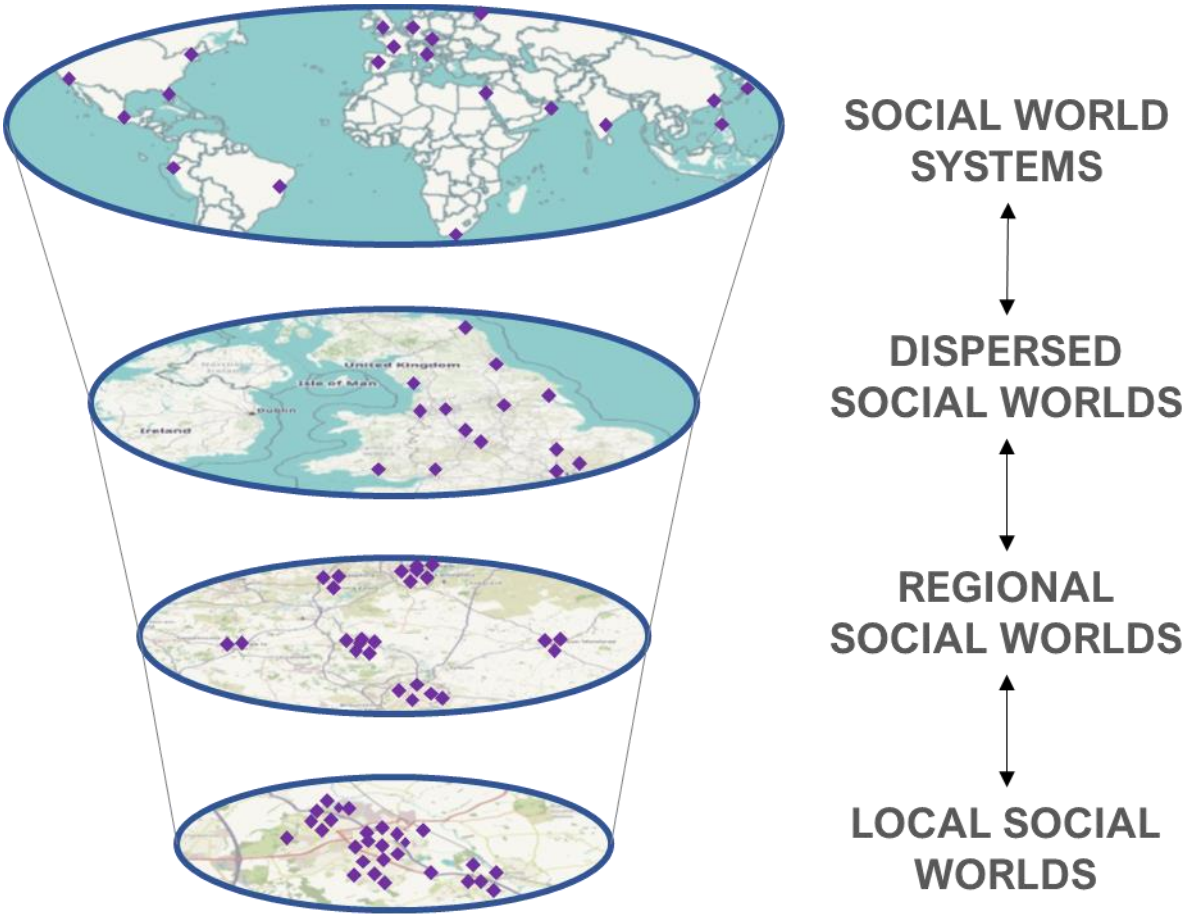


Figure 7.1 *- Scales of social world analysis (Adapted from Unruh 1980: 287).*

Social worlds consist of actors, events, practices and organisations centred around a common sphere of interest. What makes each social world unique and clearly distinguishable from one another is the composition of these four groups and the interactions between them. Drawing on Unruh's (1980) theoretical framework, the structure of the triathlon social world can be described as follows:

¶ **Actors** – Anyone who engages in, or is loosely connected to, the sport of triathlon: insiders, regulars, occasional participants, outsiders.

¶ **Practices** – The acts of those involved within the social world (inclusive of training, competition, and socialising).

¶ **Events** – The wide-variety of occurrences that bring together individuals from the social world: not limited to competitive events, can also include training sessions and social events.

¶ **Organisations** – The series of institutional entities which enable the social world to function.

Figure 7.2 provides a very basic overview of the entities and shared qualities which characterise the structure of the triathlon social world. Of course, the triathlon social world is a significantly more complex phenomenon. However, visualising key components in this way helps to emphasise how this constellation individuals, institutions, practices, and events come together to form this complex unit of social organisation (Unruh 1980).

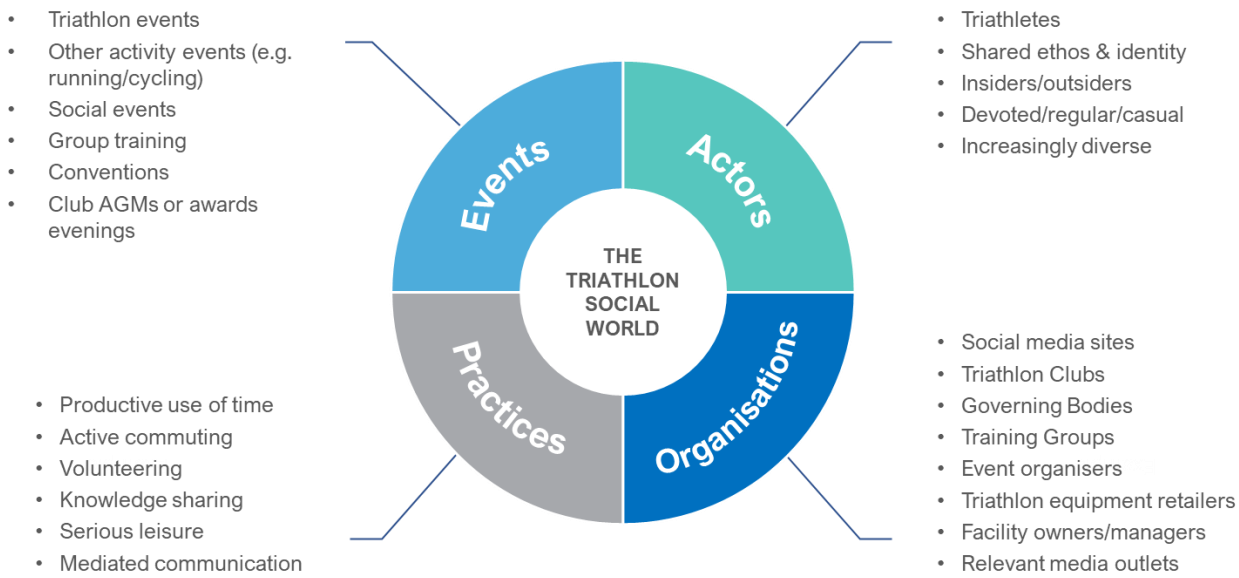


Figure 7.2 *- The Triathlon Social World (Adapted from Unruh 1980).*

Drawing upon Unruh's (1980) conceptualisation of social worlds, actors in the context of triathlon refer to the individuals engaged in, or connected with, the activity, inclusive of committed insiders, loosely-related outsiders and everyone in-between.

This broad definition encompasses professional athletes, casual participants, those responsible for the organisation of clubs, events and facilities, and even those spectating at events or producing the equipment or clothing used by triathletes. This array of actors involvement within sporting social worlds is aptly summarised by Shipway *et al.*'s (2012) typology that visualises actors' varying degrees of engagement within the distance running social world (Figure 2.2). Lamont and Ross (2019) discuss how characteristics such as length of involvement, the extent to which actors express the community's norms and ethos, and accrued cultural capital, all contribute to actors positioning on the hierarchy of social world involvement.

Those in the heart of the triathlon social world – the experienced insiders – are characterised by total-life round involvement in the world, playing a crucial role in recruitment, event and club organisation, knowledge dissemination and the social functioning of the triathlon community. The regulars - habitual committed participants - encompass the majority of members of the social world, they identify with the world and integrate the world into their everyday lives (Shipway *et al.* 2012). 'Occasional' participants – or 'strangers' – are characterised by a lower degree of commitment and only remain invested in the world of triathlon until it no longer offers enjoyment, social status or diversion. The final group, the 'sporting outsiders', have a limited awareness of the culture, practices or collective experiences of the social world, and may not even participate (Unruh 1980). References to these categories of involvement will be made throughout the following chapter.

The conceptual frameworks of social worlds (Unruh 1980) and serious leisure (Stebbins 1992) have previously been identified as useful analytical tools to explore the experiences of triathletes (McCarville 2007), yet there is a scarcity of work that explores the intricacies of the triathlon social world and its importance to the sport within the context of Great Britain. In addition, previous work has provided limited insight into the inherent geographies of triathletes' social worlds, notably the physical and digital sites where actors coalesce, interact, and co-produce sporting social worlds. As discussed by Dawson and Jöns (2018), actor-network theory has brought an explicit emphasis on the constitutive role of the built environment and other materialities for human practices and social interactions to research across the social

sciences, which means that the important role of the material constitution of the triathlon sporting world and its multi-scalar geographies need to be added to Unruh's (1980) earlier concept of the social world when aiming at a more comprehensive understanding of the nature of sports such as triathlon. Moreover, there is the paradox to explore that the level of dedication and effort required to engage in such a serious pursuit as triathlon results in a social world that is characterised by a passionate community with a shared ethos, while at the same time a significant number of those aligned to the world perform the majority of their training alone.

Accordingly, this chapter aims to address these shortcomings through an investigation into the actors, events, practices and organisations which form the triathlon social world, with a particular emphasis on identity development, the acquisition of social capital, and the spatialities of the triathlon social world, whereas Chapter 8 discusses the digital aspects of contemporary social worlds. Using the insights gained from participant observation with two triathlon clubs in the East Midlands and semi-structured interviews with their members, this research emphasises the continued importance of triathlon clubs for allowing access to the social world, acting as spatial and social 'communication centres' (Unruh 1980: 283) for the patchwork of subworlds that collectively form the wider social world. The chapter also discusses the importance and meaning of sporting-identities and how the process of developing and expressing these identities are integral to the operation of the triathlon social world. Finally, the following discussion touches on an integral dimension of sporting social worlds, volunteering.

7.2. The role of triathlon clubs

> I think it would be a pretty foolhardy person that doesn't take the opportunity to join their local tri club and get the benefits of knowledge, help and support, as well as the opportunity for friends (Wes, M, 60-64).

An organisation can be defined as "a group of people who work together in an organised way for a shared purpose" (Cambridge Dictionary 2019). In the context of a social world, these organisations play a vital role in facilitating the activities and experiences that shape and define the collective culture of the social world, acting as

a platform to contribute to the community. Organised sports clubs associated with a range of physical activities have become accepted and valued institutions within British sport participation, with an estimated 151,000 sports clubs across the UK (Sport and Recreation Alliance, 2013; see also Figure 3.4). Sports clubs bring together like-minded individuals around a common interest, provide less experienced participants with access to unique knowledges and practices associated with the activity, provide more experienced participants with a means of expressing their identity and contributing to the development of the social world, and give everyone the opportunity to create and maintain meaningful, lasting social relationships – something that should not be overlooked because of the historical significance of sports clubs for local communities (Baker 2017). According to a national survey in 2018, 67% of people joining a sports club did so to benefit from the social opportunities available (Sport and Recreation Alliance 2018), yet this important social function of clubs within sporting social worlds has been largely underexplored.

Much like within the world of distance-running, triathlon clubs are the primary organisational focus of the triathlon social world (Shipway *et al.* 2012). Governing bodies, event organisers and companies selling triathlon-related equipment, clothing, or other products can also be considered as important organisations within the wider social world, however, their immediate influence on the actors of the social world is less significant. Therefore, triathlon clubs are arguably the most important organisational entities within the triathlon social world. Triathlon clubs enable entry into the social world, facilitate meaningful social relationships and knowledge exchange amongst its members, they organise and provide volunteers to run triathlon events, and function as the key spatial and social centres of operation for the social world. For their members, regular and/or sustained engagement with a triathlon club can contribute to individuals' sense of identity, providing them with a means through which to develop social and symbolic capital, and the opportunity to partake in a means of friendly competition, which appears to be a key attribute of the triathlon club dynamic. Much like communities of practice more generally, triathlon clubs have increasingly begun to utilise digital communication tools as a means of augmenting the experience of the club's community – using digital platforms to

disseminate training sessions, managing administration and memberships, enabling socialisation and providing a virtual space for the community to thrive.

The following section will focus on these vital organisations that form part of the underlying structure of the triathlon social world, concentrating on how triathlon clubs continue to function as key operational centres for the activities of the social world, despite an increasing number of triathletes performing their activity alone.

7.2.1. Club membership

The increasing accessibility of activities such as swimming, cycling and running, the decreasing barriers to entry of triathlon, the development of various technological aids that enable individuals to perform the training for these activities within the comfort of their own home, and the pervasiveness and social importance of online communication over the past decade have prompted a cultural shift that has meant that club membership is no longer a pre-requisite to social world involvement in triathlon. However, it would be a drastic oversight to suggest that the triathlon club is any less important as an organisation within the triathlon social world. Research by Ronkainen *et al.* (2014) on runners in China found that during marathon training, those who performed their training with a running club became progressively more immersed within the running social world in comparison to individual runners. The intense dedication and physical effort associated with triathlon involvement, and the ability to share this experience with others, enhances an individual's immersion within the social world. This same sentiment is highlighted by Robinson *et al.* (2014) who suggest that distance runners who regularly trained in a club environment became increasingly intertwined with the practices and values of the social world.

Sports clubs are one of the most immediately identifiable organisations within sporting social worlds according Shipway *et al.*'s (2012) reimagined sporting social world framework. These important organisations are recognised for their role in fostering social inclusion, facilitating community development and enabling the accumulation and expression of social capital (Waardenburg and Nagel 2019). Within triathlon, clubs are primarily volunteer-run community groups that focus on providing collective opportunities for training, competing, and socialising, in an effort to bring

together individuals with a range of abilities, motivations, and goals, but with a shared interest in triathlon participation. Shipway *et al.* (2012) argue that running clubs and events are key to fostering a sense of belonging, feelings of community and identifying locations for the sharing of experiences that are important for the creation of a sporting identity at an individual level and wider culture at a community scale. In this study 85% of survey respondents were club members, with the non-club members engaging significantly less regularly with training[135] and competitions[136]. Club membership has the advantage of facilitating social interactions with like-minded athletes. In this study, five key impacts of club-membership have been identified and will be discussed in this chapter: socialisation, identity formation, regularity of engagement, use of technological devices and competition.

One characteristic of serious leisure engagement that is strongly associated with perceived level of association with the triathlon social world is the development of a meaningful sporting identity, and the aligning of oneself to the shared ethos of an activity. Appendix E.13 demonstrates this significant relationship between club membership and an individual's tendency to identify with the sport. By providing structure and opportunities to learn from insiders and to share in the production and expression of cultural, bodily, symbolic, and social capital, triathlon clubs are an important site to establish or confirm such an identity:

> Following a structured training plan, participation in group training, immersion into the subculture language, and buying specialist equipment emerged as important practices linked to developing an identity narrative of a runner (Ronkainen *et al.* 2017: 6).

Bringing together like-minded individuals around a unique shared culture associated with a challenging yet immensely rewarding activity creates a space for individuals to express themselves, and a social structure they can be a part of, strengthening the individual and the community in a virtuous circle (Fine 2015):

[135] X^2 df(4) = 14.703; $p = 0.005$.

[136] X^2 df(2) = 7.670; $p = 0.022$.

> The community at this club is brilliant. If people are feeling a bit negative or a bit down about anything or feel like they can't do it then they might post something [online], and they will just get so much positive encouragement and reinforcement back from people. 50 people in the club will just say 'you can do it', and just give you that boost. I think here there's a massive community spirit in the club, and everybody – whether you are an elite athlete or whether you are somebody who's not, like me - you still get lots of positive reinforcement from everybody. Everyone will say good things about you and it's just really encouraging (Nicole, F, 55-59).

Triathlon clubs enable socialisation and permit access to the triathlon community in a way that other organisations (e.g. Governing bodies or triathlon news websites) do not. Coakley (2003: 98) defines socialisation as "an active process of learning and social development, which occurs as we interact with one another and become acquainted with the social world in which we live". The increasing pervasiveness of digital communication tools have increased individuals' ability to remain in social contact with the triathlon community from a distance, although physical co-presence – achieved through attending group training, events or community events – continues to be an important condition for the development of meaningful social connections within the social world. Hitchings and Latham (2017) also argue that intermittent conversations during physical activity, which may have nothing to do with the activity in question, can form an important aspect of the exercise experience (see also Watson 2006; Iveson 2007). The ability to get together with like-minded individuals at organised club events or training sessions is an important social function of the triathlon club, often providing opportunities for community engagement that are not available to non-members. One respondent, Robert, summarises this social function, saying:

> If you essentially did everything by yourself, go to your own swim sessions, ride your own bike, and you might do a couple of triathlons, then you could call yourself a triathlete. But then, being involved in a club, that's more being part of the community (Robert, M, 35-39).

This sentiment aptly relates to my own experience of the triathlon social world during my time with the two clubs, whereby social engagement appeared to outweigh the importance of physical prowess or technical knowledge in the search for a sense of belonging in the sub-world of the triathlon club:

> Although increased triathlon skill and awareness of the norms and practices of triathletes did contribute to my sense of identity, it was the socialisation with other members and increasing familiarity with the sub-world that had a notable impact on my sense of identity. Being engaged socially made it much easier to identify with the activity. This is most apparent now, writing this thesis at home and no longer being regularly socially involved with the case study clubs (Observation – 15th December 2018).

Another means through which the triathlon club environment can lead to a greater sense of involvement in the social world, is through allowing them to express physical and mental capital through the element of competition. One of the reoccurring themes during the qualitative phase of the research was the prevalence of the seemingly paradoxical notion of support and competition that became an expected and inseparable element of club engagement. Competition - primarily of a light-hearted, friendly nature - appeared to be an important means of interaction and bonding amongst club members, and a way of expressing physical capital obtained through one's triathlon involvement. The notion of competitiveness in the context of the triathlon club is generally considered as a positive influence on the community dynamic, encouraging members to get more out of themselves physically in training, whilst also creating an intimate atmosphere that was conducive to developing stronger connections between members:

> people work really hard and push each other, which I really like, so there's a healthy competitiveness. But it's all done in good spirit, which I think is fun as well (Grace, F, 40-44).

> if you're running with other people and you're doing interval sessions and stuff, you can actually push yourself harder and maybe you shouldn't. I know my husband has hurt himself before because he's so competitive [laughs] (Jessica, F, 45-49)

Attempting to integrate opportunities for positive experiences of competitiveness which are not counter-productive to the inclusivity and overall atmosphere of the group exercise dynamic can be a beneficial step to encourage members of the social world to form sustained and meaningful exercise practices.

The prevalence of competitiveness was not limited to the triathlon club environment, or even to events where competitiveness would be expected, but in line with the ever-increasing virtual aspect of triathlon engagement, competitive tendencies regarding physical performances have become more commonplace across digital platforms (Westlake 2020). Connected devices and socially orientated activity logging platforms are increasingly playing a role in enabling the expression of individuals' competitive tendencies even when training alone, because this is possible through the use of gamification functions and the ability to compare one's activity with others in extensive detail (Barratt 2017). This clear and growing digital element to competition which has become an important practice amongst the population of the triathlon social world will be explored further in Chapter 8.

One element that had a significant impact on individuals' sense of involvement within the social world, and possibly the key factor determining whether an individual was more of an 'insider' or 'outsider' to the triathlon social world, was the regularity of their engagement with the triathlon club's activities in combination with their level of experience in the sport. It was the regularity of my own engagement with the case study clubs, more than anything else, which contributed to my growing sense of belonging to the triathlon social world:

> This, along with the encouragement from others during the running session were my first real experiences of encouragement and support from the triathlon community, and I believe this was partly influenced by my more regular presence and engagement with the group, and by being proactive in getting to know many of the regular members (Observation – 19th June 2018)

In addition to regularity, triathlon experience appeared to provide respondents with a sense of confidence and an increased likelihood of sharing knowledge with other members, which increased their tendency to identify with the activity and to signal themselves as more of an insider (Unruh 1980). Experience in this context was not necessarily associated with physical prowess or athletic experience, but instead would often relate to experience of the practices, politics and community of the club itself, enabling them to take on the role of a community insider, guiding and supporting less experienced members and playing a crucial role in the organisation of group activities. Margot, who was volunteering as the chair of TTC triathlon club during the interview stage, commented on how her wealth of experience and position within the triathlon community was central to her sense of belonging:

> Probably because I've been doing it so long that I've got a certain amount of experience and knowledge. I know lots of people in the triathlon community, and I suppose a key part of it as well is then now that I'm so heavily involved in the club, that makes me feel like a really integrated part of it (Margot, F, 40-44).

Similarly, several members expressed their 'insider' status by sharing training tips and advice with myself and other members during training and even on the club's Facebook page:

> The swimming session was another straight swimming session this week, hard work again. Both Edward and Oscar were coaching again this week. Between some of the swimming reps, Edward was giving me advice on how to improve my swimming stoke, after noticing some elements that were inefficient or slowing me down (Observation – 3rd July 2020).

A number of existing research studies have commented on the important role of event completion on individuals' sense of identification with a particular serious leisure activity (Green and Jones 2005; Lamont *et al.* 2014; Shipway and Jones 2008). Conversations with interviewees reinforced this point, but also emphasised how club membership underpinned this sense of identification with the triathlon community:

> you'd then probably have to do lots of races to feel like you're part of a triathlon community, and start seeing the same people at events. I think it must be very hard to do it without, I don't think I could do it without being a member of a club (Nicole, F, 55-59).

Whereas events are important sites for the development and display of the triathlete identity, triathlon clubs offer a more regular means of communication and involvement with the same group of individuals. Social connections at events are typically more fleeting, formed through a shared appreciation of the commitment and challenge associated with triathlon and through temporary geographical proximity. One theme regarding event participation that was commonplace amongst respondents was their role as an occasion through which to obtain markers of subcultural capital – including finisher medals and t-shirts, other memorabilia and valuable experiences – which are a means of signifying membership to the triathlon social world (Shipway *et al.* 2012). Events took on an increasingly important role as a means of signalling members belonging to the sub-world and for cultivating their social connections when attendance at the event was as part of their triathlon club, particularly when involvement centred around performing a volunteering role (see Section 7.2.3).

7.2.2. Sharing knowledge

Like any serious leisure activity, gaining experience and developing competence involves the accumulation of activity-specific knowledge. In triathlon, information to enable individuals to increase their capability and understanding of the activity and its associated community can be obtained through a range of sources, including, but not limited to other triathletes, online forums, books, podcasts, through spectating at

events, and social media. Sharing knowledge primarily took place within the triathlon club environment (both via face-to-face interaction and on their social media platforms). Triathlon knowledge is also regularly disseminated by governing bodies (e.g British Triathlon, Triathlon England), triathlon magazines (e.g. 220 triathlon) and through media outlets (Global Triathlon Network on Youtube). Through the distribution of this triathlon relevant knowledge, these platforms become important organisations within the triathlon social world.

72% of respondents agreed that other triathletes were an important source of triathlon-related knowledge, with club members being significantly more likely to agree with this statement than non-members[137]. Therefore, triathlon clubs are clearly an important site for the dissemination and sharing of triathlon-related behaviours and practices. Insiders to the triathlon social world are important actors in the process of disseminating their knowledge, experiences, tips, and guidance and on to other members of the community. This knowledge could be associated with training, competing, preparing, managing triathlon against other responsibilities, spatial knowledges of local training areas, and even advice that extends beyond triathlon. This knowledge transfer is a two-way process of learning and giving advice, which contributes to insiders' and outsiders' identity and sense of involvement with the triathlon social world. Through the organisation of the triathlon club, sharing knowledge takes place in two main ways: face-to-face exchanges and on digital platforms.

Within triathlon clubs there are often people with varying levels of experience and involvement, combined with a supportive atmosphere, which in turn creates an effective atmosphere for the dispersal of triathlon-related knowledge. More experienced or involved members could be considered as 'subject experts' through the wealth of their achievements, experiences or longevity in the activity. The importance of knowledge sharing and guidance from other members facilitated by club membership should not be overlooked. Often this process involves an

[137] X^2 df(1) = 29.432; p = 0.000.

experienced insider to the triathlon social world passing knowledge to less experienced members:

> [T]riathlon is quite complicated when you first start doing it. How do you put your trainers on when you've got wet feet? Getting all of the tips and turning up at events and knowing other people there is a really big thing. Having experts in the club, especially doing the longer events. You know, you could just ask Oscar [TTC Coach] anything, because he's always done it. And just not being a big thing to ask anybody anything it the biggest thing I think (Sophie, F, 40-44)
>
> I think it's the experience, learning, sharing. So in return I've helped people who, you can see it at the beginning, they might be nervous about the swim, or the water might be cold, and so I use my experience to help pass on some tips to help them overcome. You can learn, no matter what level, there is always some learning two-ways (Wes, M, 60-64).

The importance of the triathlon club as a site for the distribution of triathlon-related knowledge was emphasised by Craig, who despite having been involved with triathlon for seven years, suggested that he had learned significantly more in the past 12 months after making the decision to join Riderby Triathlon last year. Speaking to one of the swimming coaches during my brief time with Swimbourne Triathlon Club was my first experience of how freely this exchange of knowledge occurred in the club environment:

> Bella (swimming coach) then went on to say that coming along before sessions and speaking to other members was a really great way to learn more about the sport, including unique knowledges to help with training, events, and time management. One example she highlighted was putting talcum powder into cycling shoes during a race so that after finishing the swim and transitioning to the bike with wet feet, that it would help to dry them and prevent blistering (Observation – 14th June 2018).

Face-to-face communication during regular training sessions was an effective mechanism for the dissemination of triathlon-related knowledges amongst members,

although this was not the only site for knowledge exchange. Another way in which this process took place was via social media platforms such as Facebook:

> If I've got a particular question then it's a good way of getting hold of the club. Like the other week, I needed physio on my shoulder, so I put a post up saying, 'any recommendations for local physios?', and got about 20 recommendations within about half an hour – so that stuff works really well (Oliver, M, 25-29).

This process of knowledge sharing appeared to be the primary function of triathlon club's Facebook pages, with training tips, race reports, motivational comments, inspirational content, event and equipment recommendations, alongside more generic guidance and support being uploaded to the club's dashboard multiple times each day.

Traditional exchange of knowledge within the social worlds of sport and physical activity were much more reliant on face-to-face interaction. Whereas in our modern digitised society, where up-to-date information is accessible at almost anytime, anywhere, on any digital device for anyone, physical presence is no longer a pre-requisite for acquiring advice, guidance and support. Physical presence does continue to play an important role in relation to other aspects of social world operation (8.2.2). Figure 7.3 demonstrates the important role of these digital platforms as valuable knowledge exchange centres within the triathlon social world, highlighting the degree of engagement and support available from a club with only ~80 active members. It is this level of interaction, flexibility, convenience, ease of disseminating knowledge and the ability to signal one's membership to the subworld that have made socially-enabled digital platforms so central to the structure of contemporary social worlds.

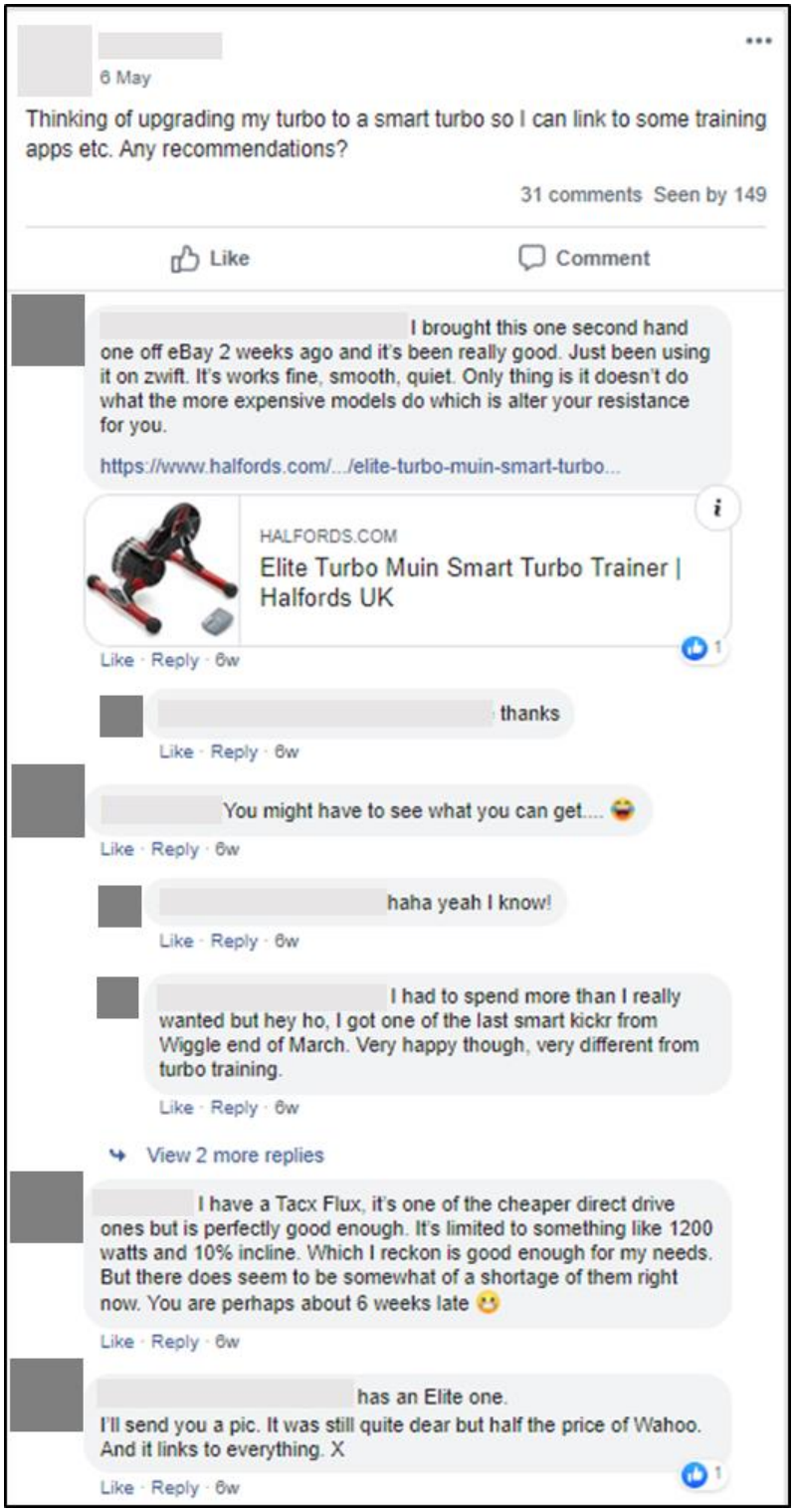


Figure 7.3 *- Example of knowledge exchange through triathlon club's Facebook group.*

The impact of these digital communication platforms within the triathlon social world was not limited to the role of triathlon clubs' Facebook pages. In her study of the impact of technology within the sport of running, Little (2017) suggests that one

of the key benefits of social media usage was the support and information provided by the running community. The same is true for triathlon, whereby a wealth of other digital forums bound by a shared interest in the activity of triathlon - such as event-specific or region-specific Facebook pages, training advice forums, and triathlon-based Instagram accounts – enable dispersed individuals to benefit from the wealth of relevant knowledge associated with the wider social world without the need for physical presence. One interviewee commented on the importance of a particular speciality group which enabled access to advice that was not easily accessible through other channels.

> I'm also part of a ladies only Facebook group, triathlon group, which has been fantastic. Because there has been no question that you can't ask, however embarrassing it may be, however personal it may be, you can ask it (Betty, 35-39, F)

Betty's comment highlights the important role of these digital speciality groups and how they could be considered as valuable digital organisations within the wider triathlon social world, bringing together a range of individuals based on certain characteristics and a shared interest in triathlon. Outside of the virtual world of triathlon, access to this potentially sensitive information could be significantly more challenging, and arguably could prevent certain individuals from becoming involved with the sport. Therefore, one could argue that the increasing prevalence of this digital element of the triathlon community has contributed to the increasing accessibility of the sport.

7.2.3. Volunteering

Volunteering has largely become an integral aspect of amateur sport operation in Great Britain, with estimates suggesting that more than 5 million people perform some form of sport-related volunteering each month (Sport England 2019). British sport is heavily reliant on volunteer activity, yet it is important to highlight the reciprocal benefits of volunteering, both for the health of British sport and the volunteer themselves. The Sport and Recreation Alliance (2018) identify a number of motivations behind undertaking these altruistic roles, including: a passion for the sport, the ability to give something back to the community, supporting a family

member, to remain involved without physically 'taking part', and as a valuable opportunity for social interaction.

Triathlon in this sense is no different. The organisation and operation of clubs, events and coaching are built upon a significant base of active volunteers. The centrality of volunteering to triathlon was recognised by the majority of triathletes, with several interviewees sharing the opinion of Rachel:

> Interviewer: Do you think volunteering is important within triathlon?
>
> Rachel: Well it wouldn't happen without it would it? I mean you wouldn't have clubs. You wouldn't have races. You wouldn't have anything.

Triathlon clubs are the organisations at the centre of this growing body of volunteers, offering members the opportunity to engage in a wide variety of voluntary roles, including but not limited to triathlon coaching, event stewarding, club finance and administration, and even providing transportation for family/friends who are members of the club (Figure 7.4).

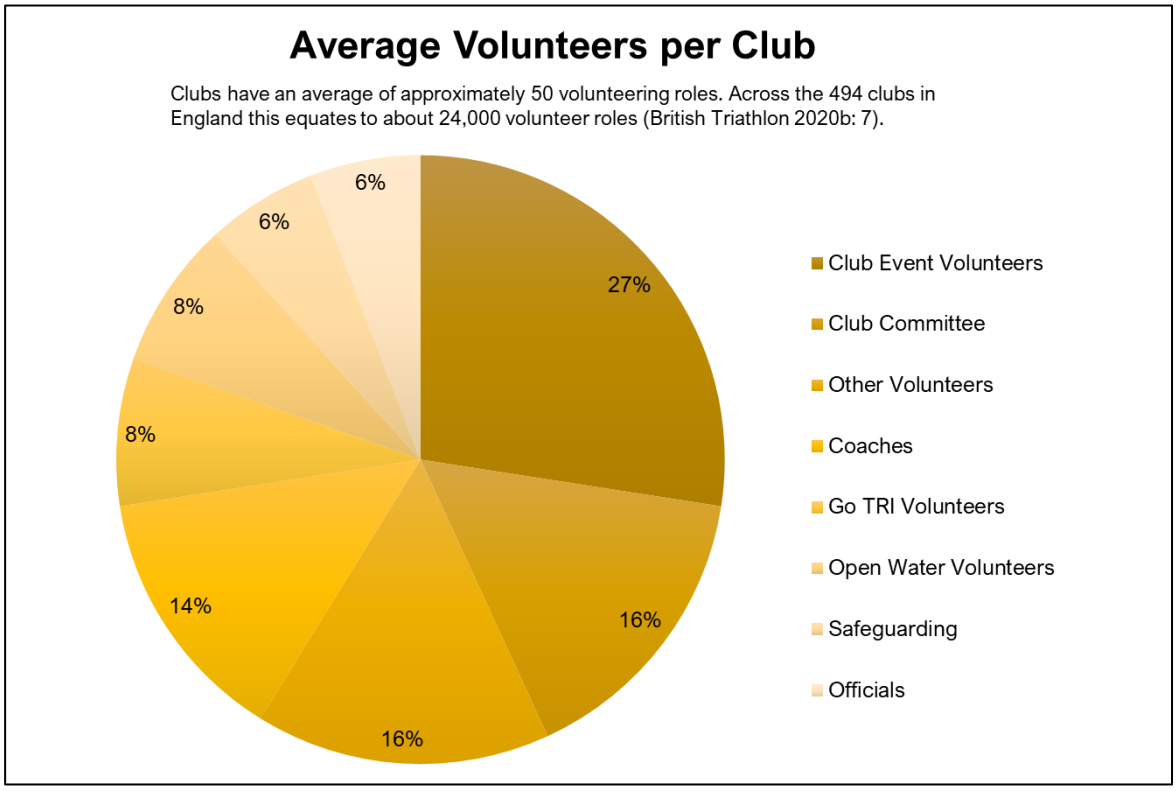


Figure 7.4 *- Average number of volunteers per club in various roles (Adapted from British Triathlon 2020b: 7).*

Despite a wealth of research that explores the importance of volunteering within a variety of sporting contexts including international mega-events such as the Olympics (Wilks 2014) and the Football World Cup (Baum and Lockstone 2007) but also small-scale community events such as parkrun (Hindley 2018; Wiltshire and Stevinson 2018) and local sport clubs events (Coleman 2002), there is a notable lack of insight into the vital role of volunteers to sustain the social world of triathlon. It is widely accepted that volunteering is essential for reducing the financial demands of physical activity engagement (Nichols and Ojala 2009; Wiltshire and Stevinson 2018), however, the potential of volunteering opportunities to aid the development of sporting identities, particularly within the heavily volunteer-reliant sport of triathlon, is currently absent from academic discussion.

At its base, the sport of triathlon is inherently community-driven, with the majority of administrative and coaching positions at triathlon clubs being occupied by volunteers. The presence of numerous vital volunteer-based roles at both triathlon events and triathlon clubs cement them as important spaces for identity development and subcultural expression within the triathlon social world. Through the provision of opportunities to actively contribute to the smooth running and success of both clubs and events, triathletes benefit from the ability to express altruistic tendencies and demonstrate their active role in supporting the wider social world of triathlon. Stevinson *et al.* (2015) argue that these opportunities to contribute to community events is a key contributor to the incredible success of the parkrun movement, providing an opportunity for participants to 'give back' to the running community. In this sense, the provision of volunteering opportunities offers reciprocal benefits: a low-cost form of labour to keep down the cost for participants, whilst at the same time, contributing prospects for identity development and social world engagement (Stevinson *et al.* 2015). Stebbins (1996) refers to these two motives as 'volunteering as altruism' and 'volunteering as self-interestedness'. Analysis of survey data indicated a strong relationship between engaging in volunteer roles, and respondents' tendency to identify with the activity, emphasising the importance of these roles for developing a sense of belonging in the triathlon community by emphasising individuals' desire to contribute to the running of the sport. Volunteering

in sport is largely recognised as a valuable opportunity for social interaction (Morris and Scott 2018; Sharman *et al.* 2018) and many of these available roles involve being a point of contact (event marshal, membership secretary), or a source of information (coach, event organiser), increasing the likelihood of interacting with individuals from the triathlon community, thus expanding one's social network of triathletes within the social world. Speaking to triathletes during the qualitative interview phase reinforced these findings:

> being a triathlete is one thing, being part of the community is helping out in a club, helping to coach the kids, supporting at races, getting to know the different people (George, M, 40-44).

Clearly there are a substantial array of benefits that encourage triathletes to invest their time into volunteering roles in addition to, or in place of, training and events. However, what became apparent during the qualitative phase of the research was the complex relationship between deciding to volunteer and an inherent obligation to take on these responsibilities.

One of the most regular opportunities for volunteering identified by triathletes are the public parkrun events, where organisers and marshals are needed on a weekly basis. In parkrun, feeling a sense of debt to volunteers and other runners, and the unwritten sense of a need for reciprocation is an important aspect of why parkrun can run as a volunteer-managed event (Wiltshire and Stevinson 2018). This feeling of obligation was evident among interviewees, with George – an insider to the triathlon social world – stating "I think that for triathlon as it is, if you really enjoy it, and you get a lot out of it, then you should give back" (George, M, 40-44). The role of volunteering within serious leisure activities is significant, for it allows actors to simultaneously continue engaging in a serious leisure activity whilst making valuable contributions to the functioning of the wider community (Stebbins 1996).

Volunteering also offers triathletes the opportunity to get involved without the need for physical engagement, allowing those who are not able to participate – for example those who are currently injured, without sufficient fitness or lacking

confidence - to be active members of the triathlon community, contributing to the operation of the social world (e.g. administrative roles, event marshalling):

> The past couple of years I've had a few hospital trips and had various operations and stuff, so my training has been really stop-start… It also means that sometimes I can't. So then it's nice to get involved in other ways, so marshalling is a really good way of getting involved (Victoria, F, 35-39).

> I really enjoy doing volunteering, it does make me feel good, and it gives me a sense of purpose. And yeah, it's a healthy way to spend your Saturday morning, rather than just lying in, you can go and help, and it's nice to know that you're helping to put the events together that you enjoy so much. Because without that then the events wouldn't run (Mary, F, 30-34).

This sentiment was particularly relevant to triathletes who had children who also took part in the sport – like a substantial proportion of TTC's members – who took advantage of their presence as a spectator at their children's triathlon events to take on volunteering roles associated with the event. This strategy enabled individuals to continue to develop their sense of involvement within the triathlon social world whilst still being able to take on the role of being a supportive parent.

For some, volunteering roles acted as a suitable opportunity to learn about the unique knowledges and norms associated with triathlon engagement and provided a means of entry into the triathlon social world. This sentiment was expressed by Sally, who stated that:

> I probably didn't do anything for a while, because I think it was that fear that everyone is these super fit people, and you're like 'oh no I'm rubbish' sort of thing. But then I volunteered at a couple of sprints first, and I realised actually, everyone comes in all different shapes, sizes, speeds. And then I think I did actually do a super sprint (Sally, F, 40-44).

During my time conducting participant observation at TTC, I jumped on the opportunity to participate in a marshalling role at a children's triathlon event

organised by the club. Since this was during the early stages of my community engagement, the experience was an integral means of signifying my intention to invest my own time in support of the club and triathlon community, to improve my awareness of the practices and ethos of triathlon engagement, and to get to know other active members of the club outside of the potential judgement based on my triathlon ability. Undertaking voluntary roles was identified by a number of participants as an important opportunity for social engagement, and as a means of developing one's position on the continuum of involvement within the social world, and TTC in particular utilised a number of opportunities throughout the year to foster community spirit and team bonding through group volunteering events. One annual event that was renowned amongst the group as being a valuable social opportunity was the TTC feed station at the local half and full Ironman events held in the summer:

> at the Outlaw Half and the Outlaw Full we run a feed station, and it sounds a bit crazy but that's a really social event for us (Margot, F, 40-44).

> But now that I'm definitely not (doing the event), we will probably do a stint on there. I love it because there are quite a few people from the club doing the race, and I know the boost it gave me going around the top of the lake and having all your club cheering you on (Grace, F, 40-44)

Amongst the core members of the club, this particular event was collectively identified as a key part of the triathlon calendar, with a significant proportion of the club taking on shifts to dispense drinks, food, gels, and encouragement to competitors during the running portion of their race. The number of people involved, the length of time spent at the feed station, and the overwhelmingly positive atmosphere at the event created an important space for bonding around the unique ethos of triathlon, the ability to develop meaningful relationships with others and to share the visceral experiences of the competitors in the final leg of their monumental achievement.

7.2.4. Social networks and friendship

The shared interests and values, similar lifestyles and general similarities that characterise actors within the triathlon social world lead to the development of social

connections that are often stronger than those formed in the worlds associated with work or less committed hobbies (Nicholson and Hoye 2008). The triathlon club offers a supportive environment of regular community members, which are conducive to the development of more than temporary social connections. These 'more than temporary' connections refer to voluntary relationships that develop to something meaningful over time, akin to friendship or even family. These connections are characterised by regularity, respect, shared interests and experiences, collective knowledge, encouragement and emotional support, in contrast to fleeting relationships with other triathletes at events or interactions with other triathletes on online forums. Making new friends and opportunities for socialising are two of the most common motivations for individuals joining a sports club (Sport England 2020), as was evident from Nicole, who joined Transitions Tri Club in part to form new social connections after moving to the area:

> When I moved back to Runnington I didn't know anybody, so from a social point of view, it was good to join a club and meet people. Some of the people I met when I joined in 2008, I'm still really good friends with now (Nicole, F, 55-59).

During my time with TTC and RT, it was clear that the clubs capitalised on members' desire to form and maintain social connections by providing ample opportunities for interaction during training sessions, organising social events, and using digital communication tools.

The shared appreciation of the effort required for participation, a mutual awareness of the 'journey' of becoming a triathlete and common grounding amongst members who represented a wide range of degrees of involvement resulted in an inherently supportive atmosphere that characterised both clubs:

> I think here there's a massive community spirit in the club, and everybody – whether you are an elite athlete or whether you are somebody who's not, like me - you still get lots of positive reinforcement from everybody (Nicole, F, 55-59).

This support that the subworld of the triathlon club can offer comprises the sharing of knowledge, encouragement and motivation, and can also refer to pastoral support

that extends far beyond the technicalities of triathlon engagement. One pertinent example was shared by Sarah, a full-time mother of two children who was struggling with her confidence and finding it challenging to balance the competing roles of family, work and leisure:

> This year I've had a challenging year in that I had a breakdown in February and I just wasn't coping with anything, and it meant that I was struggling to do any events, because I just couldn't cope with the stress and pressure of it. I reached out to the club, and the support that I got, and the people that had a coffee with me and told me their experiences and picked me back up, was incredible, absolutely incredible, and I could not have carried on if I hadn't had that level of support (Sarah, F, 45-49).

Triathlon clubs bring together a variety of individuals into a social unit where its importance extends beyond that of simply a group of individuals participating in triathlon during specific periods of time. From interviewee accounts and personal experiences of the triathlon club dynamic, it is clear that members, initially drawn together by a shared appreciation of the unique ethos of triathlon, can become a meaningful community unit within the triathlon social world, characterised by camaraderie, community spirit, support and encouragement, and friendship:

> It is more than just a group of people that train together, it is actually a friendship group. We will meet up outside of training and go out for food once every couple of weeks, on someone's birthday we will go out for food. We will finish a ride, come here have coffee and cake, ride home. It's so much more than just turn up doing your session. It is actually an actual friendship group (Louise, F, 20-24).

For some insiders to the triathlon social world, those who dedicate a significant proportion of their lives to the activity and its community, the local triathlon community can become so integral to their social lives that they consider other members of the club as family.

> When you've trained together, competed together, you travel together, you've gone through all these trials and tribulations. Yeah, it [the social connection] gets deeper, and it does become your own little triathlon community/family thing (Lily, F, 45-49).

Existing research and even governing bodies have emphasised the importance of club membership for developing new social connections, and for enabling social interaction which can be paramount to individuals' mental and social well-being (Shipway *et al.* 2012). Yet, the potential for sporting communities, particularly those centred around sports clubs, to enable lasting social connections whose impact extends far beyond the realm of the activity itself could have the potential to significantly boost the appeal of physical activities for those who are currently less physically active or seeking meaningful social interaction.

7.2.5. The spatial centre of the social world?

Unruh's (1980) theory of social worlds refers to the concept of 'communication centres', which are places that can be considered as crucial to the activities and operation of the social world. Unruh uses the example of the world of retail liquor to emphasise the role of communication centres at different scales within the social world framework, referring to the government agencies, distribution wholesalers, and local bars who play an instrumental role in facilitating communication throughout the retail liquor community.

Social worlds at their most abstract level are amorphous social units which are not subject to clear geographical boundaries. However, investigating how the triathlon social world manifests at a more local level, one could argue that triathlon clubs could be considered as geographically located communication centres that are central to the structure of the social world:

> All social worlds have geographical centres of some sort, which may coincide with communication centres…spatial sites and components remain vital to understanding the structure of social worlds (Unruh 1980: 284).

Whilst Unruh (1980) emphasises that the extent of a social world cannot be simply geographically defined, geographic space is integral to the formation and structure of social worlds. As suggested by Fine (2015: 135), "(s)ocial worlds also depend on common places", or according to Castells' (2000) notion of the network society, these are constituted by the space of places and the space of flows.

As highlighted in Chapter 6, swimming sites often function as the key organisational and social foci of triathlon clubs. Swimming as an activity is significantly more spatially restricted than triathlon's two other key constituent activities, and accordingly swimming often becomes the activity that brings together a significant proportion of members. Swimming, in comparison to running and cycling, also requires more inter-linked facilities (such as showers or a changing room), and managers of these sites typically capitalise on the increased length of time users spend in these facilities through the provision of socially enabling facilities (e.g. waiting rooms and cafés). These social amenities contribute to a "supportive infrastructure" (Fine 2015: 135) that make facilities such as leisure centres and open-water swimming venues conducive to interaction, which is essential for the operation of the triathlon social world:

> The community-based sports club is often recognised as a key site for the development of social capital. Intergenerational ties and connections to place can generate a strong sense of identity and can foster practices of psychological and material support (Forsdike *et al.* 2017: 1).

The ways in which members refer to this social centre of the triathlon club clearly indicates their importance, both as a meaningful site for the individuals themselves, but also as a common place amongst the wider triathlon community:

> The thing I liked about Riderby Triathlon was, because it's got the Tri Base facility, it's kind of got a heart to it, so there's somewhere you go and you have a coffee there and you meet other club members… I think every club needs a base. A place where people go (Sarah, F, 45-49).

This sentiment was particularly relevant to spaces with attributes that enabled social engagement (café, seating area, grassy area), and therefore emerged as key spaces

where the social world operates. Cafés have largely become synonymous with socialising, particularly in the sport of cycling, where cafés have become engrained within the culture of the activity (Seaton 2010). From my experience within the triathlon social world, the same appeared to be true, something which became very apparent when I sat on a bench outside of Tri Base waiting to meet an interviewee:

> The café in particular acted as a social gathering place between members and non-members (the triathlon community more generally), whether they had been swimming, indoor training, out riding, or just visiting on that day. (Observations – 19th August 2018)

The café acting as a social space before, during and after various elements of triathletes', swimmers' and cyclists' everyday training activities. In contrast, venues which lacked this 'supportive infrastructure' significantly reduced individuals' tendencies to socialise with other members:

> I think Runnington leisure centre, just as a venue, isn't brilliant for sitting down afterwards for coffee and that sort of thing. Here is a lot better (Tri Base), so Sunday's and Wednesday's and Monday's you do get those conversations going off (Oscar, M, 50-54).
>
> Swimbourne didn't really have a base like that, their base if you like was Mylton Leisure Centre, but then you came out the swim session and the café/bar was closed. There was no real motivation to sit down and get coke, coffee a beer, whatever. You couldn't really sit down and have a bit to eat, so all of a sudden people would float off (Brian, M, 35-39).

Beyond the spatial centre of the triathlon clubs' activities there are a network of routes, training locations and other spaces which, over time, develop collective meaning for the members of a club through regular usage. Howe and Morris (2009) highlight that for members of a running club, certain routes or spaces may become well-established within the sub-world of the club, even to the extent where they are given names recognised by the community. Within the social world of distance running, Magnolia Road in Boulder, Colorado – affectionately referred to as 'Mags' – is internationally recognised as a sacred space within distance running culture (Meltzer 2010). Crouch (2000) suggests that friendships, identities and behaviours

are linked to particular kinds of spaces that take on distinctive features through practise.

Physical spaces have always been central to the activities of communities of various interests, but less is understood about the increasingly important role of digital spaces in this regard. The improved capability and accessibility of digital communication tools over the last decade has transformed the underlying communication structure of social worlds. As these social platforms have become more user-friendly, readily available and ever-present means of mediated communication within everyday lives, digital spaces have achieved a level of social importance parallel to that of physical spaces. Digital platforms such as Facebook, Instagram, and Strava enable regular interaction and bonding between local and dispersed actors in the triathlon social world, also providing the ability to construct and nurture a sporting identity around a shared ethos, and can even lead to new collective understandings of and commitment to physical places (Horton and Kraftl 2013).

Through an in-depth exploration into the spatiality of the triathlon social world at a local scale, it is clear that swimming sites are key organisational and social foci of triathlon clubs in Great Britain, with online social platforms playing an increasingly integral role as a means of extending this capacity for interaction far beyond the spatial limitations of the physical spaces of social worlds. The extent to which certain sites act as spatial centres to social worlds associated with other interests, and the extent to which the worlds' digital counterpart contributes to the operation of the social world, provide valuable insight into the workings of contemporary social worlds. The digital aspects of the social world will be explored further in Chapter 8.

7.3. Identity

Identity refers to socially distinguishing features that a person takes pride in or views as unchangeable, however socially consequential (Fearon, 1999). Identity has become a key focus within the field of human geography, with cultural geographers in particular regularly engaging with questions surrounding the process of identity formation and the intersections between individuals' multiple social identities

(Atkinson *et al.* 2005; Hall 1995; Katz 2008). Social studies of sport have experienced a similar turn towards a consideration of individuals' identities. As studies of sport have shifted from an explicit focus on the physical body to the consideration of the social features and functions of sport, identity has emerged as an important focus area. MacClancey (1996) suggests that sports are recognised as "vehicles of identity providing people with a sense of difference and a way of classifying themselves and others, whether latitudinally or hierarchically". Sport can be considered as a means of either solidifying an established social identity or developing a new identity, and for serious leisure participants, this sporting identity often intersects with other life roles, resulting in a tendency to shift between multiple identities (Shipway *et al.* 2016).

The relative intensity of sport participation enables a realisation of achievement, strength and power beyond that attainable through other pursuits (Granskog 2003). This notion of sport participation as a means of identity development is especially relevant in the context of serious leisure engagement. One of the six key distinguishing features of any serious leisure activity is the distinctive social identity that has become an accepted and desired feature of the activity's associated community, both personally and collectively (Getz and Andersson 2010; Stebbins 1992):

> Serious leisure often extends into the everyday lives of participants and becomes part of each other's social world. Characteristics of this phenomenon include a strong sense of commitment and identification with the leisure activity, and a sense of belonging to a social group that recognizes and rewards efforts of its participants (Robinson *et al.* 2014: 377).

Serious leisure can become so integral to participants' lives that it can form the basis for their personal and collective identity (Getz and Andersson 2010). The identity obtained from a serious leisure career is of importance to participants, and this identity in many ways can only be sustained through continuous involvement in the activity's social world (Lamont *et al.* 2014). The social world is typically meaningful to its members, providing them with a sense of communal identity that may not be available in less organised social groupings (Fine 2015). Lamont and

Ross (2019) contend that emotional attachment that can be formed through membership to a group can result in the development of an identity which reflects the unique cultural values and norms embraced by the group. Involvement in social worlds is voluntary, although often informally governed by the rubrics and expectations of the collective actors that constitute the community of the world (Unruh 1980). It is this set of unique norms, standards, beliefs, practices and shared ethos underlying the distinct identity of sporting social worlds that make them highly identifiable, such as in the case of marathon runners (Robinson *et al.* 2014).

As suggested by Green and Jones (2005), the process of developing a sporting identity is not necessarily tied to a single event, rather it is an ongoing process which continues throughout one's leisure career - although certain places and certain situations are often identified as significant steps in the identity development process (see Section 7.3.2). Counter to common assumptions, the fulfilment of a sporting identity is not necessarily associated with prowess or capability. Robinson *et al.* (2014) found that it was regularity of participation, not performance at training sessions, that gained runners access to the social world.

This following section builds upon the quantitative understanding of the relationship between triathlon engagement and identity development highlighted in Chapter 5. Section 5.4.2 makes reference to the importance of the triathlon identity amongst participants, linking this to triathlon as a form of serious leisure. 80% of online survey respondents described themselves as 'triathletes', with membership to a triathlon club, regularity of engagement, and a tendency to volunteer all contributing to this sense of identity. Participant observation and semi-structured interviews provide detailed insights into the process of identity development in triathlon, the role of social and subcultural capital, the importance of events' and sporting identities' inherent connection to place, all of which will be discussed in the following section.

7.3.1. The 'triathlete' identity

As a physically and mentally challenging but intensely rewarding form of physical activity, Atkinson (2008: 177) argues that "triathlon provides an exciting set of corporeal and identity-affirming experiences for many participants". This identity is

likely to be highly individualised and expressed in a number of unique ways (Granskog and Bolin 2003). Donnelly and Young (1988) suggest that sporting identities are both flexible and fragile, requiring constant maintenance. However, as demonstrated in Section 5.4.2, in practice the 'triathlete' identity is complex and individual perceptions of this identity are highly dependent on personal experiences, yet collectively there are several characteristics which are recognised as markers of the triathlon identity by a wider social collective. These characteristics (complied from existing research, magazine articles, blog posts, empirical research and conversations with triathletes and non-triathletes) include:

- Dedication
- Commitment
- Challenge
- Achievement
- Determination
- Perseverance
- Passion
- Regularity
- Organisation
- Competitiveness
- Supportiveness
- Community
- Suffering
- Inclusivity
- Camaraderie

Expressing this large number of defining features is not a pre-requisite for inhibiting the triathlon identity, but collectively these features provide an effective overview of the unique ethos that makes the triathlon social world distinct. The way in which the triathlon identity was expressed by members of the social world varied depending on their level of involvement. Brian and Craig, well-connected, regularly participating individuals, and active members of RT, associated their ability to identify as a triathlete with the extent to which triathlon formed an integral part of their lives:

> Everything that I do kind of focusses around triathlon. And that's why I would say I'm a triathlete (Brian, M, 35-39).
>
> It's quite a big part of my life in that respect. There isn't a day that goes by where it isn't on the agenda somewhere (Craig, M, 45-49).

This life-round involvement in triathlon reflects Unruh's (1980) conceptualisation of social world 'insiders', participants who make important contributions to the activities of the social world through their engagement, and who have the most to gain or lose based on the operation of the social world. 'Regulars' on Unruh's spectrum of involvement also possess the capacity to develop an identity tied to the social world,

though this identity may be less central to their lives than insiders (Shipway *et al.* 2012). In contrast, the more fleeting and disconnected involvement of 'occasional' participants and 'outsiders' lack the level of community involvement and social connection which enable them to obtain the relevant subcultural capital conducive to identity development (see Section 7.3.2).

Beyond possessing some of the distinctive characteristics that define the triathlon identity, a number of experiences emerged as central for realising the triathlon identity. One respondent, Wes, suggested that the completion of a triathlon event signifies a significant accumulation of knowledge and understanding of triathlon practice that enables an individual to class themselves as a triathlete.

> You can't call yourself a triathlete until you've done an event. Whether it's a super sprint, or the shortest of the shortest. But at least do an event so you've got all of the learning associated with the transition, the mechanics, as well as all of the training that goes into getting you ready for that start line (Wes, M, 60-64).

When talking to other triathletes, it became clear that triathlon events acted as a significant site where individuals brought together their training, skills and community involvement in order to realise their degree of identification with the sport. Survey results also reflected this sentiment, with those completing more events significantly more likely to identity as a triathlete[138]. The importance of triathlon events within the social world will be explored in depth in Section 7.3.3.

Previous research on the social world of triathlon by Atkinson (2008) has identified that triathletes are a group of:

> mutually orientated and cohesive agents who share common subcultural perspectives, activities, ideologies, relationships and commitments towards endurance sport rituals (Atkinson 2008: 171).

These individuals are bound together by a common lifestyle and collective interests in a particular activity, which Lamont and Kennelly (2012) suggest is a shared

[138] X^2 df(2) = 59.057; p = 0.000.

knowledge that can be difficult for ‘outsiders’ to comprehend. During my time participating in triathlon and discussing my involvement with friends, family and colleagues, it became clear that for those outside and unfamiliar with the triathlon social world, the intensity of triathlon engagement was observed as being slightly obsessive, and often involved the terms ‘crazy’ or ‘mad’. This perception regarding the triathlon identity is also perpetuated in the media (Graham 2017; Fry 2014), further distinguishing triathletes as a unique group of individuals – which to some comes as a welcome sight - but at the same time can create an air of exclusivity regarding access to the social world, which potentially negatively impacts individuals’ willingness to engage with the activity and its community.

> For a long time I actually was very embarrassed with the label. I would say I ‘did’ triathlons, but I wasn’t a triathlete, because a triathlete is somebody who is fit and toned and did all this amazing stuff, and I felt quite intimidated by it (Margot, F, 40-44).

To a certain extent this understanding of triathlon engagement as an obsessive, slightly crazy endeavour by outsiders was accepted and embraced by some respondents who considered their considerable dedication to their physical activity as a marker of pride. Margot, the TTC chairperson, who trained more than 10 hours per week commented:

> We’re all a bit obsessive, and a little bit mental, and we all probably take things to the extreme a little bit, and you attract to other people like that (Margot, F, 40-44).

Arguably this attitude suggests that triathlon can offer a social space for participants to fit in and feel included, where feats of endurance are considered the norm, and not extraordinary acts of madness. Triathlon becomes a social space to normalise these characteristics, practices, and experiences. It is this shared understanding and appreciation of the characteristics required to maintain regular participation and the ability to experience physical and mental challenge that led Atkinson (2008) to discuss the unique ‘pain community’ associated with triathlon.

On top of this perception of excessive dedication and commitment, respondents who were outsiders to the triathlon social world also had expectations regarding the

level of ability needed to take part and engage with the community. This expectation led to a sense of anxiety in a number of cases. Although almost always this anxiety regarding group training and club membership was unjustified, as also evidenced by Robinson *et al.* (2014) in their study of Marathon runners. Fortunately, as clubs, events and organisations within the triathlon social world have made significant steps to increase the accessibility of the sport in recent years, it appears that this stigma around triathlon participation create a more inclusive perception of triathlon engagement.

> I think there's a lot of snobbery that's gone, there's people doing triathlons on mountain bikes and hybrid bikes, there's people doing it with even the rental bikes from Nottingham City Council, just for fun. The snobbery about having the top-quality equipment has, I think it's more frowned upon, people don't do that anymore. There is clearly a lot of very expensive kit around. Equally there's some very accessible stuff as well. And I applaud that, I think that's fantastic (George, M, 40-44).

Another of these outsider assumptions, which is also being eroded are perceptions regarding the triathlete body. Crouch (2000) argues that bodies are sources and signifiers of identity and bearers of lifestyle. They are both the focus and the content of cultural representation and can powerfully shape what leisure means (Crouch 2000; Evans and Allen-Collinson 2014). Expectations regarding the athletic body perpetuate a wide range of sports and physical activity (Sabiston *et al.* 2019), and as a sport where the body is central to performance, and where a combination of swimming costumes, wetsuits and lycra mean participants' body shapes are often on display, triathlon is no exception. Of course, triathletes should, and do, come in many shapes and sizes, yet the body continues to be a signifier of identity for triathletes. In triathlon, the clear association between being a triathlete and having an athletic body can be a barrier to initial identification with the sport, although the following quote from Margot suggests that experience over time can help to erode this association:

> I don't know whether it's been related to having some success in events, or whether it's a time thing, or whatever. But there has definitely been a point in which I felt that I wasn't entitled to use that label, whereas now I am entitled to (Margot, F, 40-44).

The development of the triathlon identity over time can also be attributed to continued social involvement within the community.

Green and Jones (2005) suggest that it is during the socialisation phase, which follows initial entry into the social world (e.g. joining a triathlon club), where members learn about the ethos, practices, norms and behaviours that come to characterise the community in order to signal their degree of involvement to other members through the acquisition of skills, knowledge and other forms of cultural capital. Individuals who share triathlon as a common interest are more likely to bond and form meaningful relationships, as there is a greater degree of understanding and synchronicity between their everyday practices. Accordingly, identification amongst triathletes is very closely tied to social involvement, regularity, ability and specifically, club membership. This sentiment was clearly evident from my own experience during participant observation. Although my physical ability and technical experience as a runner were likely to be immediately obvious to other members of the group at my first training session, their role was trivial in comparison to the importance of regular attendance for developing my sense of belonging to and identification with the club's community. This sentiment was shared by Victoria, a talented runner and swimmer who had recently decided to try triathlon:

> At first I really did feel like I was on the outside, but once I started doing some of their training and speaking to other members, that's when I started to feel more inside the community (Victoria, F, 35-39).

It has already been suggested that the development of a sporting identity is a continuous process (Donnelly and Young 1988), characterised by periods of growth and decline resulting from both positive and negative moments in one's leisure career. Integration into the triathlon social world does not happen in an instance, but instead occurs over time, as the individual becomes increasingly familiar with the

unique ethos, rules, norms and behaviours of the world, and through regular interaction becomes increasingly accepted as a member of the social world.

7.3.2. Subcultural capital

The development of any social identity does not happen instantaneously, rather it is an ongoing complex process that can involve 'social training' to learn the unique rules, norms and characteristics of the identity associated with the social world (Green and Jones 2005) and additionally, the acquisition and exhibition of 'subcultural capital' - currency that measures the "value of individuals' knowledge, credibility, and identification with a subculture" (Shipway and Jones 2008: 64). As suggested by Wiltshire and Stevinson (2018), it is not only the possession of this capital but also the process of acquiring it that is important. Accordingly, the following section will explore the role of subcultural capital within the triathlon social world, especially its importance in the process of developing a meaningful sporting identity.

As the focus of this section is to explore perceptions of the triathlon identity from actors who are predominantly active members of the social world, it will draw upon the concept of 'subcultural capital':

> Subcultural capital confers status on its owner in the eyes of the relevant beholder (Thornton 1995: 11).

Subcultural capital encompasses the embodied and objectified cultural commodities associated with a subculture, enabling members to gain recognition within a subculture, whilst simultaneously differentiating themselves from members of other cultural groups (Thornton 1995). Shipway and Jones (2008) describe subcultural capital as a form of currency that reflects the relative value of an individual's knowledge, involvement and level of identification with a particular subculture. Subcultural capital varies from cultural capital in that it refers specifically to the cultural knowledge and commodities associated with a particular sub-world (what Bourdieu called a 'field'), rather than society as a whole (Bourdieu 1986; Thornton 1995). Figure 7.5 provides a very simple comparison between social, cultural and subcultural capital, although a more comprehensive discussion of the various types

of capital and their academic grounding can be found in the literature review (Section 2.4.3).

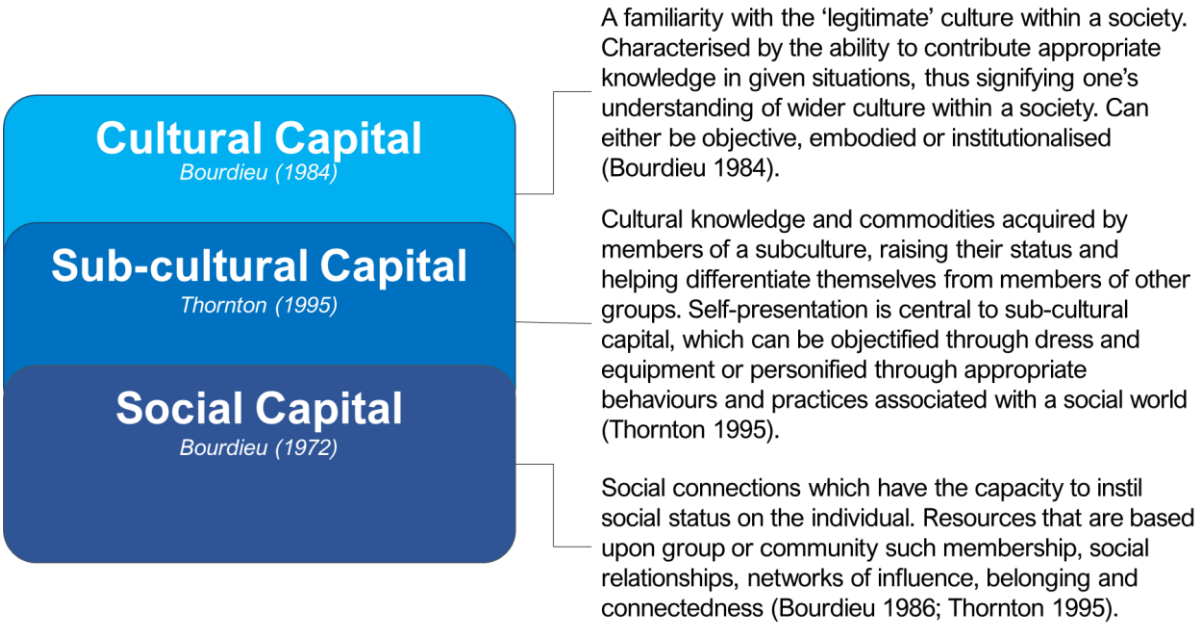


Figure 7.5 *- Differences between cultural, subcultural and social capital.*

Within the context of triathlon, subcultural capital holds significance as a means of developing and exhibiting the triathlete identity, being both embodied (knowledge, skills, specific vocabulary, expression of the sports unique ethos, physical capital) and objectified (clothing, tattoos, medals and trophies, digital manifestations of physical performances, symbolic capital) (Thornton 1995). Individuals exercise a range of triathlon-related practices to attain subcultural capital and exercise these to develop a meaningful identity associated with the activity. Attainment and expression of subcultural capital through actions such as using an established understanding of training and competing to inform others, sharing experiences from triathlon events, and displaying visible markers of the triathlon culture, such as clothing, tattoos and even tan lines, represented a sense of membership to the distinctive culture associated with the triathlon social world. Markers of distinction within the triathlon community draw from the worlds of swimming, cycling, and running, in addition to unique norms, behaviours and practices which amalgamate from the combination of these three activities into a single activity (e.g. pain community).

Social interactions have already been established as integral to the triathlete identity, with those motivated by friendship and socialising being significantly more likely to identity as a triathlete[139]. The expression, reception and exchange of subcultural capital is almost entirely enabled by these social interactions, which further emphasises the importance of social spaces for the operation of the triathlon social world.

The association between triathlon, place and subcultural capital manifests considerably in the case of events, evidenced by Andrew's detailed re-telling of his experience of Ironman Malaysia:

> You fly into Kuala Lumpur and then get on another plane to Langkawi, a little island off the side of Malaysia, it's like a holiday island. Half of it is a nature reserve, so it was a very scenic place. But it was incredibly hot, it was like 90% humidity as well, so it was an absolute beast of a race. But there was a crocodile farm on the route, and there were monkeys on the bike course, and certain zones within the race where you're not allowed to eat food and they were called 'monkey zones'. And if you eat there the monkeys will charge you and steal your food… they say you're not allowed to eat in those zones or you'll get kicked out. But that was cool…it was an experience, and you get a story to tell from it (Andrew, M, 35-39)

These tales of experiences from past performances or events, especially if they relate to events of significance to the wider social world, were regularly observed as a means of expressing subcultural capital amongst triathletes. The importance of these exceptional experiences has been emphasised in terms of individuals' pursuit of a serious leisure career (Hoye and Parent 2016). These experiences, which are strongly tied to the act of performing triathlon, and are only enabled through participants' dedication and effort to develop the physical and mental capacity to complete the challenge of the event, hold special significance for participants, and hold increased recognition amongst others in the community. Participation in triathlon events is often a valuable opportunity to combine a physical challenge with a

[139] X^2 df(1) = 8.483; p = 0.004.

unique travel experience. The role of travel in serious leisure can offer a context to construct or confirm a leisure identity, to provide a time and place to interact with others within the social world, and a place to parade a valued social identity and to signal one's career stage to others (Green and Jones 2005). Shipway *et al.* (2016) highlight that over time certain places, particularly those associated with sporting events, become 'sacred spaces' to the communities of social worlds. Examples include the Californian West Coast for surfing, the Nou Camp in Barcelona for Football, Wimbledon for Tennis, Yosemite amongst rock climbers, and Kona in Hawaii amongst triathletes.

This shared appreciation of space also manifests within the social world at a more local level, evidenced by the collection of training venues, training areas and local events which are well known amongst the local sub-world. Travel to participate in an event, particularly to a space which holds significance to the wider triathlon community, exacerbates the process of identity development amongst triathletes. Participation and completion of such events can be considered a form of symbolic capital because:

> the symbolic effects of one's physical, economic, cultural or social capital… what every kind of capital becomes when it obtains explicit or practical recognition (Bourdieu 2000: 242).

Through the collective awareness of the challenging nature of these events, or their meaning as prestigious event spaces within the social world, expression of these achievements can lead to recognition and social importance, it also serves as a value that one can hold within a subculture, which inevitably contributes to a sense of self-worth and identity development (Pedersen and Tjørnhøj-Thomsen 2017). This relationship between the completion of a challenging event and subcultural capital is also reflected by Lombard (2015) in her work on skateboarders, who suggests that the ability to successfully ride a half-pipe was an important marker of distinction within the skateboarding community.

Another marker of distinction which is tied to event completion and the notion of achievement within triathlon is the prevalence of event-finisher tattoos which act as a symbol of the triathlon identity, representing the dedication, commitment and

perseverance required to complete the longer triathlon events – primarily half and full-distance triathlons. These tattoos are an easily recognisable marker of involvement, reflecting an established journey to event completion that is recognised and respected amongst the community, and as a marker of one's dedication to the triathlon subculture for outsiders. For Margot, who had completed multiple full-distance triathlon events, this tattoo was clearly an outward signifier of her identity as a triathlete:

> Interviewer: Do you consider yourself a triathlete?
>
> Margot: This is my tattoo [points down towards tattoo around her ankle portraying a wave, a chain and footsteps circling her entire left ankle in three bands]. Yes.

Similarly, Grace regarded her tattoo as a clear marker of her identity, whilst also highlighting the prevalence of this practice within the social world and perhaps acknowledging how it may be perceived to those outside of the community:

> Well I've got a tattoo of a triathlon thing, so I must think I'm a triathlete [laughs]. That's like the mandatory thing to do right? (Grace, F, 40-44).

Although the majority of triathletes whom I spoke to during my research who had a tattoo seemed to be content with clarifying their sense of identification with the sport, Betty – who had been participating in triathlons for just over a year – demonstrated that the possession of markers of subcultural capital does not necessarily result in a clear sense of identity:

> I mean I still don't kind of see myself as a triathlete now, it's crazy. I've even got a tattoo to prove it now, I've done a half Ironman, but then it's like, 'is that enough, do I need to do more to prove it to myself to prove that I am' (Betty, F, 35-39).

Betty's comment reflected assumptions regarding the high expectations attributed to the triathlon identity (see Section 5.4.2). Despite having success in a number of challenging events, the connotations surrounding the triathlon identity can continue to prevent participants from declaring themselves as a 'triathlete' despite possessing a considerable amount of subcultural capital.

Previous research on sport and physical activity has emphasised the role of activity-specific clothing and attire as a means of expressing membership to, or at least an interest in, a particular social collective. Kane and Zink's (2004) focus on the serious leisure of extreme sports identified that clothing, either related to kayaking or kayaking locations, was a primary strategy for displaying a kayaking identity. Like runners, triathletes are not necessarily immediately identifiable from their physical appearance, and accordingly clothing choice, both during and outside of triathlon engagement, becomes a key signifier of triathletes' association with this distinct social world (Shipway *et al.* 2012). During the early stages of my participant observation, it was this expression of subcultural capital which helped me to identify members of the social world prior to physically approaching them:

> I spent around 30 minutes watching the swimmers and walking around the lake – which is about 1km in circumference – and saw two other members sat at various points of the lake (identifiable by their triathlon event hoodies/t-shirts) (Observation – 20th June 2018).

Occasionally the concept of adorning triathlon-related clothing, in this case, triathlon club racing kit, resulted in a sense of expectation from others that was off-putting to more casual members:

> Initially it was what put me off a bit. Because I was a bit like 'ooh I don't want to be putting on this Riderby Triathlon stuff and everyone thinking I was really good', you know. Yeah initially that actually put me off a bit (Victoria, F, 35-39).

Another way in which subcultural capital was utilised was to add a sense of character to the café at Tri Base which signified the space as an important feature within the local subworld:

> The café itself was small, but full of character. There were a number of triathlon jerseys on the wall signed by the athlete who had worn them. Some I recognised, including a few athletes who were well known at Loughborough University, in addition to a World Champion Cycling jersey from British track cyclist Jo Rowsell Shand, and a vest of Olympic triathlete Will Clarke. The tables all had race numbers from a variety of different events scattered across them with a layer of clear glass on top. On the wall there was a black chalk board which had the name of some local Strava segments, and below was a club leaderboard of the fastest times over these segments (Observation – 7th April 2018).

The notion of subcultural capital can even be extended to triathletes' trained bodies. Bodies are recognised by Bourdieu (1984) as the bearer of status and worth. The physical appearance and capabilities of the body constitute an important resource which can be converted into other forms of capital, in this case subcultural capital (Pedersen and Tjørnhøj-Thomsen 2017). In particular, the athletic body has been conceptualised as a vital tool for constructing sporting identities (Sparkes 1998). Triathletes can be described as 'entrepreneurs' of bodily capital - surplus value beyond purely physical ability – acquired through consistent and regular endurance training which can allow them to gain recognition within the social world (Wacquant 1995).

For triathletes, bodily capital can represent both embodied and objectified subcultural capital. Subcultural capital can be objectified in relation to the body in terms of associations between the endurance athlete's body and the triathlon identity, and additionally, through its use to display triathlon-related clothing, to brandish triathlon-related equipment, and as a canvas for identity confirming tattoos. In terms of embodied subcultural capital, triathletes express this through the capabilities of their bodies, as opposed to the attributes, in terms of their performance, their ability to endure physical and mental suffering and as a result of their achievements. The following observation from an early training session with TTC, before other members were aware that I was a relatively good runner,

emphasises how embodied bodily capital has the potential to signify membership to a particular culture:

> It was at this point that I decided to really push myself, and I think that this may have had an impact on what the other members of the group thought of me. In some ways I think that they started to see me as more of an 'insider' into the triathlon culture, but at the same time I did worry that they may think I was trying to show-off, or perhaps that they may feel intimidated (Observation – 8th May 2018).

The development and expression of bodily capital is an inseparable aspect of triathlon engagement, particularly as the entire body becomes part of the process of triathlon performance, and as a result of the general attire associated with triathlon, the body is often on display more than it would be in sports such as fishing, badminton or hockey. Within triathlon, like in boxing, the process of developing bodily capital is a social process, whereby individuals gained a sense of connectivity through the shared pursuit of increasing the body's physical capabilities, something that was observed both physically and digitally (Pedersen and Tjørnhøj-Thomsen's 2017: 437). Digital platforms have become a space through which subcultural capital can be accumulated and exhibited. Members of the triathlon social world regularly learn about others' achievements through the lens of social media, and individuals profile pages on Facebook, Instagram and Strava act as a means of outwardly extending their sense of identity.

7.3.3. Events and identity

Elkington and Gammon (2016) argue that leisure identities are discovered, affirmed and framed within specific places. Similarly, Valentine (2007) highlights how attention to the lived experiences of individuals can help to explore the important role that space plays in processes of identification and (dis)identification. Sporting events are considered to be important cultural settings for the development of a social identity (Lee *et al.* 2016). Stevinson *et al.* (2015) suggest that both the social and physical environments associated with sport events contribute to individuals' experiences, and that the nature of these experiences informs whether individuals will remain

invested in an activity. As demonstrated in Section 7.3.3 event participation had a significant influence on individuals' tendency to consider themselves as triathletes[140] and 76% of survey respondents agreed that completing a triathlon event made their sense of identity stronger. Training for, and competing in, events was found to be a key motivation for sustained triathlon participation and central to a triathlete's sense of social identity (see also Lamont *et al.* 2014: 154).

This finding also reflected in research on runners (Shipway and Jones 2008) and cyclists (Shipway *et al.* 2016). Previous examples have demonstrated the strong ties between identity development and certain spatial sites. Examples include Shipways' (2010: 62) description of the "transformative potential" of the Ironman finish line and Hinch and Kono's (2017) contention that ultra-runners' goals, accomplishments and experiences all culminate in a strong association between place and identity. Accordingly, triathletes also refer to a variety of spatial settings that act to produce and reinforce their sense of identification with the activity. One pertinent example of this strong link between space and identity was demonstrated by Brian who commented that:

> what I would class as my first big race if you like, as in doing a really well organised event, was the Dambuster. It was my third race, and that was the first one I had ever booked…when I finished that, I kind of thought at that point, I feel like a triathlete now (Brian, M, 35-39).

The character of triathlon events tends to create an environment in which to share the emotive experiences of success, physical suffering, camaraderie and exhaustion, producing a space that is conducive to the development of the triathlon identity for its participants (Miller 2012). They also present participants, volunteers and spectators with the ability to collect and display symbolic markers of triathlon experience through physical memorabilia and identity-affirming experiences. Shipway *et al.* (2016) suggest that purchasing triathlon event merchandise has the dual effect of increasingly signifying individuals as insiders to the social world through the

[140] X^2 df(1) = 56.911; p = 0.000.

attainment of markers of social capital, whilst simultaneously further emphasising differences between members and non-members (Shipway *et al.* 2016).

As alluded to by Best (2011: 909) when discussing youth identities, "identity becomes meaningful through activities and interactions", materialising and attaining meaning through ritual enactments, symbols and spaces. This relationship between sporting events and shared habitus – the collectively ingrained practices and perceptions of similarly inclined individuals - has been highlighted in relation to distance runners (Shipway *et al.* 2012). Shipway *et al.* (2012), similarly to Atkinson (2008), suggest that the shared cultural acceptance of discomfort and pain associated with challenging endurance practices' provided participants with a shared habitus that was influenced by their social location. Typically, this suffering was experienced during events, but also occurred during training sessions, and had a notable impact on participants' sense of identity, both in the moment, and when looking back on their experience.

Events are one of the four pillars of the social world structure, and within triathlon events are an important site for the development of a triathlon identity (Green and Jones 2005). Through the ability to acquire and express subcultural capital, to bring together physical performance and technical ability through the completion of an event, and by being able to interact with other members of the triathlon social world, events are key sites for the development, maintenance and expression of sporting identities. As alluded to in Section 7.2.3 events also provide valuable opportunities to give back to the triathlon community through volunteering, with roles such as marshalling, registration and time keeping enabling triathletes to contribute to the continued operation of the triathlon world whilst simultaneously signifying their level of involvement and accumulating subcultural capital, thereby increasing their sense of identification with the activity.

Social worlds are inherently tied to place. Events, as one of the key elements of the social world, provide clear examples of how meaning, identity, experiences and community can manifest in a physical location. Often these same places are integral to the development of a meaningful sporting identity. As digital technology has become increasingly ubiquitous within triathlon practice and triathlon culture, it would

not be inappropriate to suggest that expressions of subcultural capital now frequently occur on online forums and social media sites, and that these online spaces provide extensibility for triathletes' identity (Gaffney 2014).

7.4. Summary

Overall, the social world is a useful theoretical lens through which to explore the sport/activity of triathlon. The triathlon community is one that has its own distinct 'social world' which operates at local, regional, national and even international scales. This chapter has emphasised that, like the distance running social world, the social world of triathlon provides a platform for individuals who share a similar ethos with the opportunity to display their valued sporting social identity (Shipway *et al.* 2012). The individuals within this social world are both distinctive in terms of their level of engagement and their level of interaction with the social world, but collective in the sense that they share a sense of attachment to the unique ethos of triathlon. Triathlon clubs are an integral part of the triathlon social world, even in times where physical presence is less of a pre-requisite for social engagement. Clubs support practices such as sharing knowledge, provide opportunities to engage in volunteering roles, and offer individuals access to social networks where meaningful social relationships can be developed. All of these aspects are conducive to identity development, contributing to the importance of triathlon clubs as organisations within the social world. Identity is a key cornerstone of social world involvement, associated with the acquisition and presentation of subcultural capital, a process that occurs in specific places and at a range of scales. The following chapter considers the extent to which the pervasiveness of digital technologies has acted to transform and support the social world of triathlon.

8. The Virtual World of Triathlon

Digital technologies have become increasingly pervasive and ubiquitous amongst citizens of developed societies. Technologies continue to connect individuals across a range of spatio-temporal contexts (Holton 2019). The proliferation of social networking sites and the portable, connected and accessible nature of mobile technologies permit an almost constant potential for digital presence in existing and emerging social networks, which has completely transformed the geographies of everyday life (Duggan 2017). Technological advancements have redefined the existing spatialities of interaction and communication, in turn directing an increasing amount of attention towards understanding the intricacies of how these technologies have come to shape contemporary life.

Due to the growing popularity of wearable fitness activities, technology-inflected exercise practices have become a staple of modern fitness engagement (Holton 2019). Digital platforms are simultaneously creating new meaningful spaces for fitness communities, as social media increasingly becomes a means of mediated communication within social worlds, and as exercise applications such as Strava and Zwift allow users to explore and understand and interact with physical and virtual spaces in new meaningful ways. As Graham (2014) suggests, it is becoming increasingly difficult to separate physical and virtual worlds, which have become ever more intertwined. It is clear that the continued pervasiveness of digitally-enabled fitness technologies is having a profound impact on the social worlds of physical activities such as triathlon, but the extent to which the virtual is becoming increasingly intertwined with the physical, and the influence each realm has on each other in relation to such activities is less well understood.

Within geography there has been a recognition of the many ways that the digital is "reshaping the production and experience of space, place, nature, landscape, mobility and environment" (Ash *et al.* 2018b: 35), although currently this recognition has not been extended to the study of everyday sporting practices. The social world of triathlon is supported by an extensive array of online platforms, however, the impacts that these digital tools have on the individual and collective practices and

experiences of triathletes' individual and collective practices is currently not well understood. Responding to calls for exploring the impact of wearable fitness technologies and the extent to which socially-orientated digital platforms have transformed modern exercise practices (Gilmore 2016), this research seeks to investigate the role of digital technology in the everyday operation of a unique social world, that of the 'triathlon social world', and to explore the growing importance of the world's digital counterpart, namely the virtual world of triathlon. The discussion is divided into three key focus areas; the first providing insight into the increasingly fundamental role of technology within contemporary sporting worlds, the second commenting on the essential role of socially-enabled digital platforms as a form of mediated communication within the triathlon social world, and finally, exploring how GPS-enabled technologies and their associated applications have manifested in a range of unique and fascinating training practices which bridge physical and virtual worlds.

This chapter will discuss the increasingly complex entanglement of the social and the digital, as community communication becomes ever-more mediated by connected mobile digital technologies (Chayko 2014; Lupton 2014). Through an examination into the practices of activity tracking and associated social comparison in triathlon this research aims to contribute to our understanding of the importance of socially-enabled activity tracking applications within contemporary exercise experiences, and their influence on exercisers interaction with and understanding of space both physically and digitally. The insights of this chapter have the potential to make useful contributions to the existing literature and can help to improve understanding of the role and interconnection between the social and virtual worlds of communities associated with an array of other interests.

Following from Chapter 7, this chapter shifts the focus from the social world to the integrated and inseparable virtual realm of triathlon. Section 8.1 begins by commenting on the fundamental role of technology and online social networks within the sport of triathlon. This section also introduces the notion of online extensibility and questions the extent to which the digital world of triathlon offers opportunities for involvement and identification with the social world without the need for face-to-face

interaction. Subsequently, the discussion investigates the integral role of social media platforms as a channel of communication between local, regional and national sub-worlds within the triathlon social world (Section 8.2). Section 8.3 then delves into triathletes' use of GPS-enabled tracking devices and their associated online activity logging applications using online survey results to contextualise digital practices amongst British triathletes. Focusing on Strava, the most common and socially orientated of these applications, the discussion provides insight into the positive and negative aspects of social comparison and questions the application's potential to impact individuals' perceptions and interactions with physical space.

8.1. The fundamental role of technology

8.1.1. An increasingly digital world…

"We now live in a digital society" (Lupton 2014: 2). Over the past decade, our society has been going through a phase of digitalisation which has reshaped aspects of our society and culture, with digital technologies becoming increasingly ubiquitous and profoundly embedded in the practices and experiences that constitute our everyday lives (Dufva and Dufva 2019). Being 'connected' is an almost integral aspect of our increasingly technology engrained lifestyles (Sport England 2015). Digital technologies have become increasingly pervasive amongst citizens of developed societies. Estimates suggest that approximately 94% of the population of Great Britain use a mobile phone (Statista 2018b), 90% have access to the internet (Office for National Statistics 2018a), 65% are considered active social media users (We Are Social and Hootsuite 2019), 78% use some form of health- or exercise-orientated application (Statista 2015), and 82% of recreational athletes use some form of fitness tracking technology (Tata Consultancy Services 2016).

The realm of mobility is one that appears to have fully embraced the rapidly evolving culture of technological advancement and integration, whereby technologies have become a central element of modern mobility practices (Holton 2019). Technologies are progressively connecting individuals across a range of spatio-temporal contexts, in what Holton (2019: 435) describes as a "mobility-technology assemblage" (Holton 2019: 435). Pedestrians and drivers have become

increasingly reliant on satellite-orientated systems for navigation and commuters use their mobile phone to get live updates on public transportation timetables, whereas exercisers utilise a range of wearable smart devices to track and analyse various aspects of their physical activity (Holton 2019). At the same time, the proliferation of social networking sites and the portable, connected and accessible nature of mobile technologies permits an almost constant potential for digital presence in existing and emerging social networks which has completely transformed the geographies of everyday life (Duggan 2017). Technological advancements have redefined the existing spatialities of interaction and communication, and in turn directed an increasing amount of attention towards understanding the intricacies of how these technologies have come to shape contemporary life.

One of the most culturally significant changes linked to endurance activities such as swimming, cycling, running, and triathlon, are the growing popularity of applications that allow users to record, analyse and share physical and spatial indicators from their physical activity onto a social platform populated by other athletes who also share digital representations of their activity. This visualisation of metrics related to health and fitness, the body and physical activity has become a key element of the latest fitness boom (Figure 8.1; Figure 8.2). Such applications (Strava, MapMyRun, TrainingPeaks, RunKeeper, Endomondo, etc.) have been the subject of a swathe of recent research in sport science and the social sciences more generally, under a variety of names, including; 'sports tracking applications' (Bauer 2013; Šileryte 2015), 'mobile sports tracking applications (Klauser and Albrechtslund 2014; Oksanen *et al.* 2015), 'GPS-enabled mobile technologies' (Barratt 2017), 'fitness social networking communities' (Martinez 2018), and 'mobile fitness applications' (Stragier *et al.* 2013). Although much of the outward focus of these applications is the ability to perform in-depth analysis of physical activity, these applications are effectively fitness-specific social networking sites with an array of functions aimed at increasing interactivity and encouraging regular usage through the support of an active social network (Strava 2016).

For the purpose of this research, these applications which enable individuals to upload GPS traces and performance data associated with physical activity to a

platform that provides functions for performance analysis, social comparison and social interaction with other users will be referred to by the term, 'socially-enabled activity tracking applications'. Due to their pervasiveness these applications are becoming important digital communication centres within the social worlds of leisure participants (Lamont and Ross 2019; Stebbins 2018), especially in the realm of sport (Lamont and Ross 2019). Socially-enabled activity tracking applications and more generic social media outlets (e.g. Facebook, Instagram, Twitter) have been recognised as potent vehicles for the sharing of experiences and knowledges, for the construction and maintenance of identity, and for community interaction, and for knowledge production about performance, especially in comparison to other athletes (Lamont and Ross 2019; Thorpe 2017).

> Wearable technology which encourages people to be more physically active through quantifying their activity or competition and websites that enable simpler access to facilities have already transformed how people engage in sport and physical activity (DCMS 2015: 25).

As a result of the rapid growth in popularity amongst socially-enabled activity tracking applications, the physical, spatial and social practices of endurance activities have become increasingly mediated by technology, whilst their participants have become embedded within the networked digital world (Barratt 2017). Due to the growing popularity of wearable fitness activities (Figure 8.3), technology-inflected exercise practices have become a staple of modern fitness engagement (Holton 2019). The plethora of location-aware devices that allow users to record and quantify spatial and bodily aspects of their physical activity are enabling more intense relationships between people, places and localities (Larsen 2014). Similarly, Barratt (2017: 329), who has explored the gamified elements of these applications contends that:

> a new layer has for some been added […] a digital connectivity to the landscape and wider social communities through the use of GPS trackers and partner applications.

These digital technologies are redefining individual and collective understandings of material spaces, leading to a more complex association and integration between

the realms of the physical and the virtual, what Holton (2019: 435) refers to as "hybridised physical/digital spaces". According to Dawson and Jöns (2018: 54), who differentiate between different types of dynamic and non-dynamic hybridity when conceptualising the nature and outcomes of sports practices and events, much of sport-related social interaction "is mediated by technologies that share core features of humans' dynamic hybridity, thus supporting [people's] agency as informants, interpreters and translators and extending their lived experience in time and space". Furthermore, digital platforms are simultaneously creating new meaningful and social spaces for fitness communities, as social media increasingly become a means of mediated communication within social worlds, especially as exercise applications such as Strava and Zwift allow users to explore and understand physical and virtual spaces of their own performance in new meaningful ways, and in relation to that of other athletes.

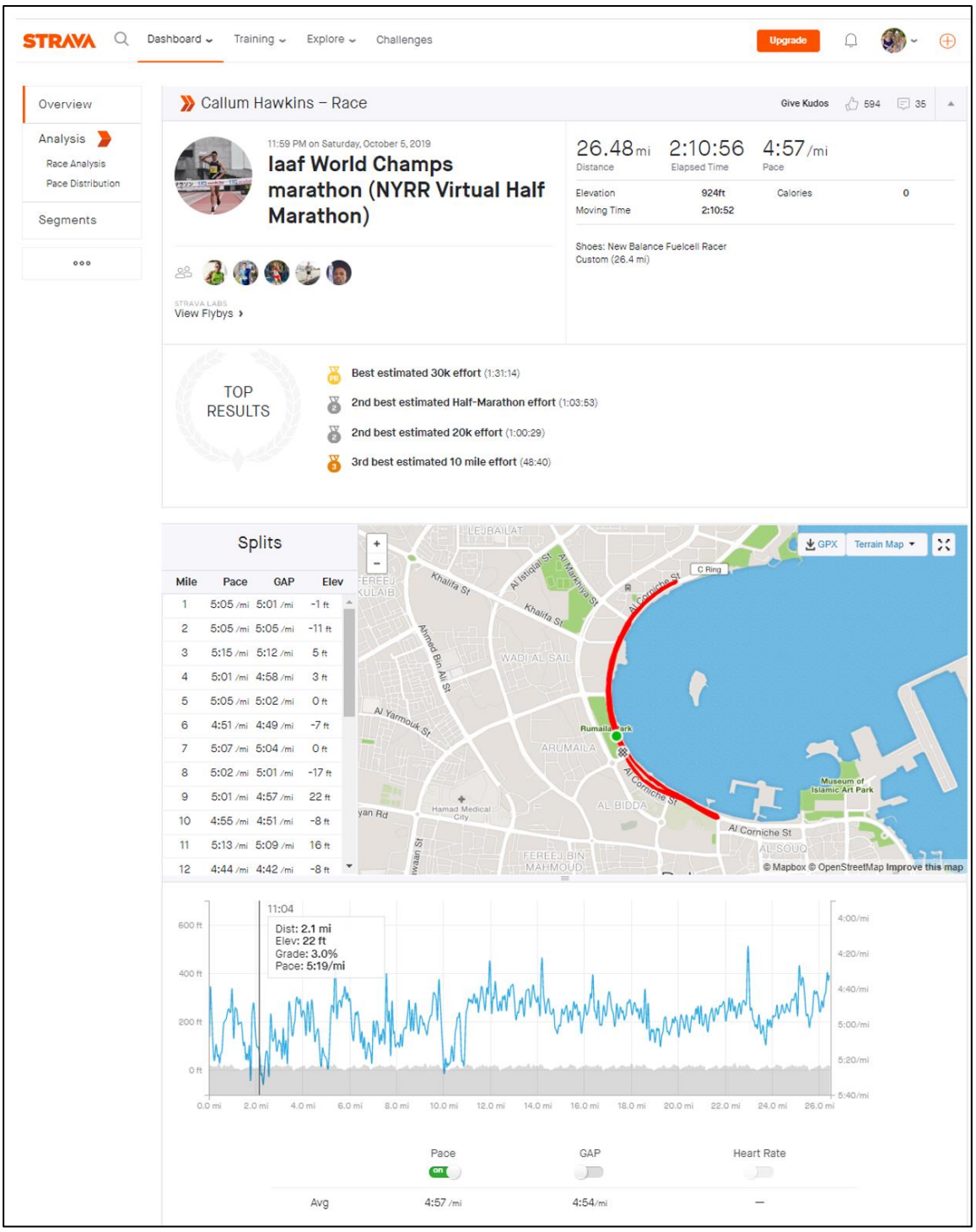


Figure 8.1 - *Strava activity example. Callum Hawkins' IAAF World Championship Marathon performance (Source: Strava 2018).*

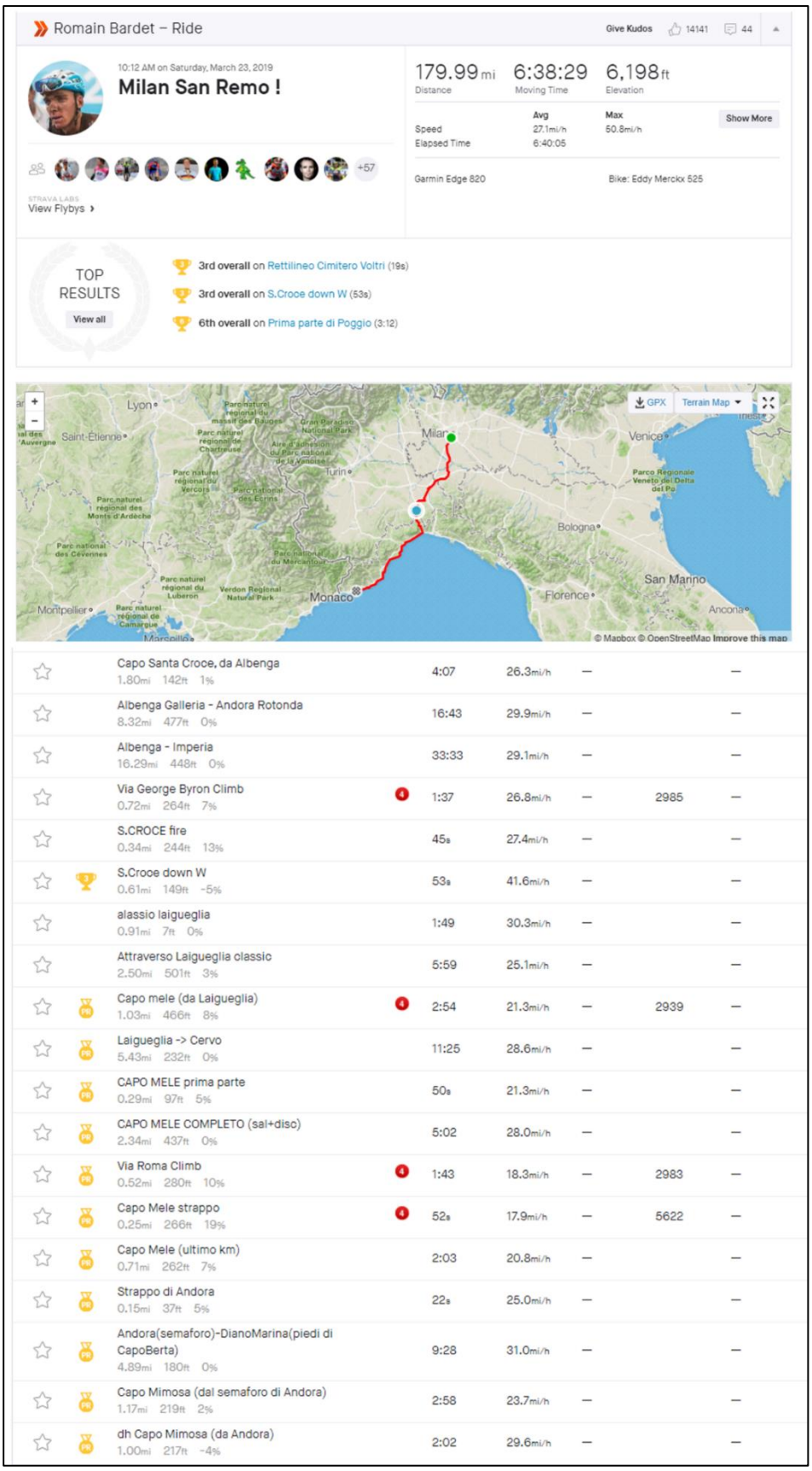


Figure 8.2 *- Strava segment examples. Roman Bardet's Milan San Remo performance (Source: Strava 2019).*

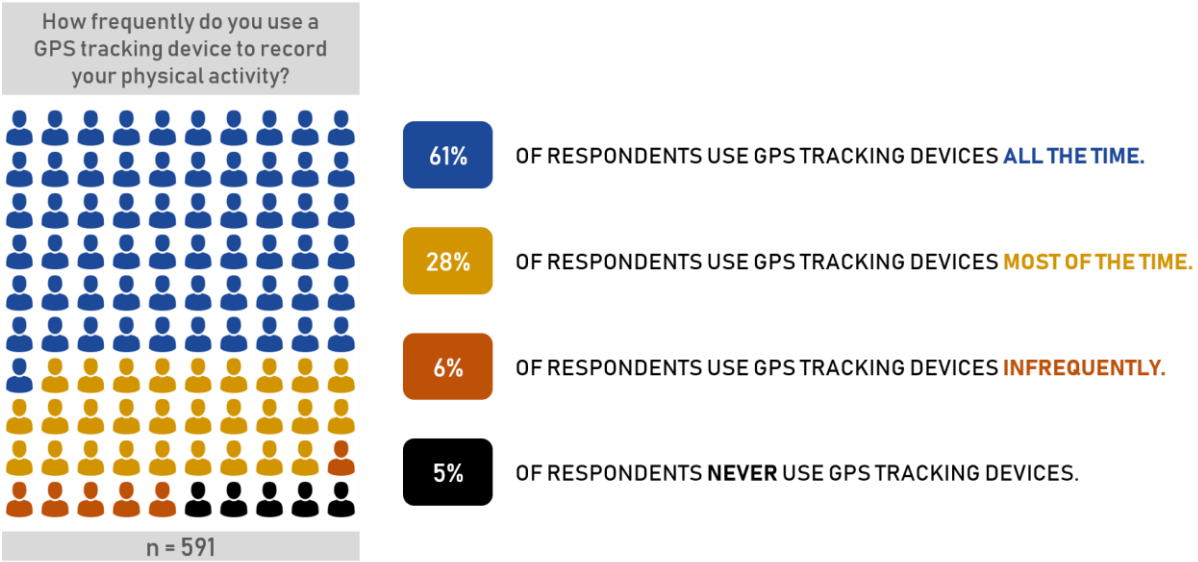


Figure 8.3 *- Regularity of GPS device usage amongst respondents.*

This technology-dominated culture has primarily raised questions regarding the changing practices and experiences of users, yet the implications of 'big data', the monetisation of user health data, and general privacy concerns have also been the focus of increasing attention within academic research (Cilliers 2020; Graham and Shelton 2013; Klauser and Albrechslund 2014; Millington 2017). Within geography, there has been a recognition of the many ways that the digital is "reshaping the production and experience of space, place, nature, landscape, mobility and environment" (Ash *et al.* 2018b: 35), although currently, this recognition has not been extended to the study of everyday sporting practices.

8.1.2. Focus of the research

The extent to which these emergent digital social platforms have come to support, enable and transform sporting social worlds, providing the opportunity for online extensibility that potentially decreases the importance of face-to-face interaction for social world involvement, will be one of the key foci of this chapter. The social world of triathlon is supported by an extensive array of online platforms and analysing the various intricacies and functional differences that characterise triathletes' engagement with these applications would be rather time consuming. Therefore, for the purpose of this research, the focus will be on two of the most popular

applications utilised by triathletes according to existing and empirical data: Strava (exercise-specific) and Facebook (generic social networking).

One function of these mediated communication platforms is their ability to support the process of identity development within a subculture. As a form of serious leisure with an active social world, triathlon is an activity that enables participants to develop and express a meaningful social identity in the shared ethos and knowledges associated with the activity (see Section 7.3):

> Social identity theory proposes that when an individual attaches significant emotional value to their membership of a group they can construct and project an identity reflective of the culturally-prescribed values and norms embraced by that group (Lamont and Ross 2019: 4).

Lamont and Ross (2019) argue that there is a suitable opportunity to explore how and why sports participants develop and express social identities through digital platforms. This is especially the case as the role of social media and fitness-orientated networking applications for identity construction, maintenance and projection, particularly within the realm of sport and physical activity, has received limited attention to date.

Technologies are said to shape the norms, standards and expectations of consumers reciprocally (Eden and Barratt 2010). However, the impacts of wearable technologies and socially-enabled activity tracking applications on participants' practices and experiences are currently not well understood (Barratt 2017):

> there are few studies…that explicitly aim at 'getting behind' these spatial metaphors, to begin describing how digital communication technologies actually do their 'work' at the level of the individual, everyday performances of space (Zook *et al.* 2004: 158).

Gilmore (2016) contends that it is essential that attention is directed towards continuing to explore the impact of wearable fitness technologies that are becoming increasingly pervasive in our everyday lives. Widely available and increasingly affordable GPS technologies, alongside the ubiquitous use of social media applications, have become more-and-more inseparable from individuals'

engagement in a range of physical activity practices, and have arguably had a substantial impact on how these activities are performed, how their communities operate and interact, and how the relationship between physical and virtual spaces are understood. However, limited attention has been given to the integral role, influence and implications of these mobile connected technologies in popular leisure activities, including triathlon. The following section aims to contribute to our understanding of the importance of socially-enabled activity tracking applications - both at an individual and community - scale through a focus on the practices of activity tracking and related digital social interaction in relation to the virtual world of triathlon.

As Graham (2014) suggests, it is becoming increasingly difficult to separate physical and virtual worlds that have become ever more intertwined. It is clear that the continued pervasiveness of digitally-enabled fitness technologies is having a profound impact on the virtual worlds of physical activities such as triathlon, but the extent to which the virtual is becoming increasingly interlinked with the physical, and the influence each realm has on each other in relation to such activities is less well understood. Molnár (2014, quoted in Woods 2018: 2) emphasises this contention, suggesting that:

> the ways in which the digital realm has become a co-constitutive part of urban environments (and the social realities therein) remains underexplored by research, as the 'virtual and the physical, cyberspace and urban space, have been posited as dichotomous and even oppositional categories.

One of the foci of the proceeding chapter will therefore be the complex ways in which digital representations of physical space created by GPS devices and their associated analysis platforms are influencing triathletes' understanding of and interaction with physical places in unique and interesting ways. Features such as user segments in Strava are enabling digital experiences of physical space, whereas applications such as Zwift are enabling physical experiences of virtual spaces, imbuing these spaces with a social significance which has resulted in new and exciting geographies of triathlon engagement.

A quote from a recent paper published by Lamont and Ross (2019) on cycling - despite only coming to my attention towards the end of the writing process of this thesis - appropriately encapsulates some of the objectives of this section and demonstrates the timely nature of this research:

> [e]xamining [cyclists'] discursive practices through emerging modes of social media tailored to endurance sport participants such as Strava, which enables interactive sharing of technical activity data to an individual's networks, would inject further innovation into this area of research (Lamont and Ross 2019: 22).

8.1.3. Overview

The following section contributes to our understanding of the virtual world existing alongside and augmenting the triathlon social world through a focus on three key themes. The first of these themes, which has been a reoccurring theme throughout this thesis, is the increasingly prominent role of digital technologies in the operation and development of social worlds, specifically the triathlon social world. Unlike the proceeding two themes, the role of digital technologies is not analysed in a separate section but permeates the remaining discussion in this thesis. Digital technologies that foster community engagement and shape individual and collective practices are becoming increasingly important to the social worlds of a plethora of activities (Lizzo and Liechty 2020). However, to date, few studies appear to probe the vital role that these co-existing virtual communities have in the operation of contemporary sporting communities. Therefore, developing an understanding of the role that these technologies play within contemporary social worlds, how they augment social interactions between existing and new connections and how this digital aspect of the triathlon world interacts with the traditional material exercise spaces will provide a valuable contribution to the literature. Using the example of triathlon, the following section explores how the increasing ubiquity and pervasiveness of digital technologies have altered the geographies of existing communities and have led to the emergence of a myriad of everyday practices that in some way are dependent on digital platforms.

Secondly, the following Section (8.2) discusses the extent to which the digital forms of mediated communication have become synonymous with social world interaction, questioning the extent to which the digital world of triathlon offers a means of online extensibility that challenges the importance of face-to-face interaction for engagement with the social world. Additionally, it explores how these increasingly prevalent means of digital communication and the growing simplicity to view, compare and scrutinise elements of individuals' physical activity have transformed practices of identity development within the realms of sporting social worlds. The growing popularity of digital applications that add a social element to home-based individual physical activity and their role within the digital world of triathlon, are also explored within this chapter.

The final section of this chapter will concentrate on the 'socially-enabled activity tracking applications' that have added a new layer to the practices of participants in endurance sports such as triathlon (Barratt 2017). At a time where the majority of exercisers use some form of activity tracking device, and with over 95% of survey respondents using some form of GPS device, comprehending the ways in which digital technology can shape the individual and collective practices of triathletes will make a valuable contribution to our understanding of contemporary social worlds. Touching on aspects such as route choice, intensity, duration, frequency and spatiality, Section 8.3.3 will discuss the extent to which 'socially-enabled activity tracking applications' enable triathletes to explore and understand physical and virtual spaces in new meaningful ways. In doing so it highlights the increasingly co-constitutive nature of physical and virtual worlds within the realm of everyday leisure engagement (Molnár 2014).

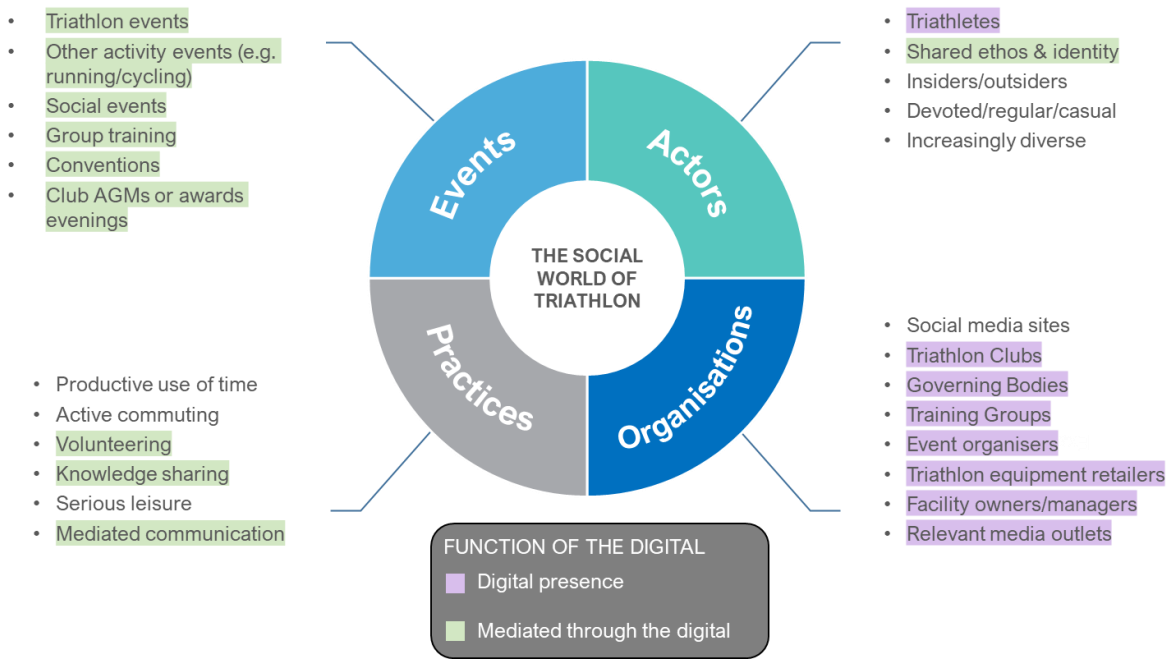


Figure 8.4 *- The Virtual World of Triathlon.*

Figure 8.4 uses the underlying framework of the triathlon social world to demonstrate the multitude of entities which have a digital presence and that are mediated through digital communication channels to a certain extent and also the practices which are increasingly facilitated by digital communication technologies. 'Digital presence' reflects the actors and organisations that make use of online communication channels to signify their presence within the triathlon social world, and 'mediated through the digital' signifies the practices, events and other elements that are increasingly organised or take place on online social platforms. Figure 8.4 emphasises that within triathlon, as in many other sporting subcultures, the virtual realm has become an increasingly intertwined and inseparable aspect of the social world's operation. Accordingly, the following section aims to investigate the impact of digital technologies on triathletes' activities and social practices through a focus on the virtual world of triathlon.

8.2. Mediated communication

> While certainly not characteristic of all interaction in social worlds, when compared with important and meaningful interaction in face-to-face groups of formal organizations, social worlds typically employ a great deal of mediated interaction in the conduct of everyday affairs and activities. Reliance on channels of communication rather than spatial, kindship, or 'formal' ties necessarily implies the importance of mediated interaction informing and maintaining social organization in social worlds (Unruh 1980: 279).

Social worlds are built upon communication. The development of appropriate norms, practices, and behaviours that determine subcultural membership take place within social interactions (Bourdieu 1984), which have become increasingly digital over the past decade. With the continued improvements to communication technology, the increasing levels of connectivity experienced over the past decade, and the rising affordability and pervasiveness of mobile devices connected to the internet, have drastically transformed the ways in which this communication takes place. It is widely recognised that online communication is becoming an integral means of communication amongst members of social worlds, with social media applications such as Facebook, What's App and Twitter providing a platform for members to share knowledge, organise events, and develop social relationships, whilst simultaneously enabling members to maintain a digital presence in the social world beyond the temporally restricted opportunities of co-presence (Patterson *et al.* 2016; Stebbins 2018). The growing ease through which current and potential members can access the communities associated with various forms of physical activity also enables access to and involvement within the social world for those who cannot, or who choose not to socially interact with the community in a traditional physical sense.

> Social media is now a central communication centre within social worlds bound by particular leisure interests (Lamont and Ross 2019: 339).

Shipway *et al.* (2012) suggest mediated interaction, including that enabled by digital platforms, has a crucial role in the construction and operation of social worlds surrounding physical activity. These virtual communication centres have the capability of bringing together a global community of individuals centred around an interest or passion for a particular activity in a fluid and dynamic way (Lamont and Ross 2019).

Recent estimates suggest that 78% of the British population have a Facebook account, and accordingly, the majority of amateur sports clubs have begun to utilise the platform as a digital communication hub (Challenge Trophies 2017; Sport England 2015b). With regards to triathlon specifically, the Triathlon Industry Association (Triradar 2016) found that 73% of triathletes were regularly active on Facebook, a finding that was reinforced by preliminary research for the online survey detailed in Chapter 3 that identified 155 British-based triathlon-related Facebook pages with a combined total of almost 240,000 members. However, despite the apparent importance of these recently emerging digital spaces, their significance to the social worlds of sporting activities has yet to receive sufficient attention, although studies of this kind are beginning to emerge (Lamont and Ross 2019).

8.2.1. The role of mediated communication

In our increasingly digital age, leisure participants are becoming more reliant on digital communication centres which enable the (re)production of norms, values and identities associated with social worlds to signify their membership to the subculture's community (Lamont and Ross 2019). A number of existing research studies have expressed this sentiment: Carlén and Maivorsdotter's (2017) research on recreational runners and Lamont and Ross's (2019) study on leisure cyclists being two pertinent examples. Carlén and Maivorsdotter (2017) identify that runners utilise 'digital sporting social networks' for several purposes, including the sharing of details about running performances, the planning of running events; and the indication of presence among the virtual community of runners. Similarly, Lamont and Ross (2019) discuss how cyclists are using social media platforms as a means of both visually and textually expressing their affiliation to the social world of leisure cycling. The 'virtual worlds' of activities such as running and cycling have also become

valuable spaces for the dissemination and learning of subcultural knowledge and for facilitating social connections between likeminded actors (Barratt 2017; Little 2017).

Triathletes' use of digital communication tools reflects what Harmon and Scott (2017) conceptualise as 'extended leisure experiences' – activities following a primary leisure activity which continue and augment the leisure experience. These extended leisure experiences are recognised as valuable for building community connections amongst members of a social world and emphasise the importance of considering practices of individuals beyond the temporal boundaries of physical activity itself (Lamont and Ross 2019). As a result of the pervasiveness of digital communication tools, and the popularity of self-tracking technologies, social media platforms and socially-orientated activity tracking applications have become fertile spaces for the manifestation of extended leisure activities:

> social media is a potent vehicle through which leisure participants may share digital content generated during their primary leisure experiences and engage in interactive, asynchronous 'postmortems' of their experiences with fellow attendees and non-attendees devoid of geographic and temporal constraints (Lamont and Ross 2019: 340).

Both socially-orientated activity tracking applications and social media platforms provide users with access to digital information about themselves and other social world members, which has been recognised as an important stage in identity development or reinforcement (Carlén and Maivorsdotter 2017).The ability to continue engagement with the triathlon community in digital spaces before and after the physical activity itself, by breaking down, analysing, and discussing such information, was recognised as a valuable practice for developing a sense of belonging to and identification with the triathlon social world:

> Through building on an initial experience in the company of likeminded others, there exists the potential for growing the communal bonds and connection to the leisure activity in tandem, thus facilitating aspects of personal and social identity (Harmon and Scott 2017: 592).

As has been emphasised throughout this chapter, the digital has become an essential and inseparable medium of communication within the triathlon social world. As triathletes attempt to balance their commitment to triathlon with a series of other responsibilities in their everyday lives, time becomes a premium, which often necessitates highly individualised training practices. These individualised practices, tied to the increasing availability of home-based training technologies, often correlate with a reduction in physical involvement with others, and accordingly, the digital has assumed a key role in enabling and continuing communication between actors in the triathlon social world. Nevertheless, triathlon involvement continues to be an inherently social affair despite the tendency to perform the majority of one's training alone, perhaps even more so now that the virtual world enables around-the-clock access to the triathlon community.

These online social platforms have become the default medium of communication amongst the various organisations that represent the triathlon social world, including governing bodies, race organisers, triathlon-equipment retailers and relevant media outlets. Triathlon clubs have increasingly adopted digital communication platforms as management and organisational tools, with the added benefit that they enable regular communication between their members, contributing to a greater sense of community. Both case study clubs (TTC and RT) had active Facebook pages which were used by coaches to disseminate information about training sessions and coaching advice, and by members to discuss triathlon-related and even unrelated topics, to exchange knowledge, to organise informal activities, and to offer support and guidance to each other. Actors within the triathlon social world themselves access the virtual world in order to learn, share, communicate, develop a sense of belonging and to express their identity within the social world of triathlon.

At its largest scale, the wider triathlon social world is international in scope, and therefore, mediated communication tools are essential to enable contact between distant actors within the world, as already suggested by Unruh (1980) before the age of the internet. However, what is particularly interesting is how reliant locally-clustered sub-worlds are on the same forms of mediated communication, suggesting that these tools are not only a means of bringing spatially distant individuals together

and that there are clearly other functions that make them so integral to the social interactions of the triathlon social world.

8.2.2. Online extensibility

Unruh's (1980) conceptualisation of social worlds primarily emphasised the importance of mediated communication for connecting dispersed actors, organisations, events and practices across significant geographical space. Whilst remaining true, mediated communication has also become increasingly important for augmenting connectivity between individuals located within close proximity to each other, for example, in the case of local triathlon communities. Socially-orientated activity tracking applications and social media platforms enable individuals to remain present and active within the triathlon social world at times when they are not physically present. Access and contributions to conversations on social media pages and discussion forums act as a means of signalling one's presence within the triathlon community, which can contribute to individuals' sense of identification or membership in the world of triathlon (Carlén and Maivorsdotter 2017). In the same way that clothing acts as an extension of the self and a signifier of identity, social sites such as Facebook, Instagram and Strava give runners extensibility within the realms of the digital (Gaffney 2014).

Social interaction through digital platforms also has the capacity to augment physical interactions between actors within the triathlon social world, as highlighted by Nicole:

> My partner belongs to an online club. He doesn't train with a club, but he does it all, all his social side of triathlon, is all through Facebook. And then he meets people at events from the same club, because they all wear the same kit, so they are instantly recognisable, so they will just introduce themselves to each other at weekends. But he has made friends through that, people from all over the country (Nicole, F, 55-59).

The same trend has been identified by Harmon and Scott (2017) who suggest that individuals, who are unable to be physically present at a particular leisure event or within a certain community, can continue to nurture social relationships through

digital platforms, which provide them with access to knowledge and awareness which they can then build upon when they get the opportunity for social interaction in a shared physical space. Effectively, social media and digital tracking applications provide a means of extending the triathlon social world into the virtual realm, meaning that individuals do not physically need to train together, but instead can remain part of the world by training, competing or socialising together virtually. This tendency reflects research by Barratt (2017) who found that, even for club cyclists who were not reliant on such applications to maintaining contact with other cyclists, these socially-enabled digital applications had become an important aspect of their everyday activities. Discussions with triathletes clearly emphasised that online extensibility was one of the notable benefits of the pervasiveness of social media usage amongst actors and organisations within the triathlon social world:

> Social media, going back to that side of it, helps, because you can immerse yourself and feel like you're quite involved, even just sat on the sofa and keeping track with someone […] I don't see them as much as I can see them on Strava, so it's just a way of keeping up I guess, keeping up to date with what they're doing (Craig, M, 45-49).
>
> When they [TTC] got the Facebook page it made a big difference, it feels like more of a community through Facebook actually, because people have a bit of a laugh with each other on there, share race reports, and random other stuff (Grace, F, 40-44).

Both Craig and Grace's comments reflect Harmon and Scott's (2017) suggestion that these discussion forums can act as a surrogate for 'being there', and also exemplify how the unbounded temporal nature of the virtual world of triathlon can actually make it a more productive and dynamic space for community interaction (Harmon and Scott 2017).

Clearly these digital tools are important means for triathletes to forge and express their membership to the wider triathlon community (Carlén and Maivorsdotter 2017), often enabling a more regular and deeper sense of involvement than permitted through co-presence. However, it is imperative to highlight that mediated communication through online platforms has not completely negated the importance

of physical presence. Despite their clear importance, mediated forms of communication have not made in-person socialising obsolete. Taking part in club training, attending social events and participating at events all offer unique and valuable means of social interaction, self-gratification and identity development which are arguably more intimate than virtual connections. Hitchings and Latham (2017) argue that intermittent conversations during physical activity, which may have nothing to do with the activity in question, can form an important aspect of the exercise experience (see also Watson 2006; Iveson 2007). This sentiment was expressed by several interviewees, who generally agreed that due to other restrictions placed on triathletes' social lives given their level of commitment to their activity, conversations during physical activity were a valuable means of social interaction:

> If you're a triathlete you can't always go out and get wasted with people, because that's the next day gone. Your social life actually tends to be – if you're doing a 100-mile sportif and you're cycling next to somebody for 6 hours, just talking, just the 2 or 3 of you, that's a real bonding experience (Margot, F, 40-44).
>
> Everyone has got something new to offer when you talk to people about it, and I think the social person-to-person side of the club, you can't beat that really, even social media can't beat that really. Chatting directly to someone (Craig, M, 45-49).

In addition to the perceived social importance of face-to-face social interaction, physical presence was also highlighted as an essential practice through which to benefit from the camaraderie and supportive atmosphere at triathlon events, and as a valuable means of building confidence through the confirmation of ability or technical skill from other members, both of which cannot be replicated in the same way virtually.

8.2.3. Socially-enabled indoor training applications

> Many sports are innately social, and we need to understand how to make sports technologies more social (Woźniak *et al.* 2019: 20).

In addition to the growing use of activity tracking applications for logging, analysing and comparing physical activity, another way in which application developers have capitalised on the needs of a growing population of 'connected' amateur participants of individual sports through the development of indoor training applications such as Zwift, Trainer Road, The Sufferfest and many others (Arthurs-Brennan 2020a):

> Systems like Zwift integrate sports equipment, such as bikes or a treadmill, to give the illusion of cycling or running in a beautiful landscape and competitive scenarios, instead of exercising in your cellar (Woźniak *et al.* 2019: 20).

The rising importance of these applications within the endurance-sport community is evident, with an estimated 18% having an online training subscription to one of these platforms (Roethenbaugh 2019). This rising utilisation of interactive digital training technologies was also evident amongst survey respondents, with 16% indicating a regular use of Zwift, and a swathe of other applications receiving mention among survey responses and during participant observation.

Zwift is a socially-enabled indoor training application that links up with a smart turbo trainer, exercise bike or treadmill and allows the athlete to power a virtual avatar around a mix of famous and fantasy landscapes populated with other virtual Zwift athletes. The application has experienced considerable growth in users over the past few years, growing from approximately 200,000 users in 2016 to more than 1 million by 2018 (Lunden 2018). These numbers have undoubtedly grown as a result of the COVID-19 lockdown in Great Britain. Zwift has effectively capitalised on the easing accessibility of home-based training equipment, the increasing tendency of triathletes (and cyclists) to perform their physical activity from the convenience of their home, and a desire of individuals that their sporting practices involve some form of social interaction. Through the ability to ride with "virtual representations of remote peers" within the triathlon community in a virtual reality setting, and due to an array of social functions including challenges, segments, competitions, 'meetups', forums and live chat, Zwift creates a social experience out of individual exercise (Woźniak *et al.* 2019: 20). Zwift also offers opportunities for the development and presentation of subcultural capital. The ability to earn achievements, work your way on to public

leaderboards, unlock clothing or equipment for your virtual avatar to use which act as a symbolic representation of your ability/regularity of using the game, which has the potential to contribute to an individual's sense of identity.

The increasing prevalence of interactive indoor training applications which seek to 'jazz-up' home-based exercise has only been exacerbated during the recent COVID-19 pandemic. With millions of people confined to their homes for months, and with significant restrictions on their ability to perform physical activity with others, the number of exercisers who have turned to alternative virtual means of social engagement during their exercise has been significant (Figure 8.5). This trend has demonstrated the power of these platforms for enabling individuals to remain connected to the social worlds of their respective sports when physical co-presence is not possible. Assessing the cultural changes to exercise practices as a result of the COVID-19 pandemic will be a fascinating but complex area for study, but on the whole, witnessing the important role that these technologies can play in the function of sporting social worlds is a valuable lesson moving into an increasingly digital future.

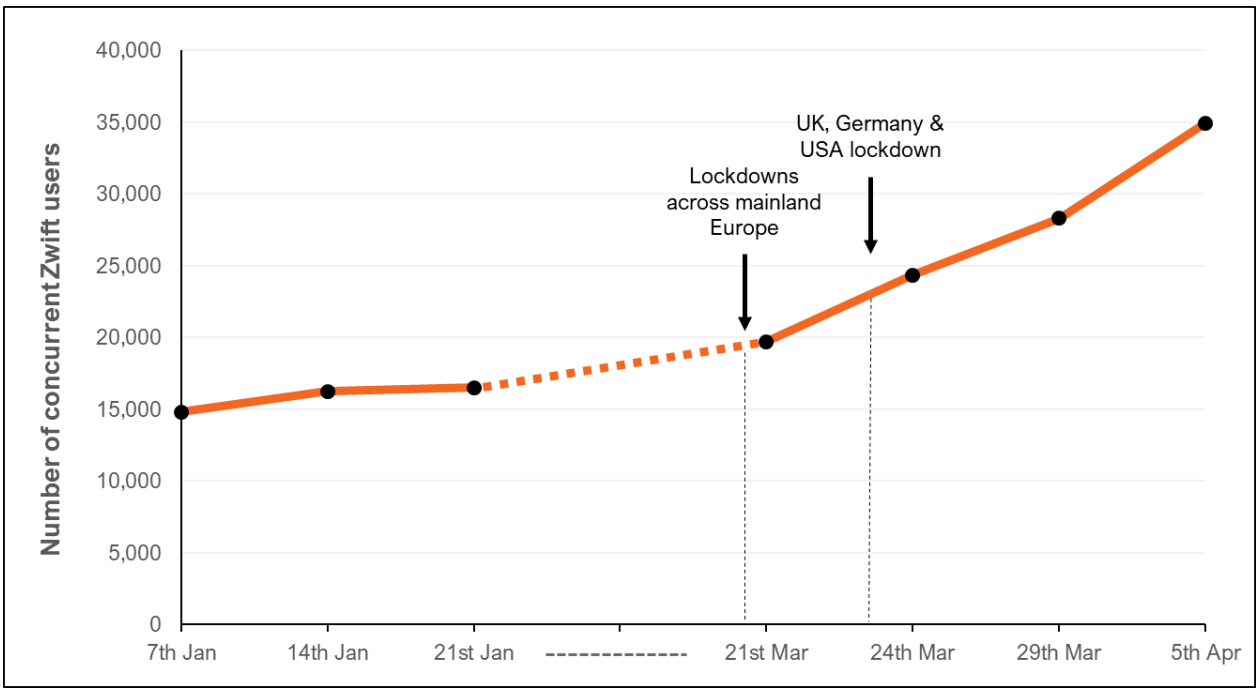


Figure 8.5 *- Impact of Coronavirus on the number of global Zwift users (Source: Schlange 2020).*

The technological improvements and cultural changes surrounding sport and leisure activities have significantly transformed how sporting social worlds operate. On the whole, mediated communication plays a valuable role within the operation of the triathlon virtual world, particularly for enabling social interaction for those who are unable or unwilling to be physically present within the triathlon community and for extending individuals' triathlon engagement beyond the temporal boundaries of physical activity alone. Social media platforms and socially-enabled activity tracking applications provide the opportunity for online extensibility of individuals' triathlon identity and membership of the triathlon social world, providing a public platform through which to develop and express subcultural capital and to signify their commitment to the collective community of triathletes. Despite reducing the need for physical presence, the virtual world of triathlon, which has continued to expand and become increasingly accessible over the last decade, is not reducing the importance of face-to-face interaction for community involvement, rather it is actively extending and enhancing the operation of the social world. Understanding the extent to which this virtual world extends and enhances existing social worlds is valuable in that it begins to unearth the role of virtual communication centres within the operation of leisure-orientated social worlds.

8.3. Practices of activity tracking in triathlon

Hand *et al.* (2007: 680) advise that "technologies and practices coevolve". The complexities of developments within fitness technology are well documented (Cardinale and Varley 2017; Chambers *et al.* 2015; Wang 2015), but how users' practices have evolved, developed and adapted in association with these technological advances is less well understood. Exploring how the assemblages of people, place, and technology come together to represent triathlon activity, can make a contribution to understandings of social interaction, experiences of place and hybrid physical/digital worlds (Holton 2019). Gilmore (2016) has developed the concept of 'everywear', an adaptation of Greenfield's (2006) concept of 'everyware' which encapsulates the incessant penetration of technology into various aspects of everyday life, in an attempt to discuss how fitness-specific technologies - GPS devices, mobile phones and analysis applications - are becoming an integral element

of everyday fitness experiences and function to mediate and transform the ways in which leisure participants understand space.

One transformative aspect of the various socially-orientated activity tracking applications that has been the subject of academic attention over the past few years has been their striking potential to influence the everyday practices of their users. Existing research has demonstrated how health applications have implemented gamifying mechanics – such as progress, feedback, rewards, challenges and competitions - in an effort to motivate users to form habitual exercise practices and encourage sustained application use (Boulos and Yang 2013). The most persuasive of these functions are those that are inherently social, making users health data public and exposing them to the comparison and judgement of other users. Hamari and Koivisto (2015) argue that positive recognition, social influence and reciprocity all contribute to the likeliness of sustained use and consequently, regular physical activity. However, this digital visibility can also have several negative consequences for users (Barratt 2017). Nevertheless, these socially-orientated activity tracking applications are having a notable impact on contemporary exercise practices in sports like triathlon, whilst at the same time emerging as important communication centres within the triathlon social world. In research by Little (2017) the utilisation of tracking and analysis technologies was found to be important for those who were newer to the activity, but as experience was gained there was a tendency to detach oneself from technology (Little 2017). However, the opposite appears to be true within triathlon, with a clear reliance on technology which appears to only grow stronger as individuals understanding of training metrics increased. Additionally, the allure of sharing and comparing training and race activity on online platforms such as Strava only appeared to amplify this engagement with technology.

Despite a lack of public data on user numbers, it would be difficult to argue against Strava being one of the most popular and culturally significant socially-orientated activity tracking applications on the market (Arthurs-Brennan 2020b; TIA 2017; Tucker 2017). 74% of survey respondents highlighted that they used the application, and additionally, Strava was a reoccurring topic of discussion throughout my time training with TTC and RT. Accordingly, the following section will focus on Strava to

discuss how activity tracking practices manifest within the virtual world of triathlon. The nature of Strava means that use of the application primarily occurs after the performance of exercise, with users analysing aspects of their activity and browsing activities uploaded by their social connections on Strava. This practice can be considered as an 'extended leisure experience' and has become an increasingly important identity-confirming and community-enhancing practice within the triathlon social world (Harmon and Scott 2017). However, the public exposure of personal fitness habits is not always a positive experience for triathletes, and an attentiveness to the issues surrounding this emerging social comparison is a necessary consideration for this research.

A number of existing research studies have explored Strava's impact on users' leisure practices. Barratt (2017) has discussed how competitive elements of Strava encourage some members of the cycling community to perform more regular, higher intensity and longer duration cycling activity (Barratt 2017). Fuller (2017) has commented on how Strava's social comparison functions create opportunities for the expression of masculine identity, and Poulsen (2016) focused on the positive and negative aspects of surveillance embedded within Strava. However, insight into how Strava contributes to the changing spatial and social practices of triathletes are lacking but would provide a valuable contribution to the understandings of increasingly digital contemporary exercise practices. Developing an understanding of practices of activity tracking in triathlon will contribute to the growing field of research on wearable technologies and the datafication of everyday life (Gilmore 2016).

8.3.1. "If it's not on Strava it didn't happen":

Strava, the self-proclaimed 'social network for athletes', is a socially-enabled activity tracking application that allows users to upload running, cycling and swimming activity recorded on GPS-enabled devices to a platform for logging training, in-depth analysis and social comparison. Since the applications' creation, it has had over one billion activities uploaded to its database, and more than nine activities are uploaded to the platform every second (Strava 2016). Founded in 2009,

Strava was designed to provide the social camaraderie of group exercise whilst training alone (Wallace 2012):

> The impetus for the idea was thinking how do we recreate this when we aren't connected to people anymore through our daily existence, when we are busy with work and family and everything is pulling us and taking us away from our life as an athlete (Michael Horvath, Strava's Co-Founder quoted in Kelion 2013).

Strava has emerged as a unique cultural entity within the endurance sport community, with social features such as online leaderboards, segments and a Facebook style dashboard creating opportunities for communication, comparison and competition that act to enhance the experience for individuals exercising alone (Barratt 2017; Tulle *et al.* 2018). Previous research has emphasised how the presence of this online social community is integral for user engagement and the inherently individual nature of triathlon practices perhaps explains triathletes' preference for Strava over other activity logging applications (Chen *et al.* 2017).

As a social application, Strava is widely commended for acting as a source of motivation, providing individuals with opportunities for social engagement, investment and reward despite training alone, and supporting an online social community of swimmers, cyclists, runners and triathletes. Through the implementation of gamifying features such as leaderboards, segments, challenges and rewards, Strava "taps into the basic desires and needs of the users which revolve around the idea of status and achievement" (Barratt 2017: 330). These gamified features have made competition an everyday element of physical activity engagement for a significant number of participants, whilst simultaneously increasing the pervasiveness of wearable fitness technologies amongst endurance sport communities (Gilmore 2016).

The possibility of comparing oneself to others – friends, strangers and even professionals – has been identified as one of the key motivations for Strava-use (Tulle *et al.* 2018). However, the public visibility of Strava, placing digital artefacts of physical performances online and often also for others to see, and thus creating an opportunity for judgement and scrutiny, can produce a sense of anxiety through

surveillance that can be damaging for certain individuals (Poulsen 2017). Although the majority of gamifying features are typically justified as networking features, social pressure can also be regarded as a deliberate mechanism to encourage engagement (Millington 2018). My own Garmin running watch buzzes at me every three hours telling me to 'get up and move'! This culture of online social comparison and surveillance that exists within Strava and the extent to which it has influenced the triathlon community can be most aptly summarised by the widely-used saying, "if it's not on Strava, it didn't happen", which reflects the pervasiveness of activity tracking and the importance of social visibility within the context of triathlon, whilst also evidencing Strava's embeddedness within the unique ethos of the community.

Lamont and Ross (2019) suggest that the pre-emption and preparation for the post-exercise 'post-mortem' of physical activity can cause users to adjust and alter their primary exercise practices, highlighting how cyclists would schedule planned pauses in their rides in order to take photos of impressive or attractive scenes in order to upload to their Instagram account. Strava had a similar effect on individuals due to its role as a publicly visible marker of users' exercise habits, physical ability and a means of projecting subcultural capital within the digital world of triathlon. As a result, users would apply a range of strategies to tailor their physical activity in response to the assumed comparison and judgement of other users, including increasing their intensity on particular geographic 'segments' which had wider digital importance to the community. An example of the influence of Strava segments on user's physical performance, a practice informally known as 'segment hunting', is demonstrated in Figure 8.6, and also in the following quote from Andrew:

> I would say more cyclists talk about Strava than triathletes do, and some people I know just don't partake in it at all because they think you should just [keep your] head-down. Whereas I just go stalking Strava segments on my TT bike with my disc [wheel] on the back (Andrew, 35-39, M).

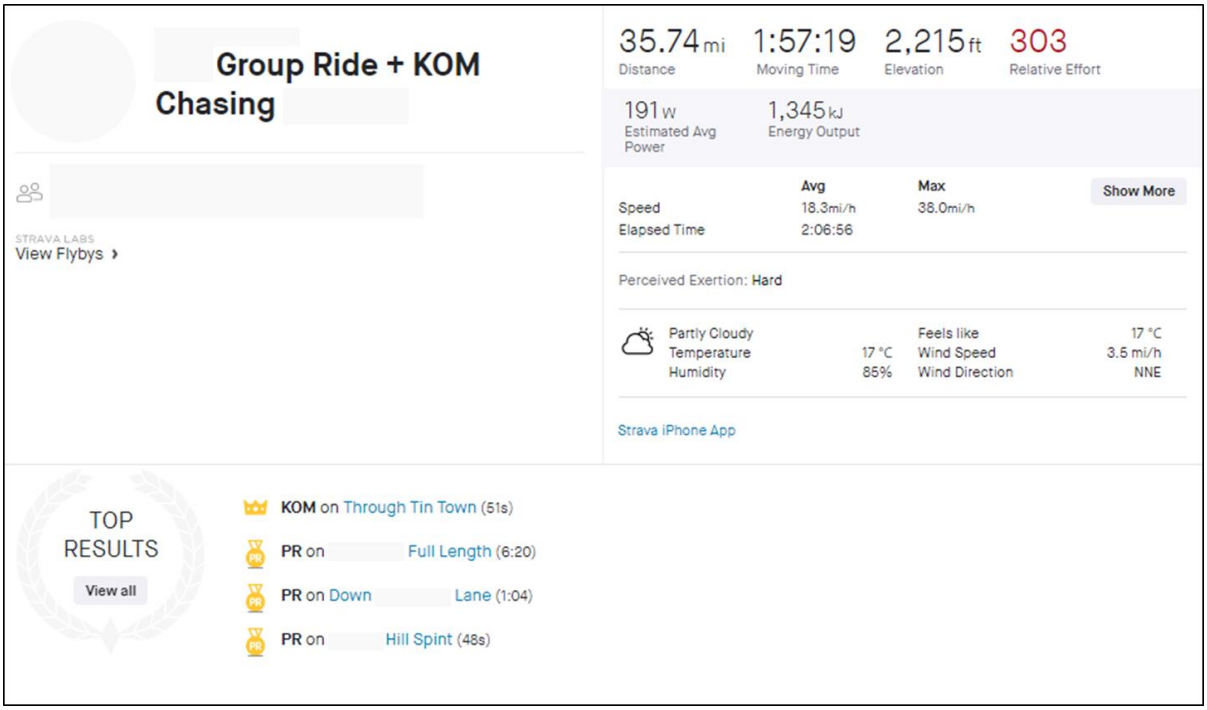


Figure 8.6 *- Example of Strava-segment influenced activity (Source: TTC club member).*

Lamont and Ross (2019) also suggest that a focus on emerging digital platforms, that enable the sharing and scrutinisation of physical activity within individuals' sporting networks, could make innovative contributions to understandings of digital social platforms as communication centres offering extensibility within leisure-orientated social worlds. Similarly, a focus on the social features of applications such as Strava presents a valuable opportunity to develop a greater awareness of the "social dimension of health-orientated behaviours" (Zeng *et al.* 2017: 2).

8.3.2. Social comparison and surveillance

The visualisation of metrics associated with health and fitness and the overall datafication of amateur physical activity over the past decade has become a key element of the latest fitness boom (Millington 2016; Tironi and Valderrama 2018). Gilmore (2016) has proposed that the social capacity of socially-enabled activity tracking applications, which enable individuals to publicly share digital artefacts of physical activity performances with the 'connected' online community, distinguish GPS devices and applications like Strava from existing technologies such as pedometers. The effects of this transformational change have impacted individuals in

a variety of ways – including access to knowledge, advice and encouragement from others, helping individuals to identify appropriate sites for physical activity, and positive forms of competition. Yet at the same time this technological change has burdened some with a perception of peer pressure, resulted in unhealthy competition, and created a sense of having one's bodily performances being under surveillance from known and unknown others. The role of public online social platforms and the sense of social comparison and scrutiny have been explored within the realms of social media sites such as Facebook and Instagram (Fardouly *et al.* 2015), but the effect of increasingly placing everyday sporting performances in the public spotlight has only been the focus of a handful of leisure orientated studies.

As an application with a core function of allowing users to upload digital traces of physical activity in order to initiate social engagement, Strava – the 'social network for athletes' – creates an atmosphere that can positively or negatively impact on its users. Once uploaded to the platform, Strava activites effectively become "personalized and datafied representations of the self that are the subjects of scrutiny" (Millington 2018: 72). Lamont and Ross (2019) have emphasised how digital platforms have become a space for what Harmon and Scott (2017: 586) have termed 'extended leisure experiences' – "activities that participants engage in following a primary leisure activity" which may occur "without temporal or geographical connection to the primary activity", both individually and collectively. The notion of social comparison is a central aspect of these experiences on Strava. As a platform, Strava provides users with the opportunity to keep up to date with the physical activity of friends, club members, or even strangers, and use this as a context through which to assess their own triathlon activity:

> I also think most people like to have a snoop at what other people have done, it's a bit like Facebook isn't it. Even if you don't post something yourself, you like to see what people are doing (Grace, F, 40-44).

In his study of cyclists' use of Strava, Barratt (2017) identified that the digital visibility of the application contributed to the obligation to cycle. At the same time, this digital imperative has become an embedded element of individual practice for some, with individuals in Toner's (2018) study highlighting that the absence of a GPS

tracking device, and the associated digital artefact of the activity, resulted in a sense that the physical activity had little purpose. This thinking points towards the motivational properties of these socially-enabled digital tools, demonstrating a preference for immediate social validation through digital visibility over the physical capital obtained from the activity itself. The importance of this digital recognition within the triathlon social world is again most aptly reflected by the mantra "if it's not on Strava it didn't happen" which has become ingrained within the triathlon culture. Feedback from friends, club members, or just other online users on uploaded triathlon activity or race reports through comments and 'kudos' or 'likes' on social media platforms, or even purely the knowledge that one's activity was now present within the digital world of triathlon, acted to increase individuals' sense of self-worth, as well as identification with the activity and self-confidence. The same trend has been illuminated by Pedersen and Tjørnhøj-Thomsen (2017) regarding bodywork at the gym.

The prevalence of social comparison on Strava first became clear during survey analysis, with 74% of survey respondents regularly using Strava to look at other users' training activities, and 52% comparing their own performances with other local triathletes. The same sentiment was also apparent during the qualitative phase of the research. In the majority of circumstances, it was clear that this function of social comparison was largely positive, having a genuine impact on individuals' ability to extend the community engagement aspect of their practice. As a regular Strava user myself, it became clear early into my time with the two triathlon clubs that my own sense of involvement and belonging within the triathlon social world was somewhat mediated through this social comparison on Strava:

> Running over to the field where the session would be held, I was speaking to Oliver about my most recent PB's – which he had seen on Strava – one over 3000m at Loughborough and another at a local parkrun event – legs still tired from the latter. Although it is something I am familiar with from my running community involvement, it was interesting to see how some members of the club had already started using Strava as a means of observing my physical activity, and in this case providing me with encouragement and acknowledging my successes, which was a positive (Observation – 12th June 2018)

This observation evidences how digital interaction through Strava can augment face-to-face communication, acting as a talking point to aid the development of social connections through a deeper understanding of individuals' activity and a context through which to view that activity. For example, Oliver could see when and where I raced, and with whom. He could also identify that these performances were personal bests for me due to the title given to the activity, and he could interpret my ability as a runner through the visualisation of my performance metrics, and this provided him with a topic for discussion during our training session. Amongst interviewees, Strava was identified as an opportune platform through which to develop an awareness of the activities of other club members, both as a means of generating talking points but also for reassuring themselves about their own triathlon training:

> It's a lot more useful than a website because it updates itself, because people put stuff on there, and you get more of a feel for the people in the club and what they're up to (Andrew, M, 35-39).

At the same time, the visualisation of geospatial data collected during users' swimming, cycling and running activity creates an easily-accessible record of suitable and tested physical activity spaces within a certain area, which other users can then integrate into their own spatial practices:

> I often look on Strava and think, 'oh they've ridden that route, let's steal that one and let's go and ride that ourselves shall we?' (Betty, F, 35-39).

> You can easily see visually where people have been cycling a lot. There have been times where I've thought 'oh, I'd have never have thought of going along there, but clearly people do, so let's have a look (Wes, M, 60-64).

Amongst triathletes, there appeared to be a general sense that Strava was more likely to have a positive influence on their sense of involvement, self-confidence and connectedness during periods of regular training. However, at times when users were unable to train as much as they desired due to injury, a general lack of motivation or other commitments, the negative side-effects attributed with the social visibility of Strava came to the fore:

> It's one of those things, when I'm training lots I love going on there, because I know that I'm doing a lot. If I'm not doing as much, like at the moment, I don't go on there as much because it makes me feel like, 'oh god I'm not doing enough' (Grace, F, 40-44).

Much like in Barratt's (2017) study exploring the gamification of physical activity through applications such as Strava, the ever-present nature of technology had the potential to impact triathletes' practices in similar ways. One of the key negative aspects of Strava use identified by participants was how the sense of monitoring and surveillance, and the ability to see what other people are doing (although perhaps only what people selectively chose to upload) had the potential to lead to a feeling of anxiety through not doing enough, or jealousy/disappointment that others are performing better. The following two quotes demonstrate this:

> Like with any social media, that there are negatives, because I do think some people - including myself - sometimes it can make you feel a bit anxious, or like you're not doing enough, or that other people are better than you (Grace, F, 40-44).

> I've found, when I was doing the full, people that were training to do the full as well, I found I had to block them, because it just really started – it wasn't upsetting me that they were doing better, it was more that it made me doubt constantly whether I was doing enough. I couldn't do anymore, and there was nothing I could do about it, but I just found, I'd think 'I've had a really good week, I've done loads this week', and I'd look at my total, look at my plan, and be like 'yeah! I'm within an hour of what I should have done this week', and it was a lot I should have done. I'd think that's really good, and then someone else's would come up and I would be like 'but they've done like eight hours more than me, how is that even possible. I can't have done enough. I need to do more, I need to do more. And in reality I didn't need to do any more at all, but it just started to mess with my mind a bit (Sophie, F, 40-44).

Although Strava provides access to a substantial amount of in-depth data about performance, training and spatialities, it does not provide insight into the personal circumstances of the uploader, for example, how much free time they have, how supportive their family are of their pursuit, the level of accessibility they have to facilities, etc., which all potentially increase the ease of engagement. A lack of time was a barrier to participation identified by 18% of triathletes in the online survey, and Strava appears to exacerbate individuals' perception of time available for triathlon activity by enabling them to view the training practices of those who may have significantly more flexibility in their lives. In the case of Sophie, a part-time teacher who was married with young children remained dissatisfied with her level of engagement when comparing her training to others on Strava, although she used almost every available moment of leisure time for triathlon. This sense of detachment of practices from the individuals themselves is arguably an artefact of online extensibility within the triathlon social world, whereas the nature of face-to-face interaction means that questioning others on how their personal situation may facilitate or impede their triathlon activity is potentially an easier topic to broach.

The large segment of the triathlon community that is fixated with ensuring that physical activity is made visible through applications like Strava, combined with the

ingrained sense that users' triathlon practices may be subject to the judgement of the local and wider community, ties into existing geographical understandings of surveillance (Foucault 1991) and contemporary reflections of digital forms of surveillance (Barns 2019). It became clear that it was not only the notion of social comparison afforded by the Strava community that had the potential to negatively impact the experiences of users. Built-in aspects of surveillance within the devices and applications themselves added a degree of expectation regarding regularity and intensity of training practices which caused frustration or anxiety amongst participants and instilled a sense of 'being a slave to technology' for some:

> Sometimes you think to yourself 'I should have a rest day', but my watch is telling me 'your move goal was normally further along by now, why don't you get a workout in today'. 'Leave me alone!'. So it can become a little bit of a slave to tech, and this is why I try and use it, but not get too obsessed with it (Brian, M, 35-39).

As an increasing number of people turn to digital applications like Strava to measure, analyse, log and compare aspects of their physical activity, the extent to which they impact individuals' physical and social practices, in addition to their physical, social and mental health, is significant. Surveillance is engrained within the underlying technologies and programming that generate exercise data, and also within the social features of these socially-orientated activity tracking applications. This surveillance can have both positive and negative impacts on users from the triathlon community, acting to reinforce self-confidence, identity and community membership for those who are able to train regularly, but having conflicting effects for those who cannot.

Much like the discussion on social media platforms in Section 8.2.1, Strava acts as a means of mediated communication that extends the operation of the triathlon social world beyond the spatial and temporal restrictions of face-to-face interaction. As a digital space which brings together a variety of actors connected by the unique ethos of endurance sport, Strava in this sense can also be considered as a digital communication centre within the triathlon social world. Social comparison manifests itself in users' interactions with 'segments' and their leaderboards on Strava, features

which attempt to gamify the exercise experience. Millington (2018) suggests that they are effectively social networking features, but in this case tied to an actual physical location. This unique and complex relationship between the digital meaning ascribed to these places within the community, and the way individuals interact with these places in the physical world, form the focus of the following section.

8.3.3. A digital sense of physical space?

> While digital technologies cannot replace conventional interactions with landscapes, the intersections of people, places and technologies can converge in exciting and surprising ways to produce new forms of interrelating with(in) spaces (Holton 2019: 435).

Digital interfaces are increasingly transforming our experiences of space and place (Adey *et al.* 2014; Sutko and De Souza e Silva 2010). Having a lasting physical trace of your physical activity visualised in the form of an interactive map enables individuals to inspect and dissect the more intricate aspects of their mobility, which in turn can lead to a greater understanding of the spaces that they have traversed, and through the use of digital means, a better post-activity understanding of their bodily performance in relation to the physical environment. At the same time, through the assemblage of a mass of existing traces of physical activity, applications like Strava, Garmin Connect and MapMyRide have the functionality to enable users to identify, piece together, experience and then disseminate suitable routes for physical activity. From my own experience, investigation into the spatial activity profiles of others within the local running sub-world have been invaluable for assessing the viability of potential routes, and for adding new routes into my spatial portfolio.

The impacts of the social functions of Strava are not limited to previously unconnected individuals, they can also enhance and/or transform the social dynamic of existing social connections. Individuals can view the activities of other athletes within their club or local community, allowing them to identify areas for physical activity, to observe and learn from others' training practices, and to improve their awareness of the goings-on of other members in their social circles. Modern socially-enabled activity tracking applications amalgamate a huge amount of geospatial user

data in order to help suggest routes based on their popularity amongst the endurance sport community. This can lead to the regular use of certain spaces because they have emerged as important sites amongst tracking triathletes but may also contribute to the avoidance of certain spaces purely because they are 'unpopular'. The result of all these digital engagements within triathlon practice are a topic with much scope for future research.

Through the recommendation of 'community-tested' geographies of triathlon, and a vast library of other users' spatial exploration data during physical activity, applications like Strava can increase users' awareness of their local exercise environment. Strava segments encourage competition between users based on specific geographic locations, which in turn increases their attentiveness to terrain, elevation and weather in order to optimise their performance. Little (2017) argues that the performance-driven nature of GPS tracking devices can subtract from individuals' environmental immersion, however, the use of cartographical features which utilise this GPS data, clearly have a notable effect on users' understanding of their local environment, ascribing these spaces with meaning associated with their triathlon engagement and influencing how they interact with these spaces in the physical world (Lane 2012).

Strava provides the opportunity to develop users' understanding and awareness of space, to alter and augment experiences of space, and to act as a tool for placemaking that connects the physical and digital realms. This process occurs both pre-exercise; allowing users to plan routes based on existing activities, or to explore segments and trawl local leaderboards to uncover community meanings associated with specific places, and post-activity; to determine how users' physical performance within certain spaces compares with the community, and to provide geographical context to physical performance through the use of visualisation tools.

Segments are a feature of Strava which allow users to define sections of a route and then compare their effort against their own and users' previous performances. Through the combination of enabling social comparison, encouraging competition and adding digitally-grounded meaning to physical spaces, segments have had a transformational effect on the relationship between the physical and virtual worlds of

triathlon in our new digital climate. Despite the seemingly arbitrary nature of these spatial sections of individuals' physical activity, the behavioural changes associated with them are evident. This interaction between the physical and digital realms in relation to certain spaces, a phenomenon that Holton (2019: 435) refers to as "hybridised physical/digital spaces" is a process that occurs bi-laterally in relation to Strava. Through features such as segments and in-depth performance analysis, and the huge quantity of existing geospatial physical activity data, Strava users' physical activity becomes imbued with virtual meaning, whilst at the same time, the knowledge that training will be publicly visible, and inevitably will be subject to social comparison, has an impact on individuals' physical performance in order to obtain a social reaction within the virtual world of Strava. This two-way process became evident through discussions with triathletes, with virtual understandings of place becoming enmeshed in users' existing knowledge and perceptions of place:

> There is one that I ride quite often which is called 'Riding to the Tower'. It starts on the corner just before the steam train bridge near Tidship Reservoir, and then it goes across that road that goes through the Reservoir so there's water either side of you, and then it goes round some curvy bits, round some little towers where Tidship Spring water is there, and then ends in the middle of Tidship next to some of those turret things that are by the side of the road. I remember my Gran used to tell me that that was where they put the naughty boys, in those towers. And my Mum and Dad only live in Clacombe, so I've driven that route nearly all of my life, and it's on my ride home, so I go that way. And I like Tidship Reservoir, and the look of the water there, so that's one that I go to and do all of the time. If someone beat me on that I would be like 'No, I own that! (Andrew, M, 35-39).

At the same time, users are also highlighting how this new virtual meaning of place manifested itself in an alteration of users' physical interactions with space in order to project their triathlon identity onto the digital triathlon community:

> I like running up hills. That's my favourite thing to do, and if somebody has just taken my King of the Mountain, I will be there every day until I have got it back (George, M, 40-44).
>
> One segment, a hill on my commute over to Runnington, which is about 1km in length, which Harry had logged a top 5 performance on, he explained how the only reason he did so well is that he was 'led out' (used the drag effect from another rider to get a temporary speed advantage), and had a tailwind. His attempt was 'premeditated' in that he had organised the other rider to take the lead for the start of the climb. He had taken the wind into account and decided to give the segment a go (Observations 13th July 2018).

Understanding the relevance of the concept of "hybridised physical/digital spaces" (Holton 2019: 435) in relation to socially-enabled activity tracking applications is clearly an immensely complex task, and this research only begins to touch on the ways in which the digital is complementing and/or transforming physical understandings of space. Despite this, highlighting the interconnectedness of the physical and the digital in relation to contemporary leisure experiences is a valuable starting point for further research to build upon.

8.4. Conclusion

The digital has become a fundamental and inseparable aspect of social worlds. Mediated forms of communication have become inseparable from the operation of the triathlon social world, a situation that is likely to reflect the changing nature of social worlds more broadly. The pervasiveness of digital communication tools, and the ever-increasing degree of accessibility to these online social platforms, have enabled triathletes (and those in other communities) to develop social connections that extend far beyond the co-performance of activities.

The previous chapter has also demonstrated that digital spaces are becoming increasingly important to the operation of social worlds, providing platforms for the extensibility of identities and for the creation and augmentation of social relationships, decreasing the requirement for physical co-presence, but not entirely.

In this sense, the virtual spaces of triathlon provide an opportunity for online extensibility for those who are not able or willing to maintain regular physical presence within the triathlon community.

Digital tracking applications have also become an important part of the unique ethos and accepted practices of triathlon participation, at the same time as being an integral platform for the expression of social identity. Accordingly, digital tracking applications have become an important aspect of triathlon as a form of serious leisure. These socially-enabled tracking applications also play an important role in both physical and digital placemaking processes, with spaces being ascribed subcultural importance and meaning by local triathlon communities, whilst simultaneously enabling individuals to extend their knowledge of their local area based on the activities of the wider Strava community.

9. Conclusion

The health and well-being of the British population is high on the agenda of institutions such as Sport England, the main public body that analyses national sports participation at regular intervals with the aim of helping "everyone in England regardless of age, background or level of ability to feel able to engage in sport and physical activity" (Sport England 2016a: 7). This is because a healthier population with active rather than sedentary lifestyles would help to ensure more economic and social sustainability due to a reduction in health issues with long-term consequences such as obesity, coronary heart disease, common cancers, type 2 diabetes, and mental health conditions (Sport England 2016a). Knowledge about leisure practices in different sports can therefore provide topical insights into the aspects that encourage or hinder sporting participation and healthy lifestyles.

Research about sporting cultures in Great Britain has emerged in different social scientific disciplines since the 1970s to generate a more theoretical understanding of people's motivations, opportunities, and needs of practicing sport as a leisure activity, and provide policy-relevant recommendations on how the public and private sectors, as well as public-private partnerships, can support, enhance, and capitalise on sport as a multi-million pound sector of the British economy. Whereas most academic attention has been devoted to long-established sports, such as football, cricket, and running, triathlon has most recently attracted researchers' attention in regard to its participant base and their sport expenditures (Wicker et al., 2012; 2013), There is a conspicuous lack of research on the geographies of sports (for exceptions, see Bale 2003; Koch 2017), and especially about triathletes' training practices, favourite training environments, social interactions, and digital engagement via tracking devices, performance analysis software, and social media, including the important social geographical question how these practices vary along different axes of social difference.

Triathlon is a relatively young but extremely fascinating sport because it combines three disciplines in one event, namely swimming, cycling, and running. First conducted in 1974, the sport experienced a rise in popularity in parallel with the

growth in mass recreational sport participation occurring in Europe and North America. Triathlon first featured in the summer Olympic Games in 2000 in Athens, at a time where participation continued to increase worldwide. In Great Britain, triathlon became a popular leisure activity after British triathletes excelled at the Olympic Games in London 2012 and later in Rio de Janeiro in 2016. By 2018, there were an estimated 160,000 active triathletes in Great Britiain (TriRadar 2018a). The three constitutive sports of triathlon are inherently individual sports in which individual performances determine performance in competitions, however, over the network of over 600 clubs and 500 events per year in Great Britain alone enable triathletes to train together and compete at events, thereby providing opportunities for social interaction and networking.

In this wider context, this thesis has identified the geographies of triathlon an important research desideratum and subsequently explored the spatial, social and digital worlds of committed and recreational triathletes in Great Britain, with an emphasis on athletes' profiles, training practices, community characteristics and activity tracking. This research aim was addressed through four research objectives, namely: (1) 'to examine the profiles and practices of triathletes in Great Britain', (2) 'to explore the geographies and spatialities of triathletes' training, competition and social practices', (3) 'to analyse the actors, events, practices and organisations which constitute the triathlon social world', and (4) 'to investigate the impact of digital technologies on triathletes' activity and social practices'.

Using a sequential exploratory mixed method approach in the form of a national-scale online survey (n=591) and more localised participant observation and semi-structured interviews in two triathlon clubs in the East Midlands, this thesis has performed an in-depth investigation into the spatial, social and digital worlds that characterise triathlon participation in Great Britain, thereby adding in various ways to a burgeoning academic literature on the geographies of sport and cultures of triathlon, drawing upon debates from geography, sociology and studies of sport. This final chapter will demonstrate how this research project has achieved the overarching aim of better understanding the spatial, social and digital worlds of triathlon, outlining original contributions to academic knowledge in relation to the four

research objectives of this thesis. Further, the chapter summarises the ways in which these contributions develop our understandings of contemporary sport and leisure engagement in the context of an increasingly connected technological world.

9.1. Contributions to knowledge

This research makes four main contributions to research in geography and sports science through novel empirical findings and conceptual arguments on the themes of triathlon as serious leisure, the geographies of triathlon, as well as the increasingly intertwined social and virtual worlds of triathlon, which are summed up in the subsequent paragraphs before outlining avenues for future study.

9.1.1. Triathlon as serious leisure

First, drawing upon Stebbins' (1992) conceptualisation of 'serious leisure', this thesis has provided an overview on the profiles, motivations, practices and performances that characterise the diverse participants of the sport of triathlon within Great Britain. Chapter 5 confirms the suitability of the serious leisure concept for understanding triathlon engagement as reflected in a handful of existing studies (Atkinson 2008; Lamont *et al.* 2014; Simmons *et al.* 2016). Understanding triathlon as serious leisure, acknowledges triathletes' intense commitment to the activity, their desire to develop a meaningful sport-related social identity, the array of durable benefits associated with participation, and the unique ethos that has come to define the triathlon community.

This research has contributed to the growing literature on the motivations of athletes engaged in recreational sport, giving attention to the facilitators and barriers to participation in triathlon for individuals across a range of abilities and levels of engagement. The results of the online survey have confirmed the key motivations and barriers for triathletes discussed in existing studies of triathlon (Simmons *et al.* 2016). However, the analysis presented within this thesis has elaborated upon previous research on triathlon as an under researched sport by considering variations in the importance of these facilitating and hindering factors based on social difference and type of engagement. Previous research has demonstrated that participants in one of the most challenging branded triathlon events, the Ironman, are

required to delicately balance the conflicting demands of work, family and leisure (Simmons *et al.* 2016). The findings of this research have revealed that this negotiation of multiple challenges associated with triathlon participation is evident among respondents of all orientations towards the sport but, to varying extents. This constant effort to harmonise work, familial and leisure responsibilities reflects triathlon's position as a form of serious leisure.

Previous research has emphasised that social difference can have a decisive impact on an individual's fitness practices (Hitchings and Latham 2018). The findings of this study confirm that triathlon is no exception, recognising clear variation in motivations and training practices in relation to age, income, and gender. Chapter 5 has identified significant gender differences in terms of participation in different triathlon event variations, with men significantly more likely to participate in longer triathlon events, which require a greater investment of time, effort and money, than women. This reflects not only the greater number of women starting in the sport preferring more accessible short distance events but also wider issues concerning gender disparity in sport more generally. In addition, analysis of survey data confirmed that income had a significant influence on triathletes' participation in events, with higher income respondents being more likely to participate in more expensive middle- and long-distance triathlon events. Clearly social difference has an influence on the degree to which certain groups can engage in different sporting activities, and therefore, a better understanding of the differences that perpetuate these sports, and the impact they have on different groups, is an important step for attempting to prevent these differences from reinforcing unequal access to physical activity and healthy lifestyles, for example, through public funding and subsides for sporting facilities.

A comprehensive analysis of the responses to the original large-scale online survey of triathletes prompted the development of a seven-classification typology of triathletes based on the criteria of club membership, intensity of engagement and competitiveness as differentiating variables that had a considerable influence on triathletes' practices. Classifying triathletes based on a two-step cluster analysis into the seven groups of 'devoted competitors', 'devoted hobbyists', 'regular

competitors', 'regular hobbyists', 'casual competitors', 'casual hobbyists', and 'non-members' enabled further analysis into the other themes of the chapter, including facilitators and barriers to engagement, training and competition practices, and social activities. In comparison to existing typologies of triathletes (Harada *et al.* 2010; Myburgh *et al.* 2014; Wicker *et al.* 2012), this new sevenfold typology emphasises the variations in training, competition and social interaction of triathletes based on their degree of immersion within the unique ethos of triathlon.

9.1.2. Geographies of triathlon

Second, echoing recent interest in better understanding the role of the physical environment in relation to physical activity (Das and Horton 2012), Chapter 6 has highlighted how environmental and social factors contribute to the unique locational geography of triathlon. The areas that are utilised by different individuals pursuing their leisure practices can also hold different meanings and functions, resulting in a multiplicity of practices, making the investigation of these seemingly 'mundane' leisure spaces an important avenue of research (Eden and Barratt 2010). Where it has generally been assumed that activities such as cycling and running can take place almost anywhere (Cidell 2014), this thesis has demonstrated the complexity of triathletes' training taskscapes, identifying a number of facilitating and restricting factors to triathlon participation afforded by different locations. The elements of the urban environment that are conducive to various forms of physical activity, especially those that take place in a variety of unspecialised spaces, have been largely overlooked to date.

Through the development of a specialisation continuum for triathlon training locations, this research has clearly demonstrated the importance of semi-specialised and unspecialised spaces within the sport of triathlon. These training locations range from specialised training spaces, such as swimming pools and athletics tracks, via semi-specialised training sites, including managed swimming lakes, public parks and cycle paths, to unspecialised locations such as the sea, trails and country roads. A lower degree of specialisation means that the training locations are in easier reach, more accessible, and cheaper to access, and thus allow for more flexible training units during days filled with work and social obligations. Yet, semi-specialised and

especially unspecialised training locations compromise on safety, surveillance, and provision of help in the case of accidents and injuries.

Through an in-depth analysis of the multitude of sites in which everyday triathlon participation takes place, this thesis makes an original contribution to geographical and interdisciplinary understandings of the enabling characteristics of environments beyond those constructed specifically for physical activity. Triathletes utilise a plethora of varyingly specialised spaces within their training, with social difference, experience, confidence and intensity of engagement having a material impact on the spatialities of their triathlon engagement. The findings of this thesis demonstrate that the spatiality of sporting practices is inherently activity-specific (and the sporting activity inherently place-specific), in the sense that certain activities – such as motor racing, or surfing, but also open water swimming in triathlon - cannot be performed 'anywhere'.

Collectively, the triathletes in this study helped to paint a picture of the complex spatiality of training practices within triathlon, highlighting the extensive variety of factors and attributes that influenced their sport-specific geographies. Triathletes' utilisation of specialised, semi-specialised and unspecialised locations was significantly influenced by a range of factors, including level of experience, type of engagement, choice of triathlon event, different barriers to participation, and markers of social difference such as age, income and gender. Insights from the large-scale online survey demonstrated that those who spent more time training were significantly more likely to use a greater number of training locations and facilities, thus demonstrating a desire to vary one's training to keep it interesting, having a greater level of confidence to explore, and being in search of developing an extended skill-set through the use of varied training locations. Respondents completing a greater number of events, who had been in the sport for longer and self-identified as 'triathletes', were also significantly more likely to utilise a greater variety of training locations and more unspecialised ones.

Chapter 6 has demonstrated that when considering the locational geographies of triathletes' training practices, the degree of location specialisation matters. Generally, as the specialisation of a training location increases, so do the limitations of social

access, for example: cost of access (cost of equipment, facility running costs, staff costs, etc), the degree of regulation (timed sessions, rules) and the eligibility requirements (club membership, age restrictions, type of user). Accordingly, triathletes were significantly more likely to make use of more easily accessible, plentiful semi-specialised and unspecialised training locations in comparison to more sparse, restricted activity-specific specialised locations. This thesis has therefore emphasised the importance of understanding the variety of spaces that act to support physical activity engagement, particularly those which are not explicitly designed for sport but, play a crucial role in making activities such as triathlon accessible to the British population.

Responding to calls to remain attentive to the spaces that are conducive to physical activity (Deelen *et al.* 2019), this thesis has also demonstrated that everyday sporting spaces must be physically and socially accessible, convenient, functional and attractive in order for them to become regular features of individuals' physical activity taskscape. For triathletes, who often attempt to dedicate a substantial proportion of their time to the activity, the proximity and convenience of access to sporting spaces are particularly vital for encouraging regular participation in a safe and controlled environment. This is why swimming pools and residential areas were identified as the two most commonly used training locations by respondents. Implementing the ideas of Warn and Witherick (2003) on accessibility in sport and leisure activities, Chapter 6 has considered how issues of accessibility contributed to triathletes' locational geographies, in particular focussing on provision, proximity and social access. The findings highlight the importance of provision and proximity for encouraging regular use of different training locations, whilst also emphasising the risks of over-restricting access to more specialised facilities in terms of cost, time, and eligibility restrictions. Social difference had a significant impact on triathletes' tendency to utilise different training spaces, primarily concerning age and income but not gender.

Geographers who have explored running as a mobility practice have identified the need for runners to develop specific negotiational skills to navigate confidently the 'myriad of obstacles and dangers' that characterise the areas where they perform their activity (Barnfield 2019; Cook *et al.* 2016). Confidence had a similar impact on

the triathletes' practices in this study, with those who described confidence as a barrier to their participation being more likely to use specialised places such as swimming pools, gyms and leisure centres frequently. In contrast, respondents not restricted by confidence used locations such as lakes, country roads and off-road trails much more often because these spaces required a higher level of skill and concentration to negotiate, both in terms of the natural environment and other mobile subjects. Notably these spaces that were less accessible for less confident respondents were those that were not necessarily designed with physical activity in mind. This contradiction of less specialised spaces being central to everyday triathlon engagement, yet at the same time acting as a barrier to the participation for less confident triathletes due to their lack of specialisation highlights the potential benefit from planners, local authorities and governing bodies to consider physical activity participants during the design of public spaces. In contrast, those who utilised a greater variety of training locations were more likely to be club members and train with larger groups, evidencing the social role of sports groups to instil a sense of confidence among participants.

9.1.3. The social world of triathlon

Third, drawing upon Shipway *et al.*'s (2012) re-appropriation of Unruh's (1980) concept of the 'social world' for the purpose of understanding the distance running community, this thesis further re-imagines the concept of the social world to develop an awareness of the organisation and social nature of the triathlon community. This research goes beyond existing conceptualisations of the social world that focus on the actors, events, organisations and practices which define a social world by discussing the locations and facilities that are central to the operation of contemporary social worlds. Social worlds themselves are not bound by geographical space but constituted by nodes and networks (Castells 2000), yet the spaces where the world operates through people's practices and interactions often are, a contention that is rarely considered within the academic literature. In particular, this research contributes to understandings of the spatialities of social worlds by exploring the networks that underlie the amorphous phenomenon of the triathlon social world.

It is rewarding to use different conceptual resources for interpreting empirical findings on the triathlon world because concepts help to structure the research focus and analysis and thus enhance understanding. Hence, there is a need to bring together different conceptual resources in order to account for multi-dimensional and multi-scalar practices and processes. The notion of the social world and its different sub-worlds (Unruh 1980, Shipway *et al.* 2012) has been useful for examining social interaction and identity formation among triathletes but combining such a world perspective with more individualistic understandings of social, economic, cultural and symbolical capital accumulation and exchange in the sense of Bourdieu (1984), as well as network perspectives that account for the role of nodes and networks in social and digital worlds (Castells 2000), and the importance of a diverse range of material and immaterial entities creating such sporting worlds (Preuss 2007; Dawson and Jöns 2018) accounts for a diversity of epistemological developments and therefore provides more comprehensive insights.

With reference to two case study triathlon clubs in the East Midlands, the discussion in Chapter 7 has drawn upon qualitative insights to highlight the role of triathlon clubs as spatial and social centres of the triathlon social world. Previous research has emphasised the significance of sports clubs for the community, however, there is an absence of research which considers the processes which characterise their social function among triathletes. This research has shown that triathlon clubs are important organisations in the social world, helping to formulate communities and develop collective and individual sports-based identities.

The triathlon club, operating in both physical and digital spaces, is an important site for the learning and dissemination of relevant knowledge enabling individuals to develop competency, confidence and immerse themselves within the triathlon social world. For insiders – with their “intimate knowledge of social world activities” (Unruh 1980: 282) – this process of knowledge exchange enables them to express their accumulated subcultural capital through the demonstration of knowledge and proficiency. For outsiders, access to knowledge, facilitated by triathlon clubs, was essential to help them navigate the multitude of practices and skills that characterise

triathlon engagement, whilst also developing their understanding of the unique values and norms characterising the triathlon social world.

Existing research and even governing bodies have emphasised the importance of club membership for developing new social connections, and for enabling social interaction which can be paramount to individuals' mental and social well-being (Shipway *et al.* 2012). Yet, the potential for sporting communities, particularly those centred around sports clubs, to enable lasting social connections whose impact extends far beyond the realm of the activity itself could have the potential to significantly boost the appeal of physical activities for those who are currently less physically active or seeking meaningful social interaction. Conversations with triathletes identified that relationships formed through club membership, initially centred around a shared interest in triathlon, had the potential to transform into meaningful social connections characterised by camaraderie, support, encouragement, and friendship. For some, the combination of establishing important relationships and investing the majority of one's leisure time towards triathlon meant that their social life revolved almost entirely around the triathlon community.

Reflecting arguments by Crouch (2000) that social relationships, identities and behaviours are associated with particular spaces, this thesis has argued that the spaces in which triathlon clubs operate can be considered as key 'communication centres' within the triathlon social world (Unruh 1980). Responding to calls to investigate the places which form the social infrastructure of sport and physical activity, this thesis has demonstrated that the social spaces of triathlon clubs (such as the café at Tri Base) are central to the operation of local triathlon subworlds. With cycling and running both being significantly less geographically restricted than swimming, swimming locations by virtue often function as key organisational and social foci for triathlon clubs and the wider triathlon community. Due to the relative sparsity of swimming locations, they bring together a significant proportion of a club's members into a single site, making them conducive to community interaction, especially when combined with 'supportive infrastructure' such as seating areas and cafes. Tri Base offers a particularly effective example of how certain attributes of place (e.g. café, triathlon shop, bike workshop, outdoor seating) make them

important operational and social spaces within social worlds. Further, beyond the spatial centre of the triathlon clubs' activities there are a network of routes, training locations and other spaces which, over time, develop collective meaning for the members of a club through regular usage.

Volunteering is also a foundational element of the triathlon social world, enabling its clubs and events to continue functioning, whilst also providing a sense of belonging and involvement for the volunteers themselves. The organisation and management of volunteering activities in triathlon was largely a function performed by triathlon clubs. With the exception of recent work concerning parkrun (Hindley *et al.* 2018; Stevinson *et al.* 2015; Wiltshire *et al.* 2018), the weekly recreational competitions across Great Britain, the importance of volunteering as a social activity within sporting social worlds has largely been overlooked. Empirical insights from this study demonstrate that volunteering roles (marshalling, coaching, club administration, etc.) provide a valuable opportunity for developing meaningful relationships whilst simultaneously signifying one's intention to contribute to the ongoing operation of the social world. Additionally, volunteering provides an opportunity for involvement without the need for physical participation, acting as an alternative means of social world involvement.

Using the social world as a conceptual framework, this research has also contributed to geographical debates surrounding social identity and placemaking, in addition to multidisciplinary discussions regarding social interaction, social networks and social worlds. As studies of sport have shifted from an explicit focus on the physical body to the consideration of the economic, social and cultural features and functions of sport, identity has emerged as an important focus area. An attractive personal and social identity is recognised as one of the six distinguishing features of a serious leisure activity (Stebbins 1992). Consequently, this thesis has confirmed that the relative intensity of sport participation enables a realisation of achievement, strength and power beyond that attainable through other pursuits, prompting the materialisation of meaningful sporting identities (Granskog 2003). Previous research on endurance sport has almost entirely focussed on competitions as key spaces for identity development (Lee *et al.* 2016), whereas the everyday spaces of physical activity have largely been neglected. This thesis suggests that the development of

the triathlon identity is inherently tied to place, with certain events and spaces, often associated with club activities and particular events, being central to the realisation of the triathlete identity. Such spaces include training venues, event spaces (inclusive of competitors and volunteers), club social events, and increasingly, digital platforms.

Triathlon acts as a social platform to normalise characteristics such as dedication, physical effort and suffering which are more challenging for outsiders to relate to. Triathlon clubs act as a mediator between insiders and outsiders, breaking down the barriers of expectation regarding triathlon involvement. The findings of this thesis echo existing research which suggests sporting identities are fluid and characterised by periods of growth and decline (Donnelly and Young 1989), with phenomena such as competitions, injuries, personal achievements, and personal challenges all acting to increase or decrease individuals' sense of identity. Subcultural capital is a fundamental aspect of identity development and expression within triathlon, with identity formation processes largely taking place through social interactions enabled by triathlon clubs. Within the triathlon social world, subcultural capital is both personified – through achievements, behaviours, vocabulary, knowledge, and practices – and objectified – through clothing, equipment, tattoos, body shape, and even digital manifestations of performance. Qualitative insights confirmed that triathlon events and triathlon club training are two of the key sites where subcultural capital acquisition and exhibition take place.

9.1.4. The virtual world of triathlon

Fourth, Chapter 8 has emphasised the extent to which the increasing pervasiveness of digital technologies within contemporary triathlon participation has transformed various aspects of physical activity and social interaction. Social media provides a convenient and ever-present connectivity to the triathlon community, offering a platform for the production and exchange of relevant knowledge, for giving and receiving support, for accumulating and expressing social capital, and for developing one's sense of social identity. Socially-orientated activity tracking applications such as Strava also act as vital centres for the social activities of the triathlon community, particularly in terms of enabling comparison and competition between both known and unknown individuals, whilst at the same time contributing to

virtual understandings of material interactions with place. The temporal demands of such activities and the desire to balance leisure pursuits with family and work responsibilities, in combination with the rapid development of communication technology, means that a consideration of the increasingly important role of the digital for supporting and fostering contemporary social worlds is essential. However, there is currently an absence of studies that have considered the importance of the digital from a social worlds' perspective. Drawing upon Hitchings and Latham (2017), it is important to be attentive to the subtlety of how sociality now animates individuals exercise, particularly at a time when an increasing number of individuals perform their exercise alone in physical space but not in virtual space.

This thesis has argued that the digital has become an essential and inseparable medium of communication within the triathlon social world. Social media is now a vital communication centre within social worlds bound by particular leisure interests (Lamont and Ross 2019: 339). Triathletes, a group who frequently attempt to balance their leisure engagement with several other responsibilities in their everyday lives, typically exhibit highly individualised training practices which therefore necessitate the utilisation of digital communication tools to remain connected to the triathlon social world. Yet despite the apparent importance of these recently emerging digital spaces, their significance to the social worlds of sporting activities has yet to receive sufficient attention, although studies of this kind are beginning to emerge (Lamont and Ross 2019).

Online social platforms have become a default medium of communication amongst actors and organisations within the social world. Qualitative insights have demonstrated that triathlon clubs were reliant on mediated forms of communication, especially Facebook, for disseminating information to current and potential members to learn and share relevant knowledge, to communicate with other local and distant actors, to develop a sense of belonging and to express their identity within the social world of triathlon. This research has revealed that notwithstanding the capacity of digital platforms to connect geographically dispersed individuals, in contemporary sporting communities, they also play an important role in augmenting existing local social connections.

These digital platforms which complement the social world of triathlon in novel ways provide a platform for the extensibility of triathletes' identities, to a certain extent facilitating involvement in the social world without the need for physical presence. The discussions presented in Chapter 8 raise important questions regarding the importance of face-to-face physical interaction at a time when involvement in social worlds is becoming increasingly mediated through virtual platforms. Ultimately, this thesis argues that within the context of triathlon within Great Britain, online extensibility has become an accepted and often expected aspect of community involvement, however, physical presence within the world of triathlon remains essential. Empirical insights have revealed that, in the context of the triathlon club, involvement in the digital world of triathlon allows members to nurture social relationships and accumulate knowledge which ultimately enhances interactions in physical space, for example, because athletes' have more aspects of their performances to talk about.

One transformative aspect of the various socially-enabled activity tracking applications that has been the subject of academic attention over the past few years has been their striking potential to influence the everyday practices of their users. This tendency reflects research by Barratt (2017) who found that, even for club cyclists who were not reliant on such applications to maintaining contact with other cyclists, these socially-enabled digital applications had become an important aspect of their everyday activities. However, the degree to which users' practices have evolved, developed and adapted in association with these technological changes has been somewhat underexplored. Drawing upon Harmon and Scott's (2017) concept of 'extended leisure experiences', this discussion within Chapter 8 suggests that social media platforms and socially-enabled activity tracking applications are increasingly becoming important sites for the manifestation of extended leisure activities. Strava, as the most culturally significant and widely used of these socially-enabled activity tracking applications, was selected as application which would form the focus of this research (Arthurs-Brennan 2020b; TIA 2017).

Expanding on the work of academics such as Barratt (2017) and Tulle *et al.* (2018), this thesis has considered the role of surveillance in relation to activity tracking

applications, recognising that Strava's digital visibility results in both positive and negative impacts on users (Barratt 2017). Positive impacts including social comparison with other users, route discovery, community bonding, and the ability to express subcultural capital, with pressure, judgement and scrutiny, and privacy concerns encompassing some of the negative aspects of Strava surveillance. Mirroring Barratt's (2017) insights into cyclists use of Strava, triathletes similarly adapted their physical activity in response to perceived social comparison on Strava, increasing their intensity, regularity and duration, even engaging in Strava-specific practices such as 'segment-hunting'. Effectively, the digital has transformed triathletes' interactions with physical space.

Strava provides the opportunity to develop users' understanding and awareness of space, to alter and augment experiences of space, and to act as a tool for placemaking that connects the physical and digital realms. This thesis has contributed to understandings of how socially-enabled activity tracking applications produce new and transformed understandings of physical space. Exploring how the assemblages of people, place, and technology come together to represent triathlon activity, makes a contribution to understandings of social interaction, experiences of place, and the workings of hybrid physical/digital worlds (Holton 2019). Counter to the assumption that GPS tracking devices can subtract from individual environmental immersion, this thesis argues that applications like Strava can actually increase users' awareness of their local exercise environment. Competitive functions such as segments and visualisation of data such as speed and elevation result in more in-depth appreciation of exercise spaces, whilst the ability to inspect other users' physical activity can help triathletes to identify suitable spaces within their local environment for swimming, running, and cycling. Through the utilisation of Strava, triathletes' activity becomes imbued with virtual meaning whilst simultaneously impacting individuals' practices in physical and social space. Ultimately, interactions in the digital world make triathlon more rather than less social.

9.2. Future research directions

9.2.1. Academic study

This thesis has drawn upon a number of existing conceptual and theoretical arguments from a variety of research areas and attempted to re-appropriate them to gain a better understanding of the contemporary triathlon landscape. The notions of serious leisure and social worlds, both stemming from authors' sociological background in the late 20th century, and refined in the context of physical activity in the 21st century, have been further re-imagined to make them valuable means of assessing the increasing pervasiveness of the digital in modern physical activity, and the ways in which social and digital interactions relate to the locational geographies of triathletes' training practices. Future work into other forms of physical activity could benefit from utilising these re-imagined notions of serious leisure and social worlds that consider the inseparable digital counterpart of much modern leisure engagement for gaining a deeper understanding of the multi-dimensional nature and geographies of sporting activity. In addition, given the ability of a geographical approach to develop comprehensive understandings of the intricacies of a multitude of communities, including their spatial training practices, social and digital networks, processes of identity development, as well as acquisition and expression of subcultural capital and identity, future work aiming to interrogate such lines of enquiry would greatly benefit from utilising the conceptual, theoretical, and methodological tools that a geographical approach has to offer. An investigation into the various sub-identifications and cultures within triathlon itself - on its constituent activities and different types of events - could shed further light on the intricacies of identity development within the sport.

The findings of Chapter 6 regarding the locational geography of triathlon practice, emphasise the need to consider physical activity in relation to the design and management of certain spaces beyond specialised sporting facilities to increase the accessibility of sport, and to tackle concerning levels of inactivity amongst the British population. Future research that performs an in-depth quantitative and/or qualitative look at the features of the built and natural environments, which are conducive to different forms of physical activity with the specialisation continuum developed in this

research could inform strategies to increase levels of physical activity and to work towards providing more leisure-enabling spaces. Moreover, future work that develops a more comprehensive understanding of the social functions of different spaces in relation to a broader range of training activities, event performances, and supportive work, and investigates how these contribute to people's work-life balance, community interaction, and identity development would be valuable lines of enquiry.

As the digital has become an increasingly inseparable aspect of everyday life in developed societies, there is a growing need to enhance our understandings of the ways in which the digital has become embedded within the practices and behaviours of different communities of interest. In the world of endurance sport, one approach for developing this knowledge is to draw upon the continuously expanding library of user GPS data stored on activity tracking platforms to assess more accurately the different physical, social, and psychological factors that facilitate or impede physical activity on a much larger, and more detailed, scale. Furthermore, the contributions of this thesis regarding the relationship between physical and digital worlds could be utilised to consider how these two worlds interact in other aspects of everyday life.

9.2.2. Covid-19

Despite the unprecedented challenges the world has had to face in relation to the ongoing Covid-19 global health pandemic, in Great Britain it has demonstrated how for the large number of people who are inclined to engage in regular physical activity their local conditions are conducive to sport participation. In this sense, the discussions of this thesis are timely because a shortening of the working day due to home-working or due to the Government's furlough scheme has significantly increased opportunities for physical activity, emphasising the critical role of time as both a facilitator and barrier to physical activity engagement. Social distancing measures and a reduction in vehicular traffic has meant that semi-specialised and unspecialised spaces have increasingly become a central aspect of triathletes' locational geographies and restrictions around gatherings and the associated impact on social interactions have transformed the way in which the triathlon social world operates. Linked to this changing way of life, these new regulations and requirements have prompted the rapid development of home-based exercise technologies, virtual

competitions, and online training/coaching services that have collectively amplified the importance of the social world's virtual counterpart. The rapidly increasing number of Zwift users as a result of the changing locational geographies of physical activity during the Covid-19 pandemic demonstrates triathlon's adaptability to changing social conditions, further emphasising the importance of understanding the spatial, social, and digital worlds of different sporting communities to ensure physical activity remains accessible.

Overall, we can learn from the significant cultural changes associated with the lockdown and social distancing measures, taking the positive elements of this change to make sport participation a more attractive and convenient option in the future, whilst continuing to emphasise the importance of physical presence from a pre-lockdown perspective. Better understanding the impact of such significant social and cultural changes on the various worlds associated with physical activity, and their underlying material, social, and immaterial networks, engagement would provide valuable contributions to wider understandings of contemporary sport and physical activity engagement in light of unprecedented social change.

Appendices

Appendix A – Online Survey Example

The Great British Triathlete Survey

Welcome

Mapping the geographies of multi-sport in Great Britain

Hello! My name is Daniel Giles and I am a PhD student from Loughborough University. I am looking for multi-sport participants (triathlon, duathlon, aquathlon, etc.) who are current residents of Great Britain, aged 18 and above, and are either training for, or have completed, a multi-sport event, to complete this survey for my research.

The aim of this survey is to gain insight into the motivations, practices and experiences of individuals who participate in triathlon and/or other multi-sports at all levels of ability, with a specific interest in individuals use of social activity tracking software (e.g. Strava), and the triathlon social world. The findings from this survey will be used to inform my PhD research and to contribute to understandings of sport, leisure and physical activity in social sciences research.

Any data that is collected will be stored on a secure server which is password protected. Information will not be shared or distributed, and will be used purely for the purpose of my research project. The project has been approved by Loughborough University's Ethical Advisory Committee.

The survey should take approximately 15 minutes to complete.

Thank you for your help!

1 / 27

Before we start...

1. Have you ever completed a multi-sport event? (*Please select **one** answer*) ✱ *Required*

More info

- Yes
- No

2 / 27

Before we start...

2. Are you currently training for a multi-sport event? (*Please select **one** answer*) ✱ *Required*

- Yes
- No

3 / 27

Opening Questions

The following questions are about your triathlon/multi-sport participation more generally.

3. How long have you been involved with the sport of triathlon? *(Please select **one** answer)* ✱ *Required*

- Less than a year
- 1 to 2 years
- 3 to 5 years
- 6 to 10 years
- 11 to 20 years
- More than 20 years

3.a. How would you describe your triathlon participation over this time? *(Please select **one** answer)* ✱ *Required*

- 1 - Regular
- 2
- 3
- 4
- 5 - Irregular
- Don't know

4. Are you currently a member of a triathlon club? (*Please select **one** answer*) ✱ *Required*

- Yes
- No

4.a. If yes, then please specify which club.. *Optional*

5. Before participating in triathlon, did you regularly participate in any of the activities listed below? (*Please select **all** that apply*) ✱ *Required*

- ☐ Swimming
- ☐ Cycling
- ☐ Running
- ☐ Other multi-sport (e.g. duathlon, aquathlon)
- ☐ None of the above
- ☐ Other

5.a. If you selected Other, please specify:

6. How many triathlon or multi-sport (e.g. duathlon, aquathlon) events have you completed in the past year? (*Please select **one** answer*) ✱ *Required*

- ○ None
- ○ 1 to 2
- ○ 3 to 5
- ○ 6 to 10
- ○ 11 to 20
- ○ More than 20

7. Which of these sporting events have you completed in the past year? (*Please select **all** that apply*) ✱ *Required*

- [ ] GoTri
- [ ] Super sprint distance
- [ ] Sprint distance
- [ ] Standard/Olympic distance
- [ ] Middle distance
- [ ] Full distance/Ironman
- [ ] Duathlon
- [ ] Aquathlon
- [ ] Running-only event
- [ ] Cycling-only event
- [ ] Swimming-only event
- [ ] Other
- [ ] None

7.a. If you selected Other, please specify:

Triathlon practices

The following questions are about more detailed aspects of your triathlon/multi-sport participation.

8. Which of these options best describes how regularly you use the following facilities/areas for physical activity? (*Please select **one** answer for **each row***) ✱ *Required*

	1 - Multiple times per week	2 - Once a week	3 - Fortnightly	4 - Monthly	5 - Less than monthly	6 - Never
Swimming pool	☐	☐	☐	☐	☐	☐
Lake/reservoir/river	☐	☐	☐	☐	☐	☐
The sea	☐	☐	☐	☐	☐	☐
Gym	☐	☐	☐	☐	☐	☐
Leisure centre (not including gyms)	☐	☐	☐	☐	☐	☐
Athletics track	☐	☐	☐	☐	☐	☐
Public park	☐	☐	☐	☐	☐	☐
Cycle path	☐	☐	☐	☐	☐	☐
Trails/offroad areas	☐	☐	☐	☐	☐	☐
Residential areas	☐	☐	☐	☐	☐	☐
Country roads	☐	☐	☐	☐	☐	☐
Home (gym, exercise bike...)	☐	☐	☐	☐	☐	☐

9. Are there any other facilities or areas you regularly use for triathlon-based activity? *Optional*

10. How long do you normally travel in order to use each of the following facilities? (*Please select **one** answer for **each row***) * *Required*

	Less than 5 minutes	5 to 10 minutes	11 to 20 minutes	21 to 30 minutes	31 to 60 minutes	More than 60 minutes	I don't use this facility
Swimming pool	☐	☐	☐	☐	☐	☐	☐
Lake/reservoir/river	☐	☐	☐	☐	☐	☐	☐
The sea	☐	☐	☐	☐	☐	☐	☐
Gym	☐	☐	☐	☐	☐	☐	☐
Leisure centre (not including gyms)	☐	☐	☐	☐	☐	☐	☐
Athletics track	☐	☐	☐	☐	☐	☐	☐
Public park	☐	☐	☐	☐	☐	☐	☐
Cycle path	☐	☐	☐	☐	☐	☐	☐
Trails/offroad areas	☐	☐	☐	☐	☐	☐	☐
Residential areas	☐	☐	☐	☐	☐	☐	☐
Country roads	☐	☐	☐	☐	☐	☐	☐

10.a. With regards to Question 10, is there anything about your current travel times to certain facilities you would like to change? *Optional*

11. How would you rate the provision of the following services/facilities for multi-sport related activities in the area where you live? (*Please select **one** answer for **each row***) ✱ *Required*

	Very good	Good	OK	Poor	Very poor	Don't know
Triathlon clubs	☐	☐	☐	☐	☐	☐
Multi-sport events	☐	☐	☐	☐	☐	☐
Sports shops	☐	☐	☐	☐	☐	☐
Leisure centres	☐	☐	☐	☐	☐	☐
Gyms	☐	☐	☐	☐	☐	☐
Open water swimming	☐	☐	☐	☐	☐	☐
Cycle paths	☐	☐	☐	☐	☐	☐
Parks	☐	☐	☐	☐	☐	☐
Open/green spaces	☐	☐	☐	☐	☐	☐
Swimming pools	☐	☐	☐	☐	☐	☐
Athletics tracks	☐	☐	☐	☐	☐	☐
Activity classes	☐	☐	☐	☐	☐	☐

12. To what extent do you agree with the following statements? (*Please select **one** answer **per row***) ✱ *Required*

	1 - Strongly agree	2	3 - Neither agree nor disagree	4	5 - Strongly disagree	Don't know
The area where I live is well suited to triathlon/multi-sport participation	☐	☐	☐	☐	☐	☐
I have suitable access to all the facilities I require for triathlon/multi-sport participation	☐	☐	☐	☐	☐	☐

13. What could be done to make the area where you live a better place to be a triathlete?

14. What time of day do you predominantly perform your triathlon-based activities? (*Please select **one** answer*) ✱ *Required*

- Early morning (05:00 - 08:00)
- Morning (08:00 - 11:00)
- Lunchtime (11:30 - 13:00)
- Early afternoon (13:00 - 15:00)
- Late afternoon (15:00 - 17:00)
- Early evening (17:00 - 19:00)
- Late evening (19:00 - 21:00)
- Night (21:00 - 05:00)

14.a. Aside from your answer to the previous question, what other times of day do you occasionally perform your triathlon activities? (*Please select **all** that apply*) ✱ *Required*

Please select at least 1 answer(s).

- Early morning (05:00 - 08:00)
- Morning (08:00 - 11:00)
- Lunchtime (11:30 - 13:00)
- Early afternoon (13:00 - 15:00)
- Late afternoon (15:00 - 17:00)
- Early evening (17:00 - 19:00)
- Late evening (19:00 - 21:00)
- Night (21:00 - 05:00)
- None

15. Please describe what encouraged you to first participate in triathlon? ✱ *Required*

16. How many hours do you spend doing triathlon-based activity in an average week? (*Please select **one** answer*) ✱ *Required*

- 0 to 3 hours
- 4 to 6 hours
- 7 to 9 hours
- 10 to 12 hours
- 13 to 15 hours
- 16 to 18 hours
- More than 18 hours
- Don't know

17. On how many seperate occasions do you engage in triathlon-based activity during an average week? (*Please select **one** answer*) ✱ *Required*

- More than 15 times
- 11 to 15 times
- 6 to 10 times
- 3 to 5 times
- 1 to 2 times
- None
- Don't know

18. What are your main motivations for participating in triathlon? (*Please select **all** that apply*) ✱ *Required*

Please select at least 1 answer(s).

- ☐ General fitness and health
- ☐ To challenge myself
- ☐ To test myself physically
- ☐ For a sense of achievement
- ☐ To help me to live a healthy livestyle
- ☐ For weight-loss and body image
- ☐ Stress relief
- ☐ For competition
- ☐ Opportunities to travel
- ☐ Friendship and socialisation
- ☐ For lifestyle enhancement
- ☐ Peer pressure
- ☐ Other

18.a. If you selected Other, please specify:

19. What are the main challenges associated with your triathlon participation? (*Please select **all** that apply*) ✱ *Required*

- ☐ Family commitments
- ☐ Work commitments
- ☐ Injury
- ☐ Money
- ☐ Time
- ☐ Lack of facilities
- ☐ Lack of opportunities

- [ ] Confidence
- [ ] Other
- [ ] None of the above

19.a. If you selected Other, please specify:

20. Which of the following categories best describes your involvement in triathlon? (*Please select **one** answer*) ✱ *Required*

21. Do you use any of the following devices to record your triathlon/multi-sport activity? (*Please select **all** that apply*) ✱ *Required*

- [ ] GPS watch
- [ ] Bicycle computer
- [ ] Mobile phone
- [ ] Heart rate monitor
- [ ] Power meter
- [ ] Mounted sports camera
- [ ] Other
- [ ] No

21.a. If you selected Other, please specify:

22. Do you use a GPS tracking device to record your physical activity? (*Please select **one** answer*) ✱ *Required*

- ○ Yes, all the time
- ○ Yes, most of the time
- ○ Yes, occasionally
- ○ No

23. Do you use Strava to record your triathlon/multi-sport activity? (*Please select **one** answer*) ✱ *Required*

- ○ Yes
- ○ No

24. Other than Strava, do you use any of the following applications to record/track/monitor/visualise your physical activity? (*Please select **all** that apply*) ✱ *Required*

- ☐ Garmin Connect
- ☐ RunKeeper
- ☐ Endomondo
- ☐ TrainingPeaks
- ☐ MapMyRun
- ☐ Runtastic
- ☐ Wahoo Fitness
- ☐ Zwift
- ☐ Other
- ☐ No

24.a. If you selected Other, please specify:

Questions about Strava

The following questions are about your use and experience of Strava.

25. How did you find out about Strava? ✱ *Required*

26. What do you use Strava for? ✱ *Required*

27. To what extent do you agree with the following statements? (*Please select **one** answer for **each row***) ✱ *Required*

	1 - Strongly agree	2	3 - Neither agree nor disagree	4	5 - Strongly disagree	Don't know
I feel that Strava has a significant influence on my everyday triathlon-based activities.	☐	☐	☐	☐	☐	☐
I regularly increase the intensity, duration, or frequency of my training because of Strava.	☐	☐	☐	☐	☐	☐

Achieving a personal record or high placing on a Strava segment or route makes me feel good.	☐	☐	☐	☐	☐	☐
The ability to record and analyse my training data is an important feature of Strava for me.	☐	☐	☐	☐	☐	☐
I am more likely to explore new areas if I have seen someone on Strava use them before.	☐	☐	☐	☐	☐	☐
Strava segments encourage me to exercise in new areas.	☐	☐	☐	☐	☐	☐
I feel that using Strava makes me interact with certain routes, segments, or spaces in different ways.	☐	☐	☐	☐	☐	☐
I often think about Strava during physical activity.	☐	☐	☐	☐	☐	☐
The social aspects of Strava (e.g. the dashboard, segments, flybys and comments) make me feel connected to others even when I train alone.	☐	☐	☐	☐	☐	☐
I regularly use Strava to look at other individuals training activities.	☐	☐	☐	☐	☐	☐

I regularly interact with other athletes on Strava (commenting, giving kudos...)	☐	☐	☐	☐	☐	☐
I often compare myself to other local runners using Strava's segment leaderboards.	☐	☐	☐	☐	☐	☐
Strava makes me feel better connected to other athletes.	☐	☐	☐	☐	☐	☐
Strava makes me feel better connected to the triathlon community more generally.	☐	☐	☐	☐	☐	☐
I feel that when I upload activities to Strava they are open to judgement from others.	☐	☐	☐	☐	☐	☐

28. Do you ever upload swimming activity to Strava (*Please select **one** answer*)

- ○ Yes
- ○ No

28.a. If no, please explain why? *Optional*

Social world

The following questions are concerned with the triathlon community.

29. To what extent do you agree with the following statements? (*Please select **one** answer **per row***) ✱ *Required*

	1 - Strongly agree	2	3 - Neither agree nor disagree	4	5 - Strongly disagree	Don't know
I would describe myself as a triathlete	☐	☐	☐	☐	☐	☐
I would describe myself as a swimmer	☐	☐	☐	☐	☐	☐
I would describe myself as a cyclist	☐	☐	☐	☐	☐	☐
I would describe myself as a runner	☐	☐	☐	☐	☐	☐
Triathlon forms an important part of my social life	☐	☐	☐	☐	☐	☐
Triathlon is a way to meet like-minded individuals	☐	☐	☐	☐	☐	☐
Completing a challenging multi-sport event makes my sense of identity as a triathlete stronger	☐	☐	☐	☐	☐	☐
I often wear clothing that reflects my background as a triathlete	☐	☐	☐	☐	☐	☐

I often use language or terminology that reflects my background as a triathlete	☐	☐	☐	☐	☐	☐
Other triathletes are an important source of information regarding the behaviours, rules and norms of triathlon	☐	☐	☐	☐	☐	☐
Having time away from the sport reduces my sense of identity as a triathlete	☐	☐	☐	☐	☐	☐
I am interested in following elite-level triathlon in the media	☐	☐	☐	☐	☐	☐

30. Who do you predominantly perform triathlon-based activity with? (*Please select **one** answer*) ✱ *Required*

- ○ Alone
- ○ With one other person
- ○ With 2 to 5 other persons
- ○ With 5 to 10 other persons
- ○ With more than 10 other persons
- ○ Other

31. During the past 12 months, have you given any of your time to do any of the following triathlon-based volunteering activities? (*Please select **all** that apply*) ✱ *Required*

Please select at least 1 answer(s).

- ☐ Triathlon-based coaching or instructing
- ☐ Event organisation

- [ ] Event marshaling or stewarding
- [ ] Helping at other sport event (e.g. parkrun)
- [ ] Administrative or committee roles
- [ ] Other
- [ ] None of the above

31.a. If you selected Other, please specify:

32. In your opinion, what does it take for someone to become a 'triathlete'? *Optional*

33. What does the phrase 'triathlon community' mean to you? *Optional*

Demographic questions

34. How old are you? (*Please select **one** answer*) ✱ *Required*

35. What is your gender? (*Please select **one** answer*) ✱ *Required*

- Male
- Female
- Prefer not to say
- Other

36. Please specify your ethnicity? (*Please select **one** answer*) ✱ *Required*

- White British
- White (other)
- Asian/Asian British
- Black/African/Caribbean/Black British
- Mixed/Multiple ethnicity
- Other

36.a. If you selected Other, please specify:

37. What is your annual income? (*Please select **one** answer*) ✱ *Required*

38. What is the highest degree or level of school you have completed? (If currently enrolled, highest degree recieved) (*Please select **one** answer*) ✱ *Required*

- Postgraduate degree (PhD, MA, MSc)
- Undergraduate degree (BA, BSc)
- Diploma in higher education
- Teaching qualification
- A-level or AS-level
- GCSE or O-level
- Other

38.a. If you selected Other, please specify:

39. What is your marital status? (*Please select **one** answer*) ✱ *Required*

- Single
- Married or domestic partnership
- Widowed
- Divorced
- Separated

40. Are you currently a resident of Great Britain? (*Please select **one** answer*) ✱ *Required*

More info

- Yes
- No

40.a. Please specify the first half of your UK postcode (E.g. WA5 or SO11)

41. If you have any additional comments or information you think may be of interest to this research project, then please state them below. *Optional*

If you would be interested in participating in further research related to this project, then please contact me using my email - D.Giles@lboro.ac.uk

Thank you

Unfortunately you do not fit the criteria for this research. Thank you very much for taking the time to respond to this survey.

Kindest regards,

Daniel Giles

Thank you

Thank you for taking the time to complete this survey. Your responses have been recorded.

If you have any questions regarding the survey, my research or if you have any other queries then please contact me using my email - d.giles@lboro.ac.uk

With many thanks and kindest regards,

Daniel Giles

Key for selection options

20 - Which of the following categories best describes your involvement in triathlon? (*Please select one answer*)

- Recreational participant
- Competitive participant
- Professional athlete
- Coach
- Activity leader
- Volunteer
- Organiser
- None of the above

34 - How old are you? (*Please select one answer*)

- Under 18
- 18 to 19
- 20 to 24
- 25 to 29
- 30 to 34
- 35 to 39
- 40 to 44
- 45 to 49
- 50 to 54
- 55 to 59
- 60 to 64
- 65 to 69
- 70 to 74
- 75 to 79
- 80+

37 - What is your annual income? (*Please select one answer*)

Less than £10,000
£10,000 to £14,999
£15,000 to £19,999
£20,000 to £24,999
£25,000 to £29,999
£30,000 to £39,999
£40,000 to £59,999
£60,000 to £79,999
£80,000 to £99,999
£100,000 or more
Prefer not to say

Appendix B – Online Survey Dispersal Strategy

Name	Members	Created	Search term	Group Type	Contacted?	Permission granted?
2017/18 University of Warwick Triathlon & Road Cycling	141	6 months ago	triathlon	Club page	YES	YES
Aberdeen University Triathletes	284	10 years ago	triathletes	Club page	YES	YES
AGC Triathlon	141	8 years ago	triathlon	Club page	YES	YES
Bolton Tri Club	448	6 years ago	tri club	Club page	YES	YES
Boston Triathlon Club UK	377	2 years ago	triathlon	Club page	YES	YES
Buy and Sell Time Trial and Triathlon Bikes/Parts/Kit	31467	1 year ago	triathlon	Buy and Sell	YES	YES
Cambridge Triathlon club	1092	6 years ago	triathlon	Club page	YES	YES
Cambridge University Triathlon Club	259	4 years ago	triathlon	Club page	YES	YES
Cardiff University Triathlon Club	314	4 years ago	triathlon	Club page	YES	YES
Charnwood Triathlon Club	128	10 years ago	triathlon	Club page	YES	YES
Chester Triathlon Club	688	2 years ago	triathlon	Club page	YES	YES
Chippenham Triathlon	269	8 years ago	triathlon	Club page	YES	YES
Coalville Triathlon Club	289	4 years ago	triathlon	Club page	YES	YES
COLT - City of Lancaster Triathlon	809	9 years ago	triathlon	Club page	YES	YES
Coventry Triathletes Group	411	7 years ago	triathletes	Club page	YES	YES

Craven Energy Tri Club	167	6 years ago	tri club	Club page	YES	YES
Deal Tri Club	421	2 years ago	tri club	Club page	YES	YES
Derby Triathlon Club	230	2 years ago	triathlon	Club page	YES	YES
DMU Swim & Tri Club	474	11 years ago	tri club	Club page	YES	YES
Doncaster Triathlon	279	4 years ago	triathlon	Club page	YES	YES
Donkey Tri Club	72	4 years ago	tri club	Club page	YES	YES
Duathlon Hub	830	2 years ago	duathlon	Forum	YES	YES
East London Triathletes	137	5 years ago	triathletes	Club page	YES	YES
Ely Tri Club	264	8 years ago	tri club	Club page	YES	YES
Evesham Vale Triathletes	77	6 years ago	triathletes	Club page	YES	YES
Fleet-Feet Triathletes	958	6 years ago	triathletes	Club page	YES	YES
Flying Monk Triathlon Club	65	6 years ago	triathlon	Club page	YES	YES
Ful-On Tri Club Group	266	3 years ago	tri club	Club page	YES	YES
Glasgow Triathlon Club	1067	7 years ago	triathlon	Club page	YES	YES
GOG Triathlon	851	3 years ago	triathlon	Club page	YES	YES
Hillingdon Triathletes	896	8 years ago	triathletes	Club page	YES	YES
Imperial Triathlon	451	6 years ago	triathlon	Club page	YES	YES
JBR Run & Tri Club	99	3 years ago	tri club	Club page	YES	YES
Kendal Tri Club	277	7 years ago	tri club	Club page	YES	YES
King's Lynn Triathlon Club	292	5 years ago	triathlon	Club page	YES	YES

Kingswood Triathlon	564	10 years ago	triathlon	Club page	YES	YES
Leeds and Bradford Tri Club Members Group	479	6 years ago	tri club	Club page	YES	YES
Leicester Triathlon Club	902	10 years ago	triathlon	Club page	YES	YES
Lincoln Tri Club - Members Only	273	4 years ago	tri club	Club page	YES	YES
Lincolnshire Triathletes	386	9 years ago	triathletes	Club page	YES	YES
Loughborough Students Triathlon 2017/2018	107	6 months ago	triathlon	Club page	YES	YES
Louth Triathlon Club	397	5 years ago	triathlon	Club page	YES	YES
Malvern Triathlon Club	429	6 years ago	triathlon	Club page	YES	YES
Montrose Triathlon Club	182	2 years ago	triathlon	Club page	YES	YES
MVH Triathlon Club	118	9 years ago	triathlon	Club page	YES	YES
NE31 Triathlon Club	298	8 years ago	triathlon	Club page	YES	YES
Nuneaton Triathlon Club	394	6 years ago	triathlon	Club page	YES	YES
PACTRAC Triathlon Club	366	8 years ago	triathlon	Club page	YES	YES
Rhondda Tri Club	327	10 years ago	tri club	Club page	YES	YES
Rugby Triathlon Club	363	9 years ago	triathlon	Club page	YES	YES
Salisbury Tri Club	308	8 years ago	tri club	Club page	YES	YES
Sheffield Triathlon Club	954	9 years ago	triathlon	Club page	YES	YES
Skegness Triathlon Club	337	5 years ago	triathlon	Club page	YES	YES
Southampton Tri Club	164	5 years ago	tri club	Club page	YES	YES

Southwest Triathlon	164	4 years ago	triathlon	Forum	YES	YES
St Austell Triathletes	143	7 years ago	triathletes	Club page	YES	YES
Stamford Tri Club	148	4 years ago	tri club	Club page	YES	YES
Stirling Tri Club Group	249	4 years ago	tri club	Club page	YES	YES
Stonehenge Triathlon and Road Club	82	3 years ago	triathlon	Club page	YES	YES
Strathclyde University Triathlon/Duathlon Club	129	2 years ago	triathlon	Club page	YES	YES
Stroud Valleys Triathletes	148	3 years ago	triathletes	Forum	YES	YES
Sun City Tri Club	649	7 years ago	tri club	Club page	YES	YES
SUTRI Southampton University Triathlon	460	7 years ago	triathlon	Club page	YES	YES
Team Hallam Triathlon 2017/18	70	2 years ago	triathlon	Club page	YES	YES
Teme Leisure Triathlon Club	144	1 year ago	duathlon	Club page	YES	YES
Tri3 Sleaford Triathlon Club, General Page	352	2 years ago	tri club	Club page	YES	YES
Triathletes @ Box End Park	1079	9 years ago	triathletes	Forum	YES	YES
Triathlon Coaching Network	2886	4 years ago	triathlon	Forum	YES	YES
UEA TRIATHLON	388	10 years ago	triathlon	Club page	YES	YES
Ulverston Tri Club	615	5 years ago	tri club	Club page	YES	YES
University of Nottingham Triathlon Club 17/18	193	6 months ago	triathlon	Club page	YES	YES
University of Warwick Triathlon & Road Cycling Club	582	9 years ago	triathlon	Club page	YES	YES
Wakefield Triathlon	1366	9 years ago	triathlon	Club page	YES	YES

Weald Tri Club	280	4 years ago	tri club	Club page	YES	YES
4Life Triathlon Club	201	3 years ago	triathlon	Club page	YES	NO
Ashford Tri Club	481	8 years ago	tri club	Club page	YES	NO
Bingham Triathlon Club	111	3 years ago	triathlon	Club page	YES	NO
Brighton Tri Club Members	148	1 year ago	tri club	Club page	YES	NO
Calderdale Tri Club - www.calderdaletriclub.co.uk	292	7 years ago	tri club	Club page	YES	NO
Ealing Eagles Triathlon/Duathlon Training Group	156	5 years ago	duathlon	Club page	YES	NO
East Essex Triathlon Club	298	11 years ago	triathlon	Club page	YES	NO
Edinburgh Triathletes	333	7 years ago	triathletes	Club page	YES	NO
Evo Triathlon Club	817	9 years ago	triathlon	Club page	YES	NO
Frome Tri Club Members Group	92	6 years ago	tri club	Club page	YES	NO
Grimsby Tri Club	483	4 years ago	tri club	Club page	YES	NO
High Peak Triathlon	205	7 years ago	triathlon	Club page	YES	NO
Hoddesdon Tri Club	91	4 years ago	tri club	Club page	YES	NO
Knutsford Tri Club - Members Only Forum	168	1 year ago	tri club	Club page	YES	NO
Mansfield Triathlon Club	126	4 years ago	triathlon	Club page	YES	NO
MerseyTri Triathlon Club (Unofficial)	1166	8 years ago	triathlon	Club page	YES	NO
Newmarket Cycling & Triathlon Club	978	9 years ago	triathlon	Club page	YES	NO
NiceTri Club - St Neots Triathlon Club	142	7 years ago	triathlon	Club page	YES	NO

Outlaw Triathlon group - Unofficial	3831	8 years ago	triathlon	Club page	YES	NO
Plymouth Triathlon Club	783	8 years ago	triathlon	Club page	YES	NO
Racing TNT	530	10 years ago	triathlon	Club page	YES	NO
Rochdale Triathlon Club Members	425	4 years ago	triathlon	Club page	YES	NO
Scarab Tri Club	105	10 years ago	tri club	Club page	YES	NO
Stockport Tri Club (Members Group)	129	2 years ago	duathlon	Club page	YES	NO
Swansea University Triathlon Club	236	7 years ago	triathlon	Club page	YES	NO
Team Surrey Triathlon Club!	133	4 years ago	triathlon	Club page	YES	NO
TFN Tri Club	403	10 years ago	tri club	Club page	YES	NO
Triathlon & Pentathlon University Of Bristol	473	6 years ago	triathlon	Club page	YES	NO
University of Birmingham Triathlon Team	396	5 years ago	triathlon	Club page	YES	NO
Wrecsam Tri Club	416	5 years ago	tri club	Club page	YES	NO

Appendix C – List of Participants

Pseudonym	Age	Club	Gender	Employment	Marital Status
Lily	45-49	Transitions Tri Club	Female	Self-employed	Married
Nicole	55-59	Riderby Triathlon	Female	Self-employed	Single
Jessica	45-49	Transitions Tri Club	Female	Other	Married
George	40-44	Transitions Tri Club	Male	Full-time Employment	Married
Oscar	50-54	Transitions Tri Club	Male	Full-time Employment	Married
Margot	40-44	Transitions Tri Club	Female	Student	Married
Grace	40-44	Transitions Tri Club	Female	Part-time Employment	Divorced
Oliver	25-29	Transitions Tri Club	Male	Full-time Employment	Single
Louise	20-24	Transitions Tri Club	Female	Self-employed	Single
Rachel	50-54	Transitions Tri Club	Female	Full-time Employment	Single
Mary	30-34	Riderby Triathlon	Female	Unemployed	Single
Andrew	35-39	Riderby Triathlon	Male	Full-time Employment	Married
Wes	60-64	Riderby Triathlon	Male	Retired	Married
Brian	35-39	Riderby Triathlon	Male	Full-time Employment	Separated
Sally	40-44	Riderby Triathlon	Female	Full-time Employment	Single
Victoria	35-39	Riderby Triathlon	Female	Full-time Employment	Cohabiting

Sarah	45-49	Riderby Triathlon	Female	Full-time Employment	Married
Betty	35-39	Riderby Triathlon	Female	Full-time Employment	Married
Craig	45-49	Riderby Triathlon	Male	Full-time Employment	Cohabiting
Sophie	40-44	Transitions Tri Club	Female	Part-time Employment	Married
Robert	35-39	Riderby Triathlon	Male	Full-time Employment	Married
Luke	40-44	Riderby Triathlon	Male	Full-time Employment	Married

Appendix D – Semi-structured Interview Guide

Interview Guide

Preamble

Participant information sheet and informed consent sheet.

"Before we start, do you have any questions?"

Interview topics

Background information, training practices, the triathlon community, digital technology, Strava.

Questions

1. Background

- How long have you been involved with triathlon?
- How did you get involved with the sport, and why?
- Did you engage with any other sports or activities prior to triathlon?
- How long have you been a member of _____ triathlon club?
- How did you first get involved with the club?
    - Where did you find out about the club?
    - Was there anyone who influenced your decision to join ____ triathlon club.
    - Are any of your family members of the club?
    - Did you research the club before joining? If so where?
    - What attracted you to this club in particular?
    - How important was location in determining your decision to join ____ triathlon club?
        - Probe: Do you live near to where the club trains?
        - Were there any closer clubs? If yes, why did you choose ___ over them?

2. Training Practices

- Can you tell me about your training for triathlon?
    - How much of this training is done with the club? And why?
- Where do you perform your training?
    - Why? – Convenience, proximity, social allure/presence of others, quality of facilities.
    - How did you find out about these locations?
    - How do you decide what route to take on any given day?

1

- Are you ever influenced to use certain spaces, routes or facilities based on other people's suggestions, or knowledge that others have used the same areas?
- Do you ever use social platforms such as Strava or Facebook for route recommendations? Probe – Or through conversations with others?

- How often do you participate in triathlon events?
  - What events? Do you have a preferred distance, type? Why?
  - Location of events? Is that important to you?
  - What about other types of events, e.g. running-only, cycle-only, duathlon?
- Do you think the area where you live is well suited for being a triathlete? Why?
  - What would make the area better suited to triathlon?
- Do you ever have trouble balancing triathlon with other parts of your life?
  - If yes – What are the main barriers to your triathlon participation?
  - Where does triathlon training and events position in your list of priorities?

3. Triathlon Community

- You've been a member of ____ triathlon club for ___ years/months. What do you think are the benefits of belonging to and being involved with a triathlon club?
- If not already mentioned – What role do the other members of the club have for you?
  - Friends, training partners, team spirit, family (actual or metaphorical).
- How would you describe the atmosphere at the club?
  - Friendly, supportive, welcoming, or intense, elitist.
- Is there anything about the club that you would like to improve?
- Are there many opportunities to socialise with other members of the group? – When, where?
- Do you consider yourself as a triathlete and why?
  - In your opinion, what does it take to become a 'triathlete'?
- Do you consider yourself as part of the triathlon community?
  - If yes – When did you first feel like an accepted member of the community?
  - If no – What do you think it takes to consider yourself as a member of the triathlon community?
- Does triathlon form an important part of your social life?
- Do you think that triathlon is becoming more accessible as a sport?
  - What makes you feel like this?
  - Do you think that this is a positive change?
  - What about from a gendered point of view?

- Do you engage with any volunteering opportunities related to triathlon?
    - This could include marshalling, coaching, organisational roles, supporting other triathletes, etc.
    - What are your motivations for doing so/not volunteering?
- In your opinion, how important are volunteers and volunteering within the triathlon community?

4. Digital practices

- What influence do you think that the internet and advancements in digitally-connected technologies and associated platforms have had on the sport of triathlon?
    - E.g. GPS devices, social media, tracking applications.
    - If not mentioned – What about from a social, communicational or organisational perspective?
- How you keep up-to-date with club activities, training information and news?
    - What about activities of others in the club?
- What applications do you use to monitor, share and track your triathlon activity?
    - If not mentioned - What about Strava?
    - Why, or why not?

5. Strava

- How long have you been using Strava for?
- What do you use Strava for?
    - Logging activity, following others, communicating with others [probe], observing others training [probe], getting ideas for routes or sessions [probe], competing over segments or completing challenges [probe].
    - How frequently do you use the Strava app?
- What are your opinions on Strava as a social tool?
- From your experience, is Strava a regular topic of discussion among triathletes?
    - All types of triathletes? Or just certain individuals/groups?
- What influence does Strava have on your triathlon-based activities?
- Have you ever increased the intensity or duration of activity because of Strava?
    - E.g. competition with others, role of surveillance, social pressures?

Is there anything else that we haven't discussed during this interview that you think may be relevant to the research project?

Appendix E – Detailed Statistical Tables

Appendix E.1 *- Regional overview of triathlon participation in Great Britain. Sources: British Triathlon 2017a, 2017b; Own survey 2018, TIA 2017.*

Region	Share of TIA survey respondents		Share of British Clubs		Ratio of clubs to regional population		Share of British Events		Ratio of events to regional population	
	%	Rank	%	Rank	People per club	Rank	%	Rank	People per event	Rank
South East	19	1	18	1	81460	5	25	1	66421	1
North West	12	2	9	5	138278	9	11	4	123722	6
London	11	3	6	10	227054	11	4	10	389235	11
Yorkshire	11	4	7	8	74197	1	6	7	170443	8
East Midlands	9	5	9	5	88887	6	7	5	122520	5
South West	8	6	12	2	76651	4	12	3	83951	3
East	8	7	11	3	89953	7	15	2	76934	2
West Midlands	7	8	7	8	140046	10	6	6	175058	9
Wales	5	9	7	7	74718	3	6	8	102115	4
Scotland	5	10	10	4	94554	8	4	9	230217	10
North East	4	11	6	11	74197	1	3	11	152758	7

Appendix E.2 *- Results from Q4 (Are you a currently a member of a triathlon club?), Q18.10 (What are your motivations for participating in triathlon? – Friendship and socialising), Q29 (To what extent do you agree with the following statements? – Triathlon forms an important part of my social life) vs Q30 (Who do you perform triathlon-based activity with?). All values in percentages.*

		Who do you predominantly train with?	
		Alone	Group
Club membership	Yes	75.8	91.8
	No	24.2	8.2
p = .000			
Motivation – Friendship and socialising	Yes	36.3	69.6
	No	63.7	30.4
p = .000			
Triathlon forms important element of social life.	Agree	50.8	78.9
	Neutral or disagree	49.2	21.1
p = .000			

Appendix E.3 *- Results from Q18.2 (What are your main motivations for participating in triathlon? – To challenge myself) vs Q3 (How long have you been involved in the sport?). All values in percentages.*

		Length of triathlon involvement		
		<3 years	3 to 5 years	>5 years
Motivation – To challenge myself	Yes	88.6	83.5	74.0
	No	11.4	16.5	26.0
p = .001				

Appendix E.4 *- Results from Q18.1 (What are your motivations for participating in triathlon? – General fitness and health) vs. Q17 (On how many separate occasions do you engage in triathlon-based activity during an average week?). All values in percentages.*

		Number of training sessions per week		
		5 or less	6 to 10	More than 10
Motivation – General fitness and health	Yes	61.3	80.9	87.0
	No	38.7	19.1	13.0
p = .000				

Appendix E.5 *- Results from Q18.1 (What are your motivations for participating in triathlon? – General fitness and health) vs. Q34 (How old are you?). All values in percentages.*

		Age	
		Less than 40	40 or more
Motivation – General fitness and health	Yes	75.7	83.1
	No	24.3	16.9
p = .027			

Appendix E.6 *- Results from Q4 (Are you a currently a member of a triathlon club?), Q35 (What is your gender?), and Q37 (What is your annual income?) vs. Q18.10 (What are your motivations for participating in triathlon? – Friendship and socialising). All values are in percentages.*

		Motivation – Friendship and socialising	
		Yes	No
Club membership	Yes	60.7	39.3
	No	24.4	75.6
p = .000			
Gender	Male	48.7	51.3
	Female	64.4	35.6
p = .000			
Income	Less than £20,000	67.7	32.3
	£20,000 to £29,999	51.1	48.9
	£30,000 to £39,999	53.8	46.2
	£40,000 to £59,999	56.4	43.6
	£60,000 or more	44.1	55.9
p = .008			

Appendix E.7 *- Results from Q37 (What is your annual income? vs. Q19.2 (What are the main barriers associated with your triathlon participation? – Work commitments). All values in percentages.*

		Barrier – Work commitments	
		Yes	No
Income	Less than £20,000	54.8	45.2
	£20,000 to £29,999	65.2	34.8
	£30,000 to £39,999	72.1	27.9
	£40,000 to £59,999	78.6	21.4
	£60,000 or more	77.5	22.5
p = .000			

Appendix E.8 *- Results from Q16 (How many hours do you spend doing triathlon-based activity in an average week?) vs. Q19.1 (What are the main barriers associated with your triathlon participation? – Family commitments).*

		Hours of triathlon training per week		
		0 to 6 hours	7 to 9 hours	10+ hours
Barriers – Family commitments	Yes	56.3	53.9	42.8
	No	43.7	46.1	57.2
p = .016				

Appendix E.9 *- Results from Q4 (Are you currently a member of a triathlon club?) vs. Q19.1 (What are the main barriers associated with your triathlon participation? – Family commitments).*

		Barrier – Family commitments	
		Yes	No
Club membership	Yes	49.1	50.9
	No	38.9	61.1

p = .036

Appendix E.10 *- Results of Q7.5 (Which of these sporting events have you completed in the past year? – Middle-distance triathlon) and Q7.6 (Which of these sporting events have you completed in the past year? – Full-distance triathlon) vs. Results of Q37 (What is your annual income?). All values in percentages.*

		Income categories				
		Less than £20,000	£20,000 to £29,999	£30,000 to £39,999	£40,000 to £59,999	£60,000 or more
Event – Middle-distance triathlon	Yes	11.0	17.2	21.5	22.1	28.2
	No	28.2	17.0	18.4	21.5	14.9
p = .000						
Event – Full-distance triathlon	Yes	9.3	15.1	18.6	31.4	25.6
	No	25.6	17.4	19.4	19.9	17.7
p = .004						

Appendix E.11 *- Results of Q6 (How many triathlon or multi-sport events have you completed in the past year?) vs. Q19.8 (What are the main barriers associated with your triathlon participation? – Confidence). All values in percentages.*

		Events in previous year		
		0 to 2	3 to 5	More than 5
Barrier - Confidence	Yes	44.7	39.5	15.8
	No	31.5	39.6	28.9
p = .021				

Appendix E.12 *– Results of Q18.8 (What are your motivations for participating in triathlon? – Competition) vs. Q35 (What is your gender?), Q34 (How old are you?), and Q37 (What is your annual income?). All values in percentages.*

		Motivation - Competition	
		Yes	No
Gender	Male	45.5	54.5
	Female	68.0	32.0
p = .001			
Age	18 to 29	59.2	40.8
	30 to 39	42.5	57.5
	40 to 49	32.5	67.5
	50 +	34.2	65.8
p = .000			
Income	Less than £20,000	53.2	46.8
	£20,000 to £29,999	32.6	67.4
	£30,000 to £39,000	34.6	65.4
	£40,000 to £59,999	35.0	65.0
	More than £60,000	39.2	60.8
p = .009			

Appendix E.13 *- Results of Q29.1 (To what extent do you agree with the following statements? – I would describe myself as a triathlete) vs. Q18.10 (What are your motivations for participating in triathlon? – Friendship and socialising) and Q29.5 (To what extent do you agree with the following statements? – Triathlon forms an important part of my social life). All values in percentages.*

		I would describe myself as a triathlete	
		Agree	Neutral or disagree
Motivation – Friendship and socialising	Yes	58.1	43.1
	No	41.9	56.9
p = .004			
Triathlon forms important element of social life.	Agree	72.3	42.1
	Neutral or disagree	27.7	57.9
p = .000			
Club membership	Yes	86.7	76.7
	No	13.3	23.3
p = .007			

Appendix E.14 *- Q7 (Which of these events have you completed in the past year? - Middle-distance & full-distance) vs. Q8 (How regularly do you use the following training locations – Lake/reservoir). All values in percentages.*

		Event participation	
		Middle-distance triathlon	Full-distance triathlon
Regularity of lake/reservoir use	Weekly or more	44.2	55.8
	Less than weekly	47.7	52.3
p = .005			
Lake use	Yes	95.9	96.7
	No	4.1	3.3
p = .000			

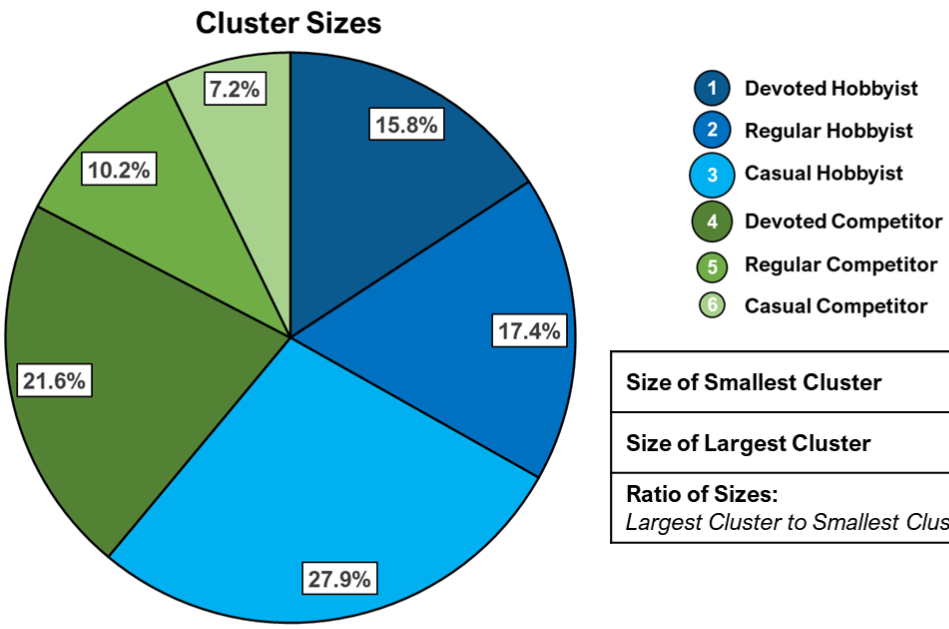
Appendix E.15 *- Q8 (Do you use the following locations/facilities for your triathlon training?) vs. Q19.1 (What are the main barriers to your triathlon engagement - Family commitments) and Q19 (What are the main barriers to your triathlon engagement - Time commitments). All values in percentages.*

		Athletics Track	
		Use	Do not use
Barrier – Family commitments	Yes	53.7	43.8
	No	46.3	56.2
p = .009			
Barrier – Time commitments	Yes	45.1	55.8
	No	54.9	44.2
p = .017			

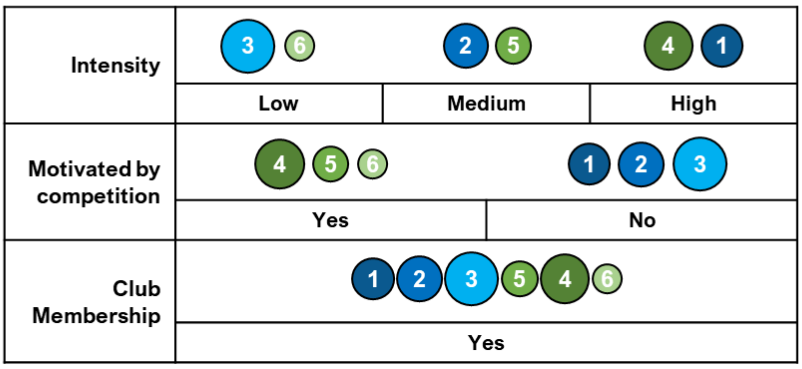
Appendix E.16 *- Results from Q31 (During the past 12 months, have you given any of your time to do any of the following triathlon-based volunteering opportunities? – Respondents who did not select 'None of the above' vs. Q29.1 (To what extent do you agree with the following statements? – I would describe myself as a triathlete). All values in percentages.*

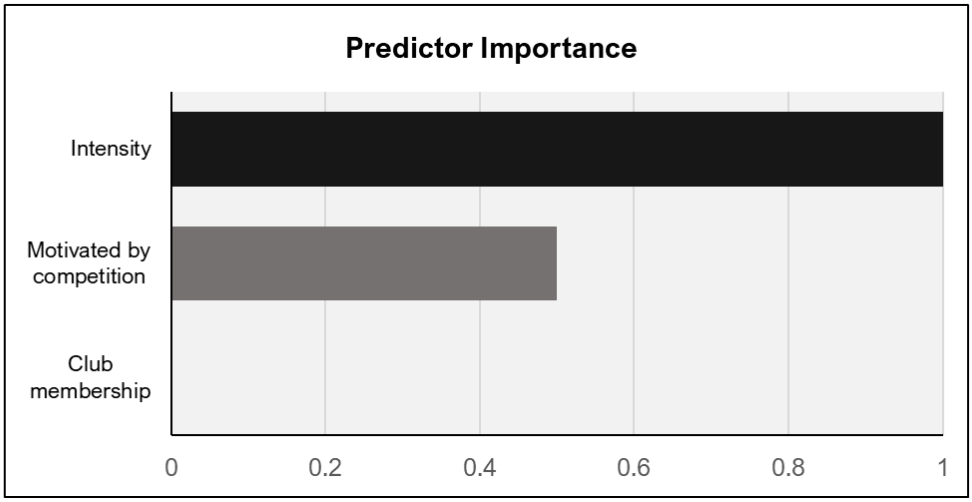
		I would identify myself as a triathlete	
		Agree	Disagree
Triathlon-based volunteering is past 12 months?	Yes	84.2	15.8
	No	71.1	28.9
p = .001			

Appendix F – Two-Step Cluster Analysis Methodology



Size of Smallest Cluster	36 (7.2%)
Size of Largest Cluster	140 (27.9%)
Ratio of Sizes: *Largest Cluster to Smallest Cluster*	3.89





The remaining 90 respondents who were excluded from the cluster analysis by SPSS all had the shared characteristic of not being a member of a triathlon club.

Based on this shared characteristic, the decision was made to create a 7th cluster, ‘non-members’, to ensure all respondents were recognised in the typology.

Reference List

Adey, P., Bissell, D., Hannam, K., Merriman, P. and Sheller, M. (2014). *The Routledge Handbook of Mobilities*. Abingdon: Routledge.

Agnew, J. (2011). Space and place. In, Agnew, J. and Livingstone, D. (eds.) *Handbook of Geographical Knowledge*. London: SAGE, pp. 316-330.

Aldred, R. (2013). Incompetent or too competent? Negotiating everyday cycling identities in a motor dominated society. *Mobilities*, 8(2), pp. 252-271.

Alexandris, K., Kouthouris, C., Funk, D. and Tziouma, O. (2013). The use of negotiation strategies among recreational participants with different involvement levels: The case of recreational swimmers. *Leisure Studies*, 32(3), pp. 299-317.

Allen-Collinson, J. (2008). Running the routes together: Corunning and knowledge in action. *Journal of Contemporary Ethnography*, 37(1), pp. 38–61.

Allen-Collinson, J. and Hockey, J. (2013). Distance running as play/work: Training-together as a joint accomplishment. In, Tolmie, P. and Rouncefield, M. (eds.) *Ethnomethodology at Play*. London: Ashgate, pp. 221–226.

Allen-Collinson, J. and Hockey, J. (2015). From a certain point of view: Sensory phenomenological envisionings of running space and place. *Journal of Contemporary Ethnography*, 44(1), pp. 63-83.

Allen-Collinson, J. and Leledaki, A. (2015). Sensing the outdoors: A visual and haptic phenomenology of outdoor exercise embodiment. *Leisure Studies*, 34(4), pp. 457–470.

Allender, S., Cowburn, G. and Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: A review of qualitative studies. *Health Education Research*, 21(6), pp. 826-835.

Andrade, A. C. S. A., Mingoti, S. A., Fernandes, A. P., de Andrade, R. G., Friche, A. A. L., Xavier, C. C., … Caiaffa, W. T. (2018). Neighborhood-based physical activity differences: Evaluation of the effect of health promotion program. *Plos One*, 13(2), pp. 1-13.

Andrews, D., Nonnecke, B. and Preece, J. (2003). Electronic survey methodology: A case study in reaching hard-to-involve Internet users. *International Journal of Human-Computer Interaction*, 16(2), pp. 185-210.

Andrews, G. J. (2016). Extending the field of play: Revealing the dynamics between sports, health and place. *Social Science and Medicine*, 168, pp. 1-6.

Andrews, G. J. and Kearns, R. A. (2005). Everyday health histories and the making of place: The case of an English coastal town. *Social Science and Medicine*, 60(12), pp. 2697–2713.

Andrews, G. J., Hall, E., Evans, B. and Colls, R. (2012). Moving beyond walkability: On the potential of health geography. *Social Science and Medicine*, 75(11), pp. 1925–1932.

Andrews, G. J., Sudwell, M. I. and Sparkes, A. C. (2005). Towards a geography of fitness: An ethnographic case study of the gym in British bodybuilding culture. *Social Science and Medicine*, 60(4), pp. 877–891.

Antonsich, M. (2013). Identity and Place. *Oxford Bibliographies*, 29 October. Available online: http://www.oxfordbibliographies.com/view/document/obo-9780199874002/obo-9780199874002-0030.xml [Accessed: 25.01.2019].

Arnott, I. (2008). How do the internal variables of the sport konsumer affect the marketing of sports events: Case study triathlon in the UK. *International Business Research*, 1(3), pp. 1-21.

Arthurs-Brennan, M. (2020a). Indoor cycling apps compared: Which is best for you? *Cycling Weekly*, 1 April. Available online: https://www.cyclingweekly.com/fitness/indoor-cycling-apps-364282 [Accessed: 17.05.2020].

Arthurs-Brennan, M. (2020b). Best cycling apps: iPhone and Android tools for cyclists. *Cycling Weekly*, 24 April. Available online: https://www.cyclingweekly.com/group-tests/best-cycling-apps-143222 [Accessed: 25.07.2020].

Appleton, J. (1975). *The Experience of Landscape*. London: Wiley.

Ash, J., Kitchin, R. and Leszczynski, A. (2018a). Digital turn, digital geographies? *Progress in Human Geography*, 42(1), pp. 25-43.

Ash, J., Kitchin, R. and Leszczynski, A. (2018b). *Digital Geographies*. London: SAGE.

Asics. (2009). *Reasons to run*. Hoofddorp: Asics Europe.

Atkinson, D., Jackson, P., Sibley, D. and Washbourne, N. (2005). *Cultural Geography: A Critical Dictionary of Key Concepts*. London: I.B.Tauris & Co.

Atkinson, M. (2008). Triathlon, suffering and exciting significance. *Leisure Studies*, 27(2), pp. 165-180.

Atkinson, M. (2011). Fell running and voluptuous panic: On Caillois and post-sport physical culture. *American Journal of Play*, 4(1), pp. 100–120.

Atkinson, P. and Hammersley, M. (2007). *Ethnography: Principles and Practices* (3rd ed.). London: Routlege.

Axelsen, M. (2009). The power of leisure: “I was an anorexic; I’m now a healthy triathlete”. *Leisure Sciences*, 31(4), pp. 330–346.

Ba, S. and Wang, L. (2013). Digital health communities: The effect of their motivation mechanisms. *Decision Support Systems*, 55(4), pp. 941-947.

Bahrami, F., and Rigal, A. (2017). Spaces of effort, exploration of an experience of mobility. *Applied Mobilities*, 2(1), pp. 85–99.

Baker, C. (2018). *Mental health statistics for England: Prevalence, services and funding*. London: House of Commons Library.

Bale, J. (1982). *Sport and Place: A Geography of Sport in England, Scotland and Wales*. London: Hurst.

Bale, J. (1994). *Landscapes of Modern Sport*. London: Leicester University Press.

Bale, J. (1996). Space, place and body culture: Yi-Fu Tuan and a geography of sport. *Geografiska Annaler*, 78(3), pp. 163-171.

Bale, J. (2000). Sport as power: Running as resistance? In, Paddison, R., Philo, C., Routledge, P. and Sharp, J. (eds.) *Entanglements of Power: Geographies of Domination/Resistance*. Abingdon: Routledge, pp. 148-163.

Bale, J. (2003). *Sports Geography* (2nd ed.). London: Routledge.

Bale, J. (2004). *Running Cultures: Racing in Time and Space*. London: Routledge.

Bale, J. and Dejonghe, T. (2008). Editorial. Sports geography: an overview. *Belgeo*, 2, pp. 157-166.

Bang, G., Won, D. and Kim, Y. (2009). Motivations, commitment, and intentions to continue volunteering for sporting events. *Event Management*, 13(2), pp. 69-81.

Bardzell, S. and Odom, W. (2008). The experience of embodied space in virtual worlds: an ethnography of a Second Life community. *Space and Culture*, 11(3), pp. 239–259.

Barnfield, A. (2016). Physical exercise, health, and post-socialist landscapes-recreational running in Sofia, Bulgaria. *Landscape Research*, 41(6), pp. 628-640.

Barnfield, A. (2019). Orientating to the urban environment to find a time and space to run in Sofia, Bulgaria. *International Review for the Sociology of Sport*. Advance online publication. https://journals.sagepub.com/doi/abs/10.1177/1012690219826494

Barns, S. (2019). Negotiating the platform pivot: From participatory digital ecosystems to infrastructures of everyday life. *Geography Compass*, 13(9), pp. 1-13.

Barratt, P. (2011). Vertical worlds: Technology, hybridity and the climbing body. *Social & Cultural Geography*, 12(4), pp. 397-412.

Barratt, P. (2017). Healthy competition: A qualitative study investigating persuasive technologies and the gamification of cycling. *Health and Place*, 46, pp. 328-336.

Barrie, L., Waitt, G., Brennan-Horley, C. (2019). Cycling assemblages, self-tracking digital technologies and negotiating gendered subjectivities of road cyclists on-the-move. *Leisure Sciences*, 41(1–2), pp. 108–126.

Bartram, S. A. (2001). Serious leisure careers among whitewater kayakers: A feminist perspective. *World Leisure Journal*, 43(2), pp. 4-11.

Bauer, C. (2013). On the (in-)accuracy of GPS measures of smartphones: A study of running tracking applications. *International Conference on Advances in Mobile Computing & Multimedia*. Vienna, Austria.

Baum, T. G. and Lockstone, L. (2007). Volunteers and mega sporting events: Developing a research framework. *International Journal of Event Management Research*, 3(1), pp. 29-41.

Bauman, A., Murphy, N. and Lane, A. (2009). The role of community programmes and mass events in promoting physical activity to patients. *British Journal of Sports Medicine*, 43(44), pp. 211-224.

Baxter, N. (2017). Age, gender and sport in England. *Runometer*. 13 February. Available online: http://www.runometer.co.uk/age-gender-and-sport-in-england/ [Accessed: 21.03.2017).

Baxter, N. (2018). The running and class paradox. *NeilBaxter.org*, 6 Nov. http://www.neilbaxter.org/2018/11/06/the-running-and-class-paradox/ [Accessed: 26.07.2019].

BBC News. (2019). Facebook users continue to grow despite privacy scandals. *BBC News*, 30 January. Available online: https://www.bbc.co.uk/news/business-47065972 [Accessed: 30.07.2019].

BBC Sport. (2018). *Get inspired: How to get into triathlon*. Available online: https://www.bbc.co.uk/sport/get-inspired/23167387 [Accessed: 08.12.2018].

Beck, C. (2016). Web of resistance: Deleuzian digital space and hacktivism. *Journal for Cultural Research*, 20(4), pp. 334–349.

Beck, B., Chong, D., Olivier, J., Perkins, M., Tsay, A., Rushford, A., Li, L., Cameron, P., Fry, R. and Johnson, M. (2019). How much space do drivers provide when passing cyclists? Understanding the impact of motor vehicle and infrastructure characteristics on passing distance. *Accident Analysis and Prevention*, 128, pp. 253-260.

Bengoechea, E. G., Spence, J. C. and McGannon, K. R. (2005). Gender differences in perceived environmental correlates of physical activity. *International Journal of Behavioural Nutrition and Physical Activity*, 2(12), pp. 1-9.

Best, A. (2011). Youth identity formation: Contemporary identity work. *Sociology Compass*, 5(10), pp. 908–922.

Bingham, N. (2009). Actor-network theory (ANT). In, Gregory, D., Johnston, R., Pratt, G., Watts, M. J. and Whatmore, S. (eds.) *The Dictionary of Human Geography*, Chichester: Wiley-Blackwell, pp. 6-7.

Bird, C. M. (2005). How I stopped dreading and learned to love transcription. *Qualitative Inquiry*, 11(2), pp. 226-248.

Bissell, D. (2016). Micropolitics of mobility: Public transport commuting and everyday encounters with forces of enablement and constraint. *Annals of the American Association of Geographers*, 106(2), pp. 394–403.

Black, P., and Street, E. (2014). The power of perceptions: Exploring the role of urban design in cycling behaviours and healthy ageing. *Transportation Research Procedia*, 4, pp. 68–79.

Bogardus, L. M. (2011). The Bolt Wars: A social worlds perspective on rock climbing and intragroup conflict. *Journal of Contemporary Ethnography*, 41(3), pp. 283-308.

Boland, H. (2018). Instagram hits 1 billion users as it launches new video service to rival YouTube. *The Telegraph*, 21 June. Available online: https://www.telegraph.co.uk/technology/2018/06/20/instagram-hits-1-billion-users-launches-video-service-rival/ [Accessed: 30.07.2019].

Borodulin K., Laatikainen T., Lahti-Koski M., Jousilahti P. and Lakka T.A. (2008). Association of age and education with different types of leisure-time physical activity among 4437 Finnish adults. *Journal of Physical Activity & Health*, 5 pp. 242–251.

Bosco, F. J. (2006). Actor-network theory, networks, and relational approaches in human geography. In, Aitken, S. and Valentine, G. (eds.) *Approaches to Human Geography*. London: SAGE, pp. 136-146.

Boulos, M. N. K. and Yang, S. P. (2013). Exergames for health and fitness: The roles of GPS and geosocial apps. *International Journal of Health Geographies*, 12(18), pp. 1-7.

Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste.* Translated from French by R. Nice. Cambridge, MA: Harvard University Press.

Bourdieu, P. (1986). The forms of capital. In, Richardson, J. (ed.) *Handbook of Theory and Research for the Sociology of Education*. New York, NY: Greenwood Press, pp. 241-258.

Bourdieu, P. (2000). *Pascalian Meditations*. Cambridge: Polity Press.

Bowen, G. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research*, 8(1), pp. 137-152.

Boy, J. D. and Uitermark, J. (2017). Reassembling the city through Instagram. *Transactions of the Institute of British Geographers*, 42(4), pp. 612–624.

Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), pp. 77-101.

Breedveld, K., Scheerder, J. and Borges, J. (2015). Running across Europe: The way forward. In, Scheerder, J., Breedveld, K. and Borgers, J. (eds.) *Running across Europe: The Rise and Size of One of the Largest Sport Markets*. Basingstoke: Palgrave Macmillan, pp. 241-268.

Bridel, W. (2010). *"Finish… Whatever it Takes" Considering Pain and Pleasure in the Ironman Triathlon: A Socio-Cultural Analysis*. PhD Thesis, Queen's University, Canada.

Bridel, W. (2013). Not fat, not skinny, functional enough to finish: Interrogating constructions of health in the Ironman triathlon. *Leisure/Loisir*, 37(1), pp.37–56.

British Triathlon. (2015). Triathlon participation continues to grow. *British Triathlon*, 16 December. Available online: https://www.britishtriathlon.org/england/news/triathlon-participation-continues-to-grow_1455 [Accessed: 19.03.2017].

British Triathlon. (2016). Statistics: Triathlon Growth Statistics. *British Triathlon*. Available online: https://www.britishtriathlon.org/media/statistics [Accessed: 02.02.2017].

British Triathlon. (2017a). Find an Event. *British Triathlon*. Available online: https://www.britishtriathlon.org/events [Accessed: 29.11.2017].

British Triathlon. (2017b). Club Finder. *British Triathlon*. Available online: https://www.britishtriathlon.org/clubs [Accessed: 21.11.2017].

British Triathlon. (2017c). *Get Involved: SH$_2$OUT*. Available online: https://www.britishtriathlon.org/sh2out [Accessed: 06.02.2020].

British Triathlon. (2018a). *Volunteering Plan*. Loughborough: British Triathlon

British Triathlon. (2018b). History of Triathlon. *British Triathlon*. Available online: https://www.britishtriathlon.org/media/history-of-triathlon [Accessed: 07.12.2018].

British Triathlon. (2018c). Club Type. *British Triathlon*. Available online: https://www.britishtriathlon.org/clubs/club-resources/club-type [Accessed: 13.12.2018].

British Triathlon (2020a). Regional Officials Coordinators. *British Triathlon*. Available online: https://www.britishtriathlon.org/get-involved/volunteers-and-officials/officials/regional-officials-coordinators [Accessed: 14.02.2019].

British Triathlon. (2020b). *Volunteering Plan: Recruit, Support, Recognise*. British Triathlon: Loughborough. Available online: https://www.britishtriathlon.org/britain/documents/get-involved/volunteers-and-officials/volunteers/british-triathlon-volunteering-plan-v1.pdf [Accessed: 26.06.2020].

British Triathlon. (2021). *Statistics: Triathlon Growth Statistics*. British Triathlon. Available online: https://www.britishtriathlon.org/media/statistics [Accessed 19.03.2021].

Broach, J., Dill, J. and Gliebe, J. (2012). Where do cyclists ride? A route choice model developed with revealed preference GPS data. *Transportation Research Part A*, 46, pp. 1730–1740.

Brown, J. D. (2015). Mixed methods research. In, Brown, J. D. and Coombe, C. (eds.) *The Cambridge Guide to Research in Language Teaching and Learning.* Cambridge: Cambridge University Press, pp. 78-85.

Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1(1), pp. 8-22.

Bryman, A. (2008). *Social Research Methods* (3rd ed.) Oxford: Oxford University Press.

Bryman, A. (2015). *Social research methods*. (5th ed.). Oxford: Oxford University Press.

Bull, C. J. (2010). Racing cyclists as sports tourists: The experiences and behaviours of a case study group of cyclists in East Kent, England. *Journal of Sport Tourism*, 11(3–4), pp. 259–274.

Buning, R. J. and Gibson, H. J. (2016). Exploring the trajectory of active-sport-event travel careers: A social worlds perspective. *Journal of Sport Management*, 30(3), pp. 265-281.

Burgham, M. and Downward, P. (2005). Why volunteer, time to volunteer? A case study from swimming. *Managing Leisure*, 10, pp. 79-93.

Cambridge Dictionary. (2019). *Cambridge Essential English Dictionary: Organisation*. Cambridge: Cambridge Dictionary.

Campbell, L. M., Gray, N. J., Meletis, Z. A., Abbott, J. G. and Silver, J. J. (2006). Gatekeepers and keymasters: Dynamic relationships of access in geographical research. *Geographical Review*, 96(1), pp. 97-121.

Caquard, S. (2014). Cartography II: Collective cartographies in the social media era. *Progress in Human Geography*, 38(1), pp. 141–150.

Cardinale, M. and Varley, M. C. (2017). Wearable training-monitoring technology: Applications, challenges, and opportunities. *International Journal of Sports Physiology and Performance*, 12, pp. 55-62.

Carlén, U. and Maivorsdotter, N. (2017). Exploring the role of digital tools in running: the meaning-making of user-generated data in a social networking site. *Qualitative Research in Sport, Exercise and Health*, 9(1), pp. 18-32.

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report*, 21(5), pp. 811-831.

Carter, S., Green, J. and Speed, E. (2018). Digital technologies and the biomedicalisation of everyday activities: The case of walking and cycling. *Sociology Compass*, 12, pp. 1–12.

Cernuda, O. (2017). IOC includes the triathlon mixed relays on the Tokyo 2020 Olympics. *Triathlon.org*. Available online: https://www.triathlon.org/news/article/ioc_includes_the_triathlon_mixed_relays_on_the_tokyo_2020_olympics [Accessed: 13.12.2018].

Chalkley, B. and Essex, S. (1999). Sydney 2000: The 'green games'?. *Geography*, 84(4), pp. 299-307.

Challenge Trophies. (2017). Social Media for Sports Clubs – A Guide for Beginners. *Challenge Trophies*, 1 March. Available online: https://www.challengetrophies.co.uk/blog/social-media-sports-clubs-guide-beginners/ [Accessed: 12.03.2019].

Chambers, R., Gabbett, T. J., Cole, M. H. and Beard, A. (2015). The use of wearable microsensors to quantify sport-specific movements. *Sports Medicine*, 45(7), pp. 1065-1081.

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. London: SAGE.

Charmaz, K. (2008). Grounded theory as an emergent method. In, Hesse-Biber, S. N. and Leavy, P. (eds.) *Handbook of Emergent Methods*. New York, NY: The Guildford Press, pp. 155-170.

Chayko, M. (2014). Techno-social Life: The Internet, Digital Technology, and Social Connectedness. *Sociology Compass*, 8(7), pp. 976-991.

Chen, K., Zdorova, M. and Nathan-Roberts, D. (2017). Implications of wearables, fitness tracking services, and quantified self on healthcare. *Proceedings of the Human Factors and Ergonomics Society*, 61(1), pp. 1066–1070.

Cheng, T. and Tsaur, S. (2010) The relationship between serious leisure characteristics and recreation involvement: a case study of Taiwan's surfing activities. *Leisure Studies*, 31(1), pp. 53-68.

Chiu, C. (2009). Contestation and conformity: Street and park skateboarding in New York City public space. *Space and Culture*, 12(1), pp. 25–42.

Cidell, J. (2014). Running road races as transgressive event mobilities. *Social and Cultural Geography*, 15(5), pp. 571-583.

Cilliers, L. (2020). Wearable devices in healthcare: Privacy and information security issues. *Health Information Management Journal*, 49(2-3), pp. 150-156.

Clark, A. (2006). Anonymising research data. *ESRC National Centre for Research Methods*, 7(6), pp. 21.

Clayton, W., Jain, J., Ladkin, A. and Marouda, M. (2018). The 'digital glimpse' as imagining home. *Mobilities*, 13(3), pp. 382-396.

Cleland, V., Nash, M., Sharman, M. J. and Claflin, S. (2019). Exploring the health-promoting potential of the "parkrun" phenomenon: What factors are associated with higher levels of participation? *American Journal of Health Promotion*, 33(1), pp. 13–23.

Clifford, N. J., Holloway, S. L., Rice, S. P. and Valentine, G. (2009). *Key Concepts in Geography* (2nd ed.). London: SAGE.

Clifford, N., Cope, M., Gillespie, T. and French, S. (2016). *Key Methods in Geography Geography* (3rd ed.) London: SAGE.

Climateemergency.uk (2020). *List of councils who have declared a climate emergency. 9th February*. Available online: https://www.climateemergency.uk/blog/list-of-councils/ [Accessed: 09.02.2020].

Cloke, P., Cook, I., Crang, P., Goodwin, M., Painter, J. and Philo, C. (2004). *Practising Human Geography.* London: SAGE.

Clopton, A. W. (2012). Social capital, gender, and the student athlete. *Group Dynamics,* 16, pp. 272–288.

Coakley, J. (2003). *Sport in society: Issues and controversies*, 8th edn. New York, NY: McGraw-Hill.

Coldwell, W. (2014). Top 10 cycling cafes in the UK. *The Guardian*, 12 March. Available online: https://www.theguardian.com/travel/2014/mar/12/top-10-cycling-cafes-uk [Accessed: 15.08.2019].

Coleman, R. (2002). Characteristics of volunteering in UK sport: lessons from cricket. *Managing Leisure*, 7(4), pp. 220-238.

Collins, M. (2011). The politics of the environment, and noisy sports: two totally different outcomes in the Lake District National Park for powerboating and off-road motoring. *Leisure Studies*, 30(4), pp. 423-452.

Commission for Architecture and the Built Environment. (2010). *Urban green nation: Building the evidence base*. London: CABE.

Cook, S. (2016a). Run-commuting. In, Sultana, S. and Weber, J. (eds.) *Minicars, Maglevs, and Mopeds: Modern Modes of Transportation Around the World*. Santa Barbara, CA: ABC-CLIO/Greenwood Press, pp. 255-258.

Cook, S. (2016b). The Big Run Commuting Survey. *Jographies: Geographical Perspectives on Running*, 2 May. Available Online: https://jographies.wordpress.com/2016/05/02/the-big-run-commuting-survey/ [Accessed: 12.01.2018].

Cook, S., Shaw, J. and Simpson, P. (2017). Running Order: Urban public space, everyday citizenship, and sporting subjectivities. In, Koch, N. (ed.) *Critical Geographies of Sport: Space, Power and Sport in Global Perspective*. Abingdon: Routledge, pp. 157-173.

Cook, S., Shaw, J. and Simpson, P. (2016). Jography: Exploring meanings, experiences and spatialities of recreational road-running. *Mobilities*, 11(5), pp. 744-769.

Coombes, E. and Jones, A. (2016). Gamification of active travel to school: A pilot evaluation of the Beat the Street physical activity intervention. *Health and Place*, 39, pp. 62–69.

Cope, G. (2014). *Towards understandings of visitor experiences and practices that shape new meanings of pace at National Trust sites*. PhD Thesis, University of the West of England.

Corbin, J. and Strauss, A. (1990). Grounded theory research: Procedures, canons and evaluative criteria. *Qualitative Sociology*, 13(1), pp. 3–21.

Couture, J. (2016). Triathlon Magazine Canada and the (re-)construction of female sporting bodies. *Sociology of Sport Journal*, 33(2), pp. 124–134.

Craig, L. (2007). *Contemporary Motherhood: The Impact of Children on Adult Time*. Aldershot: Ashgate Publishing.

Crane, D. (1972). *Invisible Colleges*. Chicago, IL: University of Chicago Press.

Cresswell, T. (2008). Place: Encountering geography as philosophy. *Geography*, 93(3), pp. 132–139.

Cresswell, T. (2010). Towards a Politics of Mobility. *Environment and Planning D: Society and Space,* 28(1), pp. 17–31.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: SAGE.

Creswell, J. W. (2015). *30 Essential Skills for the Qualitative Researcher*. Thousand Oaks, CA: SAGE.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L. and Hanson, W. E. (2003). Advanced mixed methods research designs. In, Tashakkori, A. and Teddlie, C. (eds.) *Handbook of Mixed Methods in Social and Behavioral Research*. Thousand Oaks, CA: SAGE, pp. 209-240.

Cronan, M. and Scott, D. (2008). Triathlon and women's narratives of bodies and sport. *Leisure Sciences*, 30(1), pp. 17-34.

Crosset, T. and Beal, B. (1997). The use of "subculture" and "subworld" in ethnographic works on sport: A discussion of definitional distinctions. *Sociology of Sport Journal*, 14(1), pp. 73-85.

Crouch, D. (2000). Places around us: embodied lay geographies in leisure and tourism. *Leisure Studies*, 19(2), pp. 63–76.

Crow, G. and Wiles, R. (2008). Managing anonymity and confidentiality in social research: The case of visual data in Community research. *NCRM Working Paper, ESRC National Centre for Research Methods*. Available online: http://eprints.ncrm.ac.uk/459/ [Accessed: 30.10.2018].

Cuskelly, G. (2008). Volunteering in community sport organizations: Implications for social capital. In, Nicholson, M. and Hoye, R. (eds.) *Sport and Social Capital*. Oxford: Butterworth-Heinemann.

Cyclenation. (2014). *Making Space for Cycling: A Guide for New Developments and Street Renewals*. London: Cyclenation.

Dadvand, P., Bartoll, X., Basagaña, X., Dalmau-Bueno, A., Martinez, D., Ambros, A., Cirach, M....and Nieuwenhuijsen, M. J. (2016). Green spaces and general health: roles of mental health status, social support and physical activity. *Environmental International,* 91, pp. 161-167.

Darcy, S., Maxwell, H., Edwards, M., Onyx, J. and Sherker, S. (2014). More than a sport and volunteer organisation: Investigating social capital development in a sporting organisation. *Sport Management Review*, 17(4), pp. 395–406.

Das, P. and Horton, R. (2012). Rethinking our approach to physical activity. *The Lancet*, 380(9838), pp.189–190.

Dawson, J. and Jöns, H. (2018). Unravelling legacy: A triadic actor-network theory approach to understanding the outcomes of mega events. *Journal of Sport & Tourism*, 22(1), pp. 43-65.

De Certeau, M. (1984). *The Practice of Everyday Life*. Berkeley, CA: University of California Press.

de Souza e Silva, A. (2006). Space and Culture. *Space and Culture*, 9(3), pp. 261–278.

De Vries, S., Verheij, R. A., Groenewegen, P. P. and Spreeuwenberg, P. (2003). Natural environments – healthy environments? An exploratory analysis of the relationship between greenspace and health. *Environment and Planning A: Economy and Space*, 35, pp. 1717-1731.

Dear, M. (1988). The postmodern challenge: Reconstructing human geography. *Transactions of the Institute of British Geographers*, 13(3), pp. 262-274.

Deelen, I., Ettema, D. and Kamphuis, C. B. M. (2018). Sports participation in sport clubs, gyms or public spaces: How users of different sports settings differ in their motivations, goals, and sports frequency. *PLoS ONE*, 13(10), pp. 1-17.

Deelen, I., Janssen, M., Vos, S., Kamphuis, C. B. M. and Ettema, D. (2019). Attractive running environments for all? A cross-sectional study on physical environmental characteristics and runners' motives and attitudes, in relation to the experience of the running environment. *BMC Public Health*, 19(1), pp. 1–15.

DeLuca, J. R. (2016). 'Like a "fish in water"': swim club membership and the construction of the upper-middle-class family habitus. *Leisure Studies*, 35(3), pp. 259-277.

DeLyser, D., Herbert, S., Aitken, S., Crang, M. and McDowell, L. (2009). *The SAGE Handbook of Qualitative Geography*. London: SAGE.

Department for Digital, Culture, Media & Sport. (2015). *Sporting Future: A New Strategy for an Active Nation*. London: Department for Digital, Culture, Media & Sport.

Department for Environment, Food & Rural Affairs. (2016). *Rural Urban Classification*. Available online: https://www.gov.uk/government/collections/rural-urban-classification [Accesed: 03.10.2018].

Department for Transport. (2017). *Cycling and Walking Investment Strategy*. London: Department for Transport.

Department for Transport. (2018). *Walking and Cycling Statistics, England: 2017*. London: Department for Transport.

Depper, A. and Howe, D. (2017). Are we fit yet? English adolescent girls' experiences of health and fitness apps. *Health Sociology Review*, 26(1), pp. 98-112.

Deterding, S., Dixon, D., Khaled, R. and Nacke, L. (2011). From game design elements to gamefulness: Defining "gamfication". *Paper Presented at the 15th International MindTrek Conference*. Tampere, Finland.

Deutsch Triathlon Union. (2018). *Triathlon in Deutchland: Zahlen, Fakten & Hintergründe*. Frankfurt: Deutsch Triathlon Union.

DeWalt, K. and DeWalt, B. (2010). *Participant Observation: A Guide for Fieldworkers* (2nd ed.). Plymouth: AltaMira Press.

Dilley, R. E. and Scraton, S. J. (2010). Women, climbing and serious leisure. *Leisure Studies*, 29(2), pp. 125–141.

Donnelly, P. and Young, K. (1988). The construction and confirmation of identity in sport subcultures. *Sociology of Sport*, 5, pp. 223–240.

Downward, P. and Rasciute, S. (2015). Exploring the covariates of sport participation for health: an analysis of males and females in England. *Journal of Sport Sciences*, 33(1), pp. 67-76.

Duda, J. L. (2005). Motivation in sport: The relevance of competence and achievement goals. In, Elliot, A. J. and Dweck, C. S. (eds.) *Handbook of Competence and Motivation*. New York, NY: Guilford Press, pp. 318-335.

Dufva, T. and Dufva, M. (2019). Grasping the future of digital society. *Futures*, 107, pp. 17-28.

Duggan, M. (2017). Questioning "digital ethnography" in an era of ubiquitous computing. *Geography Compass*, 11, pp. 1-12.

Duncan, J. S. and Ley, D. (2013). *Place/Culture/Representation*. Abingdon: Routledge.

Duncan, T. (2017). Leisure geographies. In, Richardson, D., Castree, N., Goodchild, M. F., Kobayashi, A., Liu, W. and Marston, R. A. (eds.) *The International Encyclopaedia of Geography*. Malden, MA: John Wiley & Sons.

Dwyer, S. C. and Buckle, J. L. (2009). The space between: On being an insider-outsider in qualitative research. *International Journal of Qualitative Methods*, *8*(1), pp. 54–63.

Eden, S. and Barratt, P. (2010). Outdoors versus indoors? Angling ponds, climbing walls and changing expectations of environmental leisure. *Area*, 42(4), pp. 487-493.

Edensor, T. and Larsen, J. (2017). Rhythmanalysing marathon running: "A drama of rhythms." *Environment and Planning A: Economy and Space*, 50(3), pp.730-746. Available online: http://journals.sagepub.com/doi/10.1177/0308518X17746407 [Accessed: 11.08.2018].

Edwards, S. (2001). *The Complete Book of Triathlons*. Roseville, CA: Prima Publishing.

Egermann, M., Brocai, D., Lill, C. A. and Schmitt, H. (2003). Analysis of injuries in long-distance triathletes. *International Journal of Sports Medicine*, 24(4), pp. 271-276.

Elkington, S. and Gammon, S. (2016). Reading landscapes: Articulating a non-essentialist representation of space, place and identity in leisure. In, Gammon, S. and Elkington, S. (eds.) *Landscapes of Leisure: Space, Place and Identities*. London: Palgrave MacMillan.

Elwood, S. and Leszczynski, A. (2018). Feminist digital geographies. *Gender, Place and Culture*, 25(5), pp. 629–644.

Elwood, S. A. and Martin, D. G. (2000). "Placing" interviews: Location and scales of power in qualitative research. *Professional Geographer*, 52(4), pp. 649-657.

Emerson, R. M., Fretz, R. I. and Shaw, L. L. (1995). *Writing Ethnographic Fieldnotes*. Chicago: University of Chicago Press.

England Athletics. (2017). Social media: An introductory guide. *England Athletics*. Available online: http://www.englandathletics.org/clubs--community/club-management/welfare---it-is-everyones-responsibility/guidance-documents-and-resources (Accessed: 14.08.2017).

England, K. (1994). Getting personal: Refexivity, positionality, and feminist research. *Professional Geographer*, 46(1), pp. 80–89.

Ettema, D. (2016). Runnable cities: How does the running environment influence perceived attractiveness, restorativeness, and running frequency? *Environment and Behavior*, 48(9), pp. 1127–1147.

Evans, A. (2013). World's oldest triathlete set to hang up running shoes? *Weston, Worle & Somerset Mercury*, 25 April. Available online: https://www.thewestonmercury.co.uk/news/world-s-oldest-triathlete-set-to-hang-up-running-shoes-1-2168150 [Accessed: 07.12.2018].

Evans, A. and Allen-Collinson, J. (2014). From 'just a swimmer' to a 'swimming mother': Women's embodied experiences of recreational aquatic activity with pre-school children. *Leisure Studies*, 33(5), pp. 247–266.

Evans, J. R. and Mathur, A. (2005). The value of online surveys. *Internet Research*, 15(2), pp. 195-219.

Everts, J., Lahr, M. and Watson, M. (2011). Theories of practice and geography. *Erdkunde*, 65(4), pp. 323-334.

Ezzy, D. (2002). *Qualitative Analysis: Practice and Innovation*. London: Routledge.

Fardouly, J., Diedrichs, C., Vartanian, L. R. and Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, 13, pp. 38-45.

Fearon, J. D. (1999). *What is identity (As we now use the word)?* Palo Alto: Stanford University.

Fereday, J. and Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hyprid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80-92.

Ferguson, D. T. (2007). *Beekeeping as serious leisure: A study of hobbyist beekeepers and the social world of a beekeeping association*. University of Guelph. Masters Thesis.

Fine, G. A. (2015). *Players and Pawns: How Chess Builds Community and Culture*. Chicago: University of Chicago Press.

Fink, J. S. (2015). Female athletes, women's sport, and the sport media commercial complex: Have we really “come a long way, baby”? *Sport Management Review*, 18(3), pp. 331-342.

Fletcher, T. and Platt, L. (2016). (Just) a walk with the dog? Animal geographies and negotiating walking spaces. *Social & Cultural Geography*, pp. 1–19.

Flowerdew, R. and Martin, D. M. (2005). Tell me about …: using interviews as a research methodology. In, Flowerdew, R. and Martin, D. M. (eds.) *Methods in Human Geography: A guide for students doing a research project*. Abingdon: Routledge, pp. 110-127.

Foley, R. (2015). Swimming in Ireland: Immersions in therapeutic blue space. *Health & Place*, 35, pp. 218-225.

Foley, R. and Kistemann, T. (2015). Blue space geographies: Enabling health in place. *Health and Place*, 35, pp. 157–165.

Forsdike, K., Marjoribanks, T. and Sawyer, A. M. (2017). “Hockey becomes like a family in itself”: Re-examining social capital through women’s experiences of a sport club undergoing quasi-professionalisation. *International Review for the Sociology of Sport* Advance online publication. http://journals.sagepub.com/doi/10.1177/1012690217731292

Forsell, T., Tower, J. and Polman, R. (2018). Development of a scale to measure social capital in recreation and sport clubs. *Leisure Sciences*. Advance online publication. https://www.tandfonline.com/doi/full/10.1080/01490400.2018.1442268

Foster, A. (2004). *Moving On: A Review of the Need for Change in Athletics in the UK*. London: UK Sport/Sport England.

Foster, L., Diamond, I. and Jeffries, J. (2012). *Beginning Statistics: An Introduction for Social Scientists*. London: SAGE.

Foucault, M. (1991). *Discipline and Punish: The Birth of the Prison*. London: Penguin.

Fox, K. (2017). The most popular running routes in the 20 biggest U.S. metro areas. *Runner's World*, 13 February. Available online: https://www.runnersworld.com/general-interest/the-most-popular-running-routes-in-the-20-biggest-us-metro-areas/slide/1 [Accessed: 24.04.2017].

Fox, S. (2012). What's the future for self-tracking? *Pew Research Centre*, 9 March. Available online: https://www.pewinternet.org/2012/03/09/whats-the-future-for-self-tracking-2/ [Accessed: 10.06.2019].

Fraser, S. D. S. and Lock, K. (2011). Cycling for transport and public health: A systematic review of the effect of the environment on cycling. European *Journal of Public Health*, 21(6), pp. 738–743.

Freudendal-Pedersen, M. (2015). Cyclists as part of the city's organism: Structural stories on cycling in Copenhagen. *City & Society*, 27(1), pp. 30-50.

Fry, L. (2014). All triathletes couldn't be crazy – I had to find out. *The Telegraph*, 2 September. Available online: https://www.telegraph.co.uk/sport/othersports/athletics/11070175/All-triathletes-couldnt-be-crazy-I-had-to-find-out.html [Accessed: 10.07.2020].

Fuller, G. (2017). The problem with Strava. *SBS*, 8 Feb. Available online: https://www.sbs.com.au/cyclingcentral/article/2017/02/08/problem-strava [Accessed: 12.08.2018].

Fyfe, N. R. and Milligan, C. (2003). Out of the shadows: Exploring contemporary geographies of voluntarism. *Progress in Human Geography*, 27(4), pp. 397-413.

Gaffney, C. (2014). *Social Sciences in Sports*. Champaign, IL: Human Kinetics.

Galletta, A. (2013). *Mastering the semi-structured interview and beyond: From research design to analysis and publication*. New York, NY: NYU Press.

Garton, S. and Copland, F. (2010). 'I like this interview; I get cakes and cats!': The effect of prior relationships on interview talk. *Qualitative Research*, 10(5), pp. 553-551.

Gellweiler, S., Fletcher, T. and Wise, N. (2017). Exploring experiences and emotions sport event volunteers associate with 'role exit'. *International Review for the Sociology of Sport*, 54(4), pp. 495-511.

Germann Molz, J. (2012). *Travel connections: Tourism, technology and togetherness in a mobile world*. London: Routledge.

Getz, D. and Andersson, T. (2010). The event-tourist career trajectory: A study of high-involvement amateur distance runners. *Scandinavian Journal of Hospitality and Tourism*, 10(4), pp. 469-491.

Gibson, H., Wilming, C. and Holdnak, A. (2002). "We're Gators…not just Gator fans": Serious Leisure and Universithy of Florida Football. *Journal of Leisure Research*, 34(4), pp. 397-425.

Gibson, K. (2016). Mixed-methods research in sport and exercise. In, Smith, B. and Andrew, C. (eds.) *Routledge Handbook of Qualitative Research in Sport and Exercise*. Abingdon: Routledge, pp. 382-396.

Giles, D. (2016). *Jographies: An Empirical Analysis of the Practice of Running in the United Kingdom*. PhD Thesis, Loughborough University.

Giles, S. (2018). Competitive apps are sabotaging your workouts - It's time for compassionate fitness goals. *Quartzy*, 16 April. Available online: https://qz.com/quartzy/1253488/strava-and-nike-run-club-how-competitive-apps-are-sabotaging-your-workout/ [Accessed: 14.08.2019].

Giles-Corti, B. and Donovan, R. J. (2002). The relative influence of individual, social and physical environment determinants of physical activity. *Social Science & Medicine*, 54(12), pp. 1793-1812.

Gillespie, D., Leffler, A. and Lerner, E. (2002). If it weren't for my hobby, I'd have a life: Dog sports, serious leisure, and boundary negotiations. *Leisure Studies*, 21(3/4), pp. 285–304.

Gilmore, J. N. (2016). Everywear: The quantified self and wearable fitness technologies. *New Media and Society*, 18(11), pp. 2524-2539.

Glaser, B. and Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Mill Valley, CA: Sociology Press.

GO TRI. (2018). *What is GO TRI?* Available online: https://www.gotri.org/what-is-go-tri [Accessed: 25.01.2019].

Golbuff, L. and Aldred, R. (2012). *Cycling Policy in the UK: A historical and thematic overview*. London: UEL Sustainable Mobilities Research Group.

Gomez, B. and Jones, J. P. (2010). *Research Methods in Geography*. Chichester: Blackwell.

Gonzalez, Z. (2017). Latest forecasts on wearables. *Wearable Technologies*, 5 April. Available online: https://www.wearable-technologies.com/2017/04/latest-forecasts-on-wearables/ [Accessed: 10.06.2019].

Goode, W. (1957). Community within a community: The professions. *American Sociological Review*, 22(2), pp. 194-200.

Goodsell, T. L., Harris, B. D. and Bailey, B. W. (2013). Family status and motivations to run: A qualitative study of marathon runners. *Leisure Sciences*, 35(4), pp. 337–352.

Gordon, M. (1947). The concept of the sub-culture and its application. *Social Forces*, 26(1), pp. 40-42.

Government Office for Science. (2007). *Tackling Obesities: Future Choices*. Government Office of Science: London.

Graham, D. (2016). British Triathlon launch campaign Your Go Tri. *220 Triathlon*, 4 August. Available online: http://www.220triathlon.com/news/british-triathlon-launch-campaign-your-go-tri/11203.html [Accessed: 12.12.2018].

Graham, D. (2017). Are triathletes mad? *220 Triathlon*, 25 September. Available online: https://www.220triathlon.com/training/are-triathletes-mad/ [Accessed: 10.07.2020].

Graham, S. (1998). The end of geography or the explosion of place? Conceptualizing space, place and information technology. *Progress in Human Geography*, 22(2), pp. 165–185.

Graham, M. (2014). Internet geographies: Data shadows and digital divisions of labour. In, Graham, M. (ed.) *Society and the Internet*, 1st edn. Oxford: Oxford University Press, pp. 99–116.

Graham, M. and Shelton, T. (2013). Geography and the future of big data, big data and the future of geography. *Dialogues in Human Geography*, 3(3), pp. 255–261.

Granskog, J. (1993). In search of the ultimate: Ritual aspects of the Hawaiian Ironman triathlon. *Journal of Ritual Studies*, 7(1), pp. 3-25.

Granskog, J. (2003). Just 'tri' and 'du' it: The impact of variable female involvement in the triathlon/duathlon sport culture. In, Bolin, A. and Granskog, J. (eds.) *Athletic Intruders: Ethnographic Research on Women, Culture and Exercise*. Albany, NY: SUNY Press.

Granskog, J. and Bolin, A. (2003). *Athletic Intruders: Ethnographic Research on Women, Culture, and Exercise*. Albany, NY: SUNY Press.

Green, C. and Jones, I. (2005). Serious leisure, social identity and sport tourism. *Sport in Society*, 8(2), pp. 164-181.

Greenfield, A. (2006). *Everyware: The dawning age of ubiquitous computing*. Berkeley, CA: New Riders.

Gregory, D., Johnston, R., Pratt, G., Watts, M. and Whatmore, S. (2009). *The Dictionary of Human Geography* (5th ed.). Chichester: Wiley-Blackwell.

Grieve, J. and Sherry, E. (2012). Community benefits of major sport facilities: The Darebin International Sports Centre. *Sport Management Review*, 15(2), pp. 218-229.

Guell, C., Panter, J., Jones, N. R. and Ogilvie, D. (2012). Towards a differentiated understanding of active travel behaviour: Using social theory to explore everyday commuting. *Social Science & Medicine*, 75(1), pp. 233-239.

Hall, S. (1995). New cultures for old. In, Massey, D. and Jess, P. (eds.) *A Place in the World?* Oxford: Oxford University Press, pp. 175-214.

Hallman, K. and Fairley, S. (2018). *Sports Volunteers Around the Globe*. Cham, Switzerland: Springer.

Hamari, J. and Koivisto, J. (2015). "Working our for likes": An empirical study on social influence in exercise gamification. *Computers in Human Behaviour*, 50, pp. 333-347.

Hamer, M. and Chida, Y. (2008). Active commuting and cardiovascular risk: A meta-analytic review. *Preventative Medicine*, 46(1), pp. 9-13.

Han, B., Cohen, D. and McKenzie, T. L. (2013). Quantifying the contribution of neighbourhood parks to physical activity. *Preventive Medicine*, 57(5), pp. 483–487.

Hand, M., Shove, E. and Southerton, D. (2007). Home extensions in the United Kingdom: space, time, and practice. *Environment and Planning D: Society and Space*, 25, pp. 668-681.

Hanson, S. and Pratt, G. (2014). Learning about labour: Combining qualitative and quantitative methods. In, Ogborn, M., Blunt, A., Gruffudd, P. and Pinder, D. (eds.). *Cultural Geography in Practice*. Abingdon: Routledge.

Harada, M., Onishi, T., Koijima, Y. and Ishiii, J. (2010). *Motivation and profile of participants in the new endurance sports: The triathlon.* EASM Conference, Prague.

Hargreaves, N. (2012) San Diego – the birthplace of triathlon. *Triathlon.org*. Available online https://www.triathlon.org/news/article/san_diego_-_the_birthplace_of_triathlon [Accessed: 13.12.2018].

Harmon, J. and Scott, D. (2017). The extended leisure experiences of music scene participation. *Leisure/Loisir*, 41(4), pp. 585-605.

Hartel, J. (2010). Time as a framework for information science: Insights from the hobby of gourmet cooking. *Information Research*, 15(4), pp. 1-14.

Harvey, W. S. (2011). Strategies for conducting elite interviews. *Qualitative Research*, 11(4), pp. 431-441.

Haskell, W. L. (1996). Physical activity, sport, and health: Toward the next century. *Research Quarterly for Exercise and Sport*, 67(3), pp. 37-47.

Haworth, J. T. and Veal, A. J. (2004). *Work and Leisure*. Hove: Routledge.

Hay, J. (2003). Unaided virtues: The (neo)liberalization of the domestic sphere and the new architecture of community. In, Bratich, J. Z., Packer, J. and McCarthy, C. (eds.) *Foucault, cultural studies, and governmentality*. Albany: State University of New York Press, pp. 165-206.

Heinen, E., van Wee, B. and Maat, K. (2010). Commuting by bicycle: An overview of the literature. *Transport Reviews*, 30(1), pp. 59–96.

Henderson, J. (1996). *Better Runs: 25 Years' Worth of Lessons for Running Faster and Father*. Champaign, IL: Human Kinetics.

Herman, Z. T. (2015). Serious leisure and leisure motivations among self-identified cyclists. *Journal of Tourism and Hospitality Management*, 3(1), pp. 32-40.

Herzog, H. (2005). On home turf: Interview location and its social meaning. *Qualitative Sociology*, 28(1), pp. 25-47.

Hinch, T. and Kono, S. (2017). Ultramarathon runners' perception of place: a photo-based analysis. *Journal of Sport and Tourism*, pp. 1–22.

Hindley, D. (2018). "More than just a run in the park": An exploration of parkrun as a shared leisure space. *Leisure Sciences*. Advance online publication. https://www.tandfonline.com/doi/full/10.1080/01490400.2017.1410741

Hitchings, R. and Latham, A. (2016). Indoor versus outdoor running: understanding how recreational exercise comes to inhabit environments through practitioner talk. *Transactions of the Institute of British Geographers*, 41(4), pp. 503–514.

Hitchings, R. and Latham, A. (2017). Exercise and environment: New qualitative work to link popular practice and public health. *Health & Place*. Advance online publication. https://www.ncbi.nlm.nih.gov/pubmed/28499470

Hitchings, R. and Latham, A. (2018). On lenses and blind spots in qualitative exercise and environment research: A response to Stephanie Coen. *Health & Place*, 53, pp.1–3.

Hitchings, R. and Latham, A. (2019). Qualitative methods I: On current conventions in interview research. *Progress in Human Geography*. Advance online publication. https://journals.sagepub.com/doi/full/10.1177/0309132519856412.

Hochmair, H. H., Bardin, E. and Ahmouda, A. (2019). Estimating bicycle trip volume for Miami-Dade county from Strava tracking data. *Journal of Transport Geography*, 75, pp. 58-69.

Hodgson, A. and Hitchings, R. (2018). Urban air pollution perception through the experience of social practices: Talking about breathing with recreational runners in London. *Health and Place*, 53, pp. 26–33.

Holton, J. A. (2007). The coding process and its challenges. In, Bryant, A. and Charmaz, K. (eds.) *The Sage Handbook of Grounded Theory*. Thousand Oaks, CA: SAGE, pp. 265-289.

Holton, M. (2019). Walking with technology: Understanding mobility-technology assemblages. *Mobilities*. Advance online publication. https://www.tandfonline.com/doi/abs/10.1080/17450101.2019.1580866

Hopkins, P. E., Olson, E., Smith, M. B. and Laurie, N. (2015). Transitions to religious adulthood: Relational geographies of youth, religion and international volunteering. *Transactions of the Institute of British Geographers*, 40(3), pp. 387-398.

Horton, J. and Kraftl, P. (2013). *Cultural Geographies: An Introduction*. Abingdon: Routledge.

Howe, D. and Morris, C. (2009). An exploration of the co-production of performance running bodies and natures within 'Running Taskscapes'. *Journal of Sport and Social Issues*, 33(3), pp. 308-330.

Hoye, H. and Parent, M. M. (2016). *The SAGE Handbook of Sport Management*. London: SAGE.

Hughes, M. D, (2015). *Re-conceptualizing Recreation-based Social Worlds*. Clemson University. PhD Thesis.

Huston, S., Evenson, K., Bors, P. and Gizlice, Z. (2003). Neighbourhood environment, access to places for activity and leisure time physical activity in a diverse North Carolina population. *American Journal of Public Health*, 18, pp. 58-69.

Ilies, A., Dehoorne, O., Wendt, J. and Kozma, G. (2014). For geography and sport, sport geography or geography of sport. *Geosport for Society*, 1(1/2), pp. 7-18.

Ironman. (2018a). *The Ironman Story*. Available online http://eu.ironman.com/triathlon/history.aspx#axzz5ZH4cnn60 [Accessed: 10.12.2018].

Ironman. (2018b). *Ironman UK: Results*. Available online: http://eu.ironman.com/triathlon/events/emea/ironman/uk/results.aspx#axzz5ZYgYnegm [Accessed: 13.12.2018].

Iveson, K. (2007). *Publics and the City*. Oxford: Blackwell.

Jackson, E. L. (1988). Leisure constraints: A survey of past research. *Leisure Sciences*, 10, pp. 203-215.

Jansen, F. M., Ettema, D. F., Kamphuis, C. B. M., Pierik, F. H. and Dijst, M. J. (2017). How do type and size of natural environments relate to physical activity behavior? *Health and Place*, 46, pp. 73–81.

Jarvie, G. (2003). Communitarianism, sport and social capital: Neighbourly insights into Scottish Sport. *International Review for the Sociology of Sport*, 38(2), pp. 139-153.

Jensen, O. B. (2013). *Staging Mobilities*. Abingdon: Routledge.

Jensen, O. B., Sheller, M. and Wind, S. (2015). Together and apart: Affective ambiences and negotiation in families' everyday life and mobility. *Mobilities*, 10(3), pp. 363–382.

Jensen, S. Q. (2006). Rethinking subcultural capital. *Nordic Journal of Youth Research*, 14(3), pp. 257-276.

Jestico, B., Nelson, T. and Winters, M. (2016). Mapping ridership using crowdsourced cycling data. *Journal of Transport Geography*, 52, pp. 90–97.

Johnson, R. B. and Onwuegbuzie, A. J. (2004). A research paradigm whose time has come. *Educational Researcher,* 33(7), pp. 14-26.

Jones, P. I. (2014). Performing sustainable transport: an artistic RIDE across the city. *Cultural Geographies*, 21(2), pp. 287–292.

Jong, S. T. and Drummond, M. J. N. (2016). Exploring online fitness culture and young females. *Leisure Studies*, 35(6), pp. 758–770.

Jungnickel, K. and Aldred, R. (2014). Cycling's sensory strategies: How cyclists mediate their exposure to the urban environment. *Mobilities*, 9(2), pp. 238–255.

Käch, I. W., Rüst, C. A., Nikolaidis, P. T., Rosemann, T., & Knechtle, B. (2018). The age-related performance decline in Ironman triathlon starts earlier in swimming than in cycling and running. *Journal of Strength and Conditioning Research*, 32(2), pp. 379–395.

Kadushin, C. (1968). Power, influence and social circles. *American Sociological Review*, 33(5), pp. 685-699.

Kamphius, C., van Lenthe, F., Giskes, K. and Huisman, M. (2008). Socioeconomic status, environmental and individual factors, and sports participation. *Medicine & Science in Sports & Exercise*, 40(1), pp. 71-81.

Kane, M. and Zink, R. (2004). Package adventure tours: markers in serious leisure careers. *Leisure Studies*, 23(4), pp. 329–345.

Kaplan, A. M. and Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53, pp. 59-68.

Katz, C. (2008). Social Systems: Thinking about Society, Identity, Power and Resistance. In, Clifford, N., Holloway, S., Rice, S. P. and Valentine, G. (eds.) *Key Concepts in Geography*. London: SAGE.

Kavanagh, E., Jones, I. and Sheppard-Marks, L. (2016). Towards typologies of virtual maltreatment: Sport, digital cultures & dark leisure. *Leisure Studies*, 35(6), pp. 783–796.

Kay, T. (2003). Sport and gender. In, Houlihan, B. (ed.). *Sport and Society: A Student Introduction*. London: SAGE, pp. 89-104.

Kelion, L. (2013). Heads in the cloud: Strava adapts to tackle reckless racing. *BBC News*, 12 March. http://www.bbc.co.uk/news/technology-21716686 [Accessed: 10.08.2017].

Kelley, M. J. (2013). The emergent urban imaginaries to geospatial media. *GeoJournal*, 78(1), pp. 181-203.

Kinsley, S. (2014). The matter of 'virtual' geographies. *Progress in Human Geography*, 38(3), pp. 364-384.

Kinton, C. (2013). *Processes of Destudentification and Studentification in Loughborough*. Loughborough University.

Kitchin, R. and Tate, N. J. (2000). *Conducting Research in Human Geography: Theory, Methodology and Practice*. Abingdon: Prentice Hall.

Klauser, F. R. and Albrechtslund, A. (2014). From self-tracking to smart urban infrastructures: Towards an interdisciplinary research agenda on big data. *Surveillance and Society*, 12(2), pp. 273–286.

Knigge, L. D. (2017). Grounded theory. In, Richardson, D., Castree, N., Goodchild, M. F., Kobayashi, A., Liu, W. and Marston, R. A. (eds.) *The International Encyclopaedia of Geography*. Malden, MA: John Wiley & Sons, pp. 3232-3237.

Koch, N. (2017). *Critical Geographies of Sport: Space, Power and Sport in Global Perspective*. London: Routledge.

Koops, B. and Galič, M. (2017), Conceptualising Space and Place: Lessons from Geography for the Debate on Privacy in Public. In, Timan, T., Newell, B. and Koops, B. (eds.) *Privacy in Public Space: Conceptual and Regulatory Challenges*. Cheltenham: Edward Elgar.

Korpilo, S., Virtanen, T. and Lehvävirta, S. (2017). Smartphone GPS tracking - Inexpensive and efficient data collection on recreational movement. *Landscape and Urban Planning*, 157, pp. 608-617.

Kozinets, R. V. (2015). *Netnography: Redefined* (2nd ed.) London: SAGE.

Krenichyn, K. (2006). "The only place to go and be in the city": Women talk about exercise, being outdoors, and the meanings of a large urban park. *Health and Place*, 12(4), pp. 631–643.

Kunkel, T., Funk, D. and Mueck, F. (2014). Sport fan engagement through gamification in a digital media environment. Paper presented at the XII Sport Marketing Association conference, Philadelphia, PA.

Labaree, R. V. (2009). *Organizing your Social Sciences Research Paper: 6. The Methodology*. Available online: http://libguides.usc.edu/writingguide/methodology [Accessed 11.03.2018].

Laker, L. (2019). If you build them, they will come: Record year for cycle counters. *The Guardian*, 26 April. Available online: https://www.theguardian.com/environment/bike-blog/2019/apr/26/if-you-build-them-they-will-come-record-year-for-cycle-counters [Accessed: 06.02.2020].

Lamont, M. and Kennelly, M. (2011). I can't do everything! Competing priorities as constraints in triathlon event travel careers. *Tourism Review International*, 14(2), pp. 85–97.

Lamont, M. and Kennelly, M. (2012). A qualitative exploration of participant motives among committed amateur triathletes. *Leisure Sciences*, 34, pp. 236–255.

Lamont, M. and Kennelly, M. (2019). Sporting hyperchallenges: Health, social, and fiscal implications. *Sport Management Review*, 22(1), pp. 68–79.

Lamont, M. and Ross, A. S. (2019). Deconstructing embedded meaning within cyclists' Instagram discourse: #fromwhereiride. *Annals of Leisure Research*, 23(3), pp. 229-363.

Lamont, M., Kennelly, M. and Moyle, B. (2014). Costs and perseverance in serious leisure careers. *Leisure Sciences*, 36(2), pp. 144-160.

Lamont, M., Kennelly, M. and Moyle, B. (2017). Perspectives of endurance athletes' spouses: A paradox of serious leisure. *Leisure Sciences*. Advance online publication.

https://www.tandfonline.com/doi/abs/10.1080/01490400.2017.1384943?journalCode=ulsc20

Lamont, M., Kennelly, M. and Wilson, E. (2011). Selfish leisure? Competing priorities and constraints in triathlon event travel careers. *Council for Australian University Tourism and Hospitality Education (CAUTHE) Conference*, Adelaide, Australia.

Lane, P. (2012). A sense of place. *The Economist*, 27 October. Available online: https://www.economist.com/news/special-report/21565007-geography-matters-much-ever-despite-digital-revolution-says-patrick-lane [Accessed: 01.09.2017].

Larsen, J. (2014). Distance and proximity. In, Adey, P., Bissell, D., Hannam, K., Merriman, P. and Sheller, M. (eds.) *The Routledge Handbook of Mobilities*. Abingdon: Routledge, pp. 125-133.

Larsen, J. (2016). Commuting, exercise and sport: an ethnography of long-distance bike commuting. *Social & Cultural Geography*, 19(1), pp. 39-58.

Larsen, J. (2017). The making of a pro-cycling city: Social practices and bicycle mobilities. *Environment and Planning A*, 49(4), pp. 876–892.

Larsen, J. (2018). Commuting, exercise and sport: An ethnography of long distance bike commuting. *Social & Cultural Geography*, 19(1), pp. 39-58.

Latham, A. and Layton, J. (2019). Kinaesthetic cities: Studying the worlds of amateur sports and fitness in contemporary urban environments. *Progress in Human Geography*. Advance online publication. https://journals.sagepub.com/doi/abs/10.1177/0309132519859442

Latham, A. and Wood, P. (2015). Inhabiting infrastructure: Exploring the interactional spaces of urban cycling. *Environment and Planning A: Economy and Space*, 47(2), pp. 300–319.

Laurier, E. (2004). Participant observation. In, Clifford, N., Cope, M., Gillespie, T. and French, S. (eds.) *Key Methods in Geography*, 3rd edn. London: SAGE, pp. 133-148.

Laurier, E. (2016). Participant and non-participant observation. In, Clifford, N., Cope, M., Gillespie, T. and French, S. (eds.). *Key Methods in Geography* (3rd ed.). London: SAGE. pp. 169-182.

Laurier, E., Brown, B. and McGregor, M. (2016). Mediated pedestrian mobility: Walking and the map app. *Mobilities*, 1(1), pp. 1–18.

Law, J. (2008). Actor network theory and material semiotics. In, Turner, B. S. (ed.) *The New Blackwell Companion to Social Theory*. Chichester: Wiley-Blackwell pp. 141-158.

Lee, H. E. and Cho, J. (2017). What motivates users to continue using diet and fitness apps? Application of the uses and gratifications approach. *Health Communication*, 32(12), pp. 1445-1453.

Lee, S. I., Brown, G., King, K. and Shipway, R. (2016). Social identity in serious sport event space. *Event Management*, 20, pp. 491-499.

Leech, B. (2002). Asking questions: Techniques for semi-structured interviews. *Political Science and Politics*, 35(4), pp. 665-668.

Leszczynski, A. (2018) Spatialities. In, Ash, J., Kitchin, R. and Leszczynski, A. (eds) *Digital Geographies*. London: SAGE, pp. 13-23.

Lewin-Epstein, N. and Stier, H. (2006). Family, gender and work: The typology approach. *European Social Survey*. Available online: http://essedunet.nsd.uib.no/cms/topics/family/1/3.html [Accessed 18.02.2019].

Lewis-Beck, M., Bryman, A. E. and Liao, T. F. (2003). *The SAGE Encyclopedia of Social Science Research Methods*. Thousand Oaks, CA: SAGE Publications.

Lindsey, J. (2019). Why Strava is getting more social than ever. *Outside*, 24 June. Available online: https://www.outsideonline.com/2395489/strava-james-quarles [Accessed: 13.08.2019].

Line, E. (2019). *Elliot Line Stats – 27th January 2019*. Available online: http://www.elliottline.com/parkrun/2019/1/27/elliott-line-stats-27th-january-2019 [Accessed: 28.01.2019].

Little, J. (2017). Running, health and the disciplining of women's bodies: The influence of technology and nature. *Health and Place,* 46, pp. 322–27.

Lizzo, R. and Liechty, T. (2020). The Hogwarts Running Club and sense of community: A netnography of a virtual community. *Leisure Sciences*. Advance online publication. https://www.tandfonline.com/doi/full/10.1080/01490400.2020.1755751 [Accessed: 19.07.2020].

Lombard, K. (2015). *Skateboarding, Subcultures, Sites and Shifts*. Abingdon: Routledge.

Longan, M. W. (2015). Cybergeography IRL. *Cultural Geographies*, 22(2), pp. 217-229.

Longhurst, R. (2010). Semi-structured interviews and focus groups. In, Clifford, N., French, S. and Valentine, S. (eds.) *Key Methods in Geography* (2nd ed.). London: SAGE, pp. 103-115.

Lorimer, H. (2012). Surfaces and slopes. *Performance Research*, 17, pp. 37–41.

Lunden, I. (2018). Zwift, which turns indoor cycling workouts into multiplayer games, raises $120m. *Tech Crunch*, 19th December. Available online:

https://techcrunch.com/2018/12/19/zwift-which-turns-indoor-cycling-workouts-into-multiplayer-games-raises-120m/ [Accessed: 09.02.2020].

Lupton, D. (2013). Quantifying the body: monitoring and measuring health in the age of mHealth technologies. *Critical Public Health*, 23(4), pp. 393-403.

Lupton, D. (2014). *Digital Sociology*. Abingdon: Routledge.

Lupton, D. (2015). Data assemblages, sentient schools and digitized health and physical education. *Sport, Education & Society*, 20(1), pp. 122–132.

Lupton, D. (2016). *The Quantified Self*. Cambridge: Polity Press.

Lupton, D. (2017). Self-tracking, health and medicine. *Health Sociology Review*, 26(1), pp. 1-5.

Lynch, P. and Dibben, M. (2015). Exploring motivations for adventure recreation events: a New Zealand study. *Annals of Leisure Research*, 19(1), pp. 80-97.

Lynn-Ee Ho, E. (2017). Identity. In, Castree, N., Goodchild, M. F., Kobayashi, A., Liu, W. and Marston, R. A. (eds.) *International Encyclopedia of Geography*. Malden, MA: John Wiley & Sons, pp. 3519-3524.

MacClancey, J. (1996). *Sport, Identity and Ethnicity*. Oxford: Berg.

Macdonald, L. (2019). Associations between spatial access to physical activity facilities and frequency of physical activity; How do home and workplace neighbourhoods in West Central Scotland compare? *International Journal of Health Geographics*, 18(1), pp. 1–10.

Macmillan, A., Woodward, A., Connor, J., Witten, K., Kearns, R. and Rees, D. (2014). The societal costs and benefits of commuter bicycling: Simulating the effects of specific policies using system dynamics modelling. *Environmental Health Perspectives*, 122(4), pp. 335–344.

Macpherson, H. (2016). Walking methods in landscape research: moving bodies, spaces of disclosure and rapport. *Landscape Research*, 41(4), pp. 425-432.

Maguire, J. S. (2014). *Social Sciences in Sport*. Champaign, IL: Human Kinetics.

Maguire, J. S. (2008). Leisure and the obligation of self-work: An examination of the fitness field. *Leisure Studies*, 27(1), pp. 59-75.

Mahan, J. E., Jae, S. W., Jordan, J. S. and Funk, D. (2015). Exploring the impact of social networking sites on running involvement, running behaviour, and social life satisfaction. *Sport Management Review*, 18, pp. 182-192.

Major, W. F. (2001). The benefits and costs of serious running. *World Leisure Journal*, 43(2), pp.12–25.

Mansfield, R. (2009). *The Surfing Tribe: A History of Surfing in Britain*. Newquay: Orca.

Martinengo, G., Jacob, J. I. and Hill, E. J. (2010). Gender and the work-family interface: Exploring differences across the family life course. *Journal of Family Issues*, 31(10), pp. 1363-1390.

Martinez, C. (2018). *Online Fitness Social Networking Communities*. Senior Honours Project, University of Rhode Island. Available online: https://digitalcommons.uri.edu/cgi/viewcontent.cgi?article=1685&context=srhonorsprog [Accessed: 01.02.2019].

Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*, *11*(3), pp. 1-19.

Massey, D. (2005). *For Space*. London: SAGE.

Matsuo, H., McIntyre, K., Tomazic, T. and Katz, B. (2005). The online survey: Its contributions and potential problems. *Proceedings of the Joint Statistical Meetings of the American Statistical Association*, 1(1), pp. 3998-4000.

Mayhew, S. (2015). Accessibility. In, Mayhew, S. (ed.) *A Dictionary of Geography*. Oxford: Oxford University Press.

McCarville, R. (2007). From a fall in the mall to a run in the sun: One journey to Ironman triathlon. *Leisure Sciences*, 29(2), pp. 159-173.

McCormack, G. R., Rock, M., Toohey, A. M. and Hignell, D. (2010). Characteristics of urban parks associated with park use and physical activity: A review of qualitative research. *Health & Place*, 16(4), pp. 712-726.

McDermott, B. (1979). Ironman. *Sports Illustrated*, 14 May. Available online: https://www.si.com/vault/1979/05/14/823621/ironman-to-earn-that-title-tom-warren-victoriously-swam-24-miles-through-rough-seas-bicycled-112-miles-and-ran-a-marathon-all-in-a-single-day-of-agony [Accessed: 25.01.2019].

McLafferty, S. L. (2016). Conducting questionnaire surveys. In, Clifford, N., Cope, M., Gillespie, T. and French, S. (eds.) *Key Methods in Geography* (3rd ed.). London: SAGE, pp. 129-142.

Mclean, J. and Maalsen, S. (2013). Destroying the joint and dying of shame? A geography of revitalised feminism in social media and beyond. *Geographical Research*, 51(3), pp. 243–256.

Meltzer, B. (2010). Colorado's Magnolia Road Attracts All Levels of Runners. *Runner's World*, 18 March. Available online: https://www.runnersworld.com/advanced/a20802634/colorados-magnolia-road-attracts-all-levels-of-runners/ [Accessed: 17.07.2020].

Middlestadt, S. E., Anderson, A., and Ramos, W. D. (2015). Beliefs about using an outdoor pool: Understanding perceptions of place in the context of a recreational environment to improve health. *Health and Place*, 34, pp. 1–8.

Middleton, J. (2010). Sense and the city: exploring the embodied geographies of urban walking. *Social & Cultural Geography*, 11(6), pp. 575–596.

Miller, A. (2012). Understanding the 'event experience' of active sports tourists: Long distance endurance triathletes. In, Shipway, R. and Fyall, A. (eds.) *International Sport Events: Impacts, Experience and Identities*. Abingdon: Routledge, pp. 99-112.

Millington, B. (2014). Smartphone apps and the mobile privatization of health and fitness. *Critical Studies in Media Communication*, 31(5), pp. 479-493.

Millington, B. (2016). Fit for presumption: interactivity and the second fitness boom. *Media, Culture & Society*, 38(8), pp. 1184-1200.

Millington, B. (2017). *Fitness, Technology and Society: Amusing Ourselves to Life*. Abingdon: Routledge.

Millington, B. (2018). A brief history (and a look into the future) of fitness technology. *The Conversation*, 11 January. Available online: http://theconversation.com/a-brief-history-and-a-look-into-the-future-of-fitness-technology-89884 [Accessed: 19.02.2019].

Mills, S. (2016). Geographies of education, volunteering and the lifecourse: The Woodcraft Folk in Britain (1925–75). *Cultural Geographies*, 23(1): pp. 103-119

Millward, H., Spinney, J. and Scott, D. (2013). Active-transport walking behavior: Destinations, durations, distances. *Journal of Transport Geography*, *28*, pp. 101–110.

Mintel. (2015). London a step ahead of the nation for jogging as one in three run for fitness. *Mintel*, 24 April. Available online: http://www.mintel.com/press-centre/social-and-lifestyle/london-a-step-ahead-of-the-nation-for-jogging-as-one-in-three-run-for-fitness [Accessed: 25.11.2016].

Mitchell, R. (2013). Is physical activity in natural environments better for mental health than physical activity in other environments? *Social Science & Medicine*, 91, pp. 130-134.

Molnár, V. (2014). Reframing public space through digital mobilization: Flash mobs and contemporary urban youth culture. *Space and Culture*, 17(1), pp. 43–58.

Morris, P. and Scott, H. (2018). Not just a run in the park: A qualitative exploration of parkrun and mental health. *Advances in Mental Health*, 17(2), pp. 110-123.

Morse, J. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, pp. 120-123.

Moularde, J. and Weaver, A. (2016). Serious about leisure, serious about destinations: Mountain bikers and destination attractiveness. *Journal of Sport & Tourism*, 20(3–4), pp. 285–303.

MultiSport Research. (2013). TIA research – Interim findings. *MultiSport Research*, March 13, 2013. http://www.multisportresearch.com/blog/tia-research-interim-findings/ [Accessed: 25.07.2017].

MultiSport Research. (2017a). United Kingdom triathlon industry on the up, generating £445M in 2016. *MultiSport Research*, 25 May. Available online: https://www.multisportresearch.com/single-post/2018/01/23/UK-triathlon-industry-on-the-up-generating-%C2%A3445m-in-2016 [Accessed: 06.08.2017].

MultiSport Research. (2017b). Triathlon Industry Association: Fifth annual multisport athlete survey. *MultiSport Research*, 11 January. Available online: https://www.multisportresearch.com/single-post/2018/01/23/Triathlon-Industry-Association-fifth-annual-multisport-athlete-survey [Accessed: 06.08.2017].

MultiSport Research. (2018). Sun shines on dynamic UK triathlon industry. *MultiSport Research*, 27th June 2018. Available online: https://www.multisportresearch.com/single-post/2018/06/27/Sun-shines-on-dynamic-UK-triathlon-industry [Accessed: 04.10.2018].

MultiSport Research. (2019). Increased female participation helps to drive growth for UK triathlon industry. *MultiSport Research*, 11 June. Available online: https://www.multisportresearch.com/single-post/2019/06/11/Increased-female-participation-helps-to-drive-growth-for-UK-triathlon-industry [Accessed: 20.06.2019]

Mulvaney, C. A., Smith, S., Watson, M. C., Parkin, J., Coupland, C., Miller, P., Kendrick, D. and McClintock, H. (2015). *Cycling infrastructure for reducing cycling injuries in cyclists. Cochrane Database of Systematic Reviews*, 12, pp. 1-117.

Murchinson, J. M. (2010). *Ethnography Essentials: Designing, Conducting, and Presenting your Research*. San Francisco, CA: John Wiley & Sons.

Myburgh, E., Kruger, M. and Saayman, M. (2014). A motivation-based typology of triathletes. *South African Journal for Research in Sport, Physical Education and Recreation*, 36(3), pp. 117–134.

Nettleton, S. and Green, J. (2014). Thinking about changing mobility practices: how a social practice approach can help. *Sociology of Health & Illness*, 36(2), pp. 239-251.

Nettleton, S. and Hardey, M. (2006). Running away with health: The urban marathon and the construction of “charitable bodies”. *Health*, 10(4), pp. 441–460.

Nichols, G. and Ojala, E. (2009). Understanding the management of sports events volunteers through psychological contract theory. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 20(4), pp. 369-387.

Nichols, G., Knight, C., Mirfin-Boukouris, H., Uri, C., Hogg, E. and Storr, R. (2016). *Motivations of Sport Volunteers in England: A Review for Sport England*. London: Sport England.

Nicholson, M. and Hoye, R. (2008) *Sport and Social Capital*. Oxford: Butterworth-Heinemann.

Niedzviecki, H. (2004). *Hello, I'm Special*. New York, NY: Penguin.

Nightingale, A. (2003). A feminist in the forest: Situated knowledges and mixing methods in natural resource management. *Acme: An International E-Journal for Critical Geographies*, 2(1), pp. 77-90.

Nikel, D. (2019). Why Copenhagen is Europe's most livable city yet again. *Forbes*, 18 Feb. Available online: https://www.forbes.com/sites/davidnikel/2019/02/18/why-copenhagen-is-europes-most-livable-city/#256f9f0e51ea [Accessed: 24.07.2019].

O'Connor, J. P. and Brown, T. D. (2010). Riding with the sharks: Serious leisure cyclist's perceptions of sharing the road with motorists. *Journal of Science and Medicine in Sport*, 13(1), pp. 53-58.

O'Connor, J. P. and Brown, T. D. (2007). Real cyclists don't race: Informal affiliations of the weekend warrior. *International Review for the Sociology of Sport*, 42(1), pp. 83–97.

O'Donovan, G., Blazevich, A. J., Boreham, C., Cooper, A. R., Crank, H., Ekelund, U. *et al.* (2010). The ABC of physical activity for health: A consensus statement from the British Association of Sport and Exercise Sciences. *Journal of Sport Science*, 28, pp. 573-591.

Ogles, B. M. and Masters, K. S. (2003). A typology of marathon runners based on cluster analysis of motivations. *Journal of Sport Behavior*, 26(1), pp. 69–85.

Office of Communication. (2017). *Adults' Media Use and Attitudes*. London: Ofcom.

Office for National Statistics. (2011). *2011 Census: Method of Travel to Work*. London: Office for National Statistics.

Office for National Statistics. (2015). *Rural Population 2014/15*. Available online: https://www.gov.uk/government/publications/rural-population-and-migration/rural-population-201415 [Accessed: 24.01.2019].

Office for National Statistics. (2017). *Rural Population and Migration*. Available online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachm

ent_data/file/782163/Rural_population_and_migration_February_2019.pdf [Accessed: 18.02.2019].

Office for National Statistics. (2018a). *Internet access – households and individuals*. Available online: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/datasets/internetaccesshouseholdsandindividualsreferencetables [Accessed: 15.07.2019].

Office for National Statistics. (2018b). *Employee earnings in the UK: 2018*. Available online: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2018 [Accessed: 24.01.2019].

Oksanen, J., Bergman, C., Sainio, J. and Westerholm, J. (2015). Methods for deriving and calibrating privacy-preserving heat maps from mobile sports tracking application data. *Journal of Transport Geography*, 48, pp. 135-144.

Oldstad, D., Kirkpatrick, S. I. (2021). Planting seeds of change: reconceptualizing what people eat as eating practices and patterns. *International Journal of Behavioural Nutrition and Physical Activity*. Advance online publication. https://ijbnpa.biomedcentral.com/track/pdf/10.1186/s12966-021-01102-1.pdf [Accessed 23.03.2021].

Oxford Dictionary. (2015). *Oxford Dictionary of English: Practice*. Oxford: Oxford Unviersity Press.

Palmer, C. (2016). Research on the run: moving methods and the charity 'thon'. *Qualitative Research in Sport, Exercise and Health*, 8(3), pp. 225-236.

Panter, J., Jones, A., and Hillsdon, M. (2008). Equity of access to physical activity facilities in an English city. *Preventive Medicine*, 46(4), pp. 303–307.

Pantzar, M. and Ruckenstein, M. (2014). The heart of everyday analytics: emotional, material and practical extensions in self-tracking market. *Consumption Markets & Culture*, 18(1), pp. 92-109.

Paresh, D. (2016). Fitness app Strava faces an uproar over an elite cycling user linked to doping. *Los Angeles Times*, 18 April. Available online: https://www.latimes.com/business/la-fi-tn-strava-dopers-20160415-story.html [Accessed: 10.02.2018].

Parks, V. (2004). Access to work: The effects of spatial and social accessibility on unemployment for native-born black and immigrant women in Los Angeles. *Economic Geography*, 80(2), pp. 141-172.

Parnell, D., Millward, P. and Spracklen, K. (2015). Sport and austerity in the UK: an insight into Liverpool 2014. *Journal of Policy Research in Tourism, Leisure and Events*, 7(2), pp. 200-203.

Patterson, I., Getz, D. and Gubb, K. (2016). The social world and event travel career of the serious yoga devotee. *Leisure Studies*, 35(3), pp. 296-313.

Pedersen, P. V. and Tjørnhøj-Thomsen, T. (2017). Bodywork and bodily capital among youth using fitness gyms. *Journal of Youth Studies*, 20(4), pp. 430–445.

Pennycook, G. and Rand, D. (2019). Fighting misinformation of social media using crowdsourced judgements of news source quality. *Proceedings of the National Academy of Sciences*, 116(7), pp. 2521-2526.

Pfister, G. (2016). Gender, gender equality and women's sport. In, de D'Amico, R. L., Benn, T. and Pfister, G. (eds.) *Women and Sport in Latin America*. Abingdon: Routledge, pp. 32-55.

Piatkowski, D. and Marshall, W. E. (2015). Not all prospective bicyclists are created equal: The role of attitudes, socio-demographics, and the built environment in bicycle commuting. *Travel Behaviour and Society*, 2(3), pp. 166-173.

Pickerill, J. (2010). Difference, Geographies of. In, Warf, B. (ed.) *Encyclopedia of Geography*. Thousand Oaks, CA: SAGE.

Pidd, H. (2013). Strava – The app that turns cyclists into racers, *The Guardian*, 31 July. Available online: https://www.theguardian.com/lifeandstyle/shortcuts/2013/jul/31/strava-app-cyclists-racers-smartphone [Accessed: 11.02.2018].

Pidd, H. (2019). Painted bike lanes are waste of money, say cycling commissioners. *The Guardian*, 17 June. Available online: https://www.theguardian.com/politics/2019/jun/17/painted-bike-lanes-waste-money-cycling-commissioners [Access: 24.07.2019].

Pink, S. and Fors, V. (2017). Being in a mediated world: self-tracking and the mind–body–environment. *Cultural Geographies*, pp. 1–14.

Piwek, L., Joinson, A. and Morvan, J. (2015). The use of self-monitoring solutions amongst cyclists: An online survey and empirical study. *Transportation Research Part A: Policy and Practice*, 77, pp. 126–136.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24, pp. 1-24.

Poulson, S. C. (2016). *Why Would Anyone Do That?: Lifestyle Sport in the Twenty-First Century*. New Brunswick, NJ: Rutgers University Press.

Powell, M. (1995). On the outside looking in: Medical geography, medical geographers and access to health care. *Health & Place*, 1(1), pp. 41-50.

Probst, B. (2015). The eye regards itself: Benefits and challenges of reflexivity in qualitative social work research. *Social Work Research*, 39(1), pp. 37-48.

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), pp. 65-78.

Public Health England. (2018). *Physical Activity: Applying All Our Health*. London: Public Health England.

Qiu, Y., Tian, H., Lin, Y. and Zhou, W. (2019). Serious leisure qualities and participation behaviors of Chinese marathon runners. *International Review for the Sociology of Sport*. Online advance publication, pp.1–18. Available online: https://journals.sagepub.com/doi/10.1177/1012690218822303

Qviström, M. (2017). Competing geographies of recreational running: The case of the "jogging wave" in Sweden in the late 1970s. *Health & Place*, 46, pp. 351-357.

Qviström, M., Fridell, L. and Kärrholm, M. (2020). Differentiating the time-geography of recreational running. *Mobilities*, 15(4), pp. 575-587.

Reynolds, H. (2018). Are you a Strava addict? *Cycling Weekly*, 13 February. Available online: https://www.cyclingweekly.com/fitness/are-you-a-strava-addict-347746 [Accessed: 14.08.2019].

Rhodes, D. (2016). Swimming participation in England falls by nearly 24%. *BBC news*, 26 November. Available online: https://www.bbc.co.uk/news/uk-england-38128659 [Accessed: 12.02.2019].

Rich, E. and Miah, A. (2017). Mobile, wearable and ingestible health technologies: towards a critical research agenda. *Health Sociology Review*, 26(1), pp. 84-97.

Rickly, J. M. (2016). Lifestyle mobilities: A politics of lifestyle rock climbing. *Mobilities*, 11(2), pp. 243–263.

Rind, E. and Jones, A. (2011). The geography of recreational physical activity in England. *Health and Place*, 17(1), pp. 157-165.

Robinson, R., Patterson, I. and Axelsen, M. (2014). The "loneliness of the long-distance runner" no more: Marathons and social worlds. *Journal of Leisure Research*, 46(4), pp. 375-394.

Roethenbaugh, G. (2015). The state of triathlon in Europe, UK and the World. *Triathlon Business International Conference*, Roth: Germany. Available online: http://www.triathlonbusinessintl.com/assets/files/PanelState%20of%20Triathlon%20in%20Europe%20UK%20and%20the%20World.pdf [Accessed: 23.01.2018].

Roethenbaugh, G. (2019). Increased female participation helps to drive growth for UK triathlon industry. *Endurance Business*, 11 June. Available online: https://endurancebusiness.com/2019/industry-news/increased-female-participation-helps-to-drive-growth-for-uk-triathlon-industry/ [Accessed: 17.05.2020].

Rooney, J. and Pillsbury, R. (1992). *Atlas of American Sport*. New York, NY: McMillan.

Ronkainen, N. J., Harrison, M. and Ryba, T. V. (2014). Running, being and Beijing - an existential analysis. *Qualitative Research in Psychology*, 11(2), pp. 189-210.

Ronkainen, N. J., Shuman, A., Ding, T., You, S. and Xu, L. (2017). 'Running Fever': understanding runner identities in Shanghai through turning point narratives. *Leisure Studies*, 37(2), pp. 211-222.

Rose, G. (2016). Cultural geography going viral. *Social & Cultural Geography*, 17(6), pp. 763–767.

Rubin, H. J. and Rubin, I. S. (1995). *Qualitative Interviewing: The Art of Hearing Data*. London: SAGE.

Ryan, R., Frederick, C., Lepes, D., Rubio, N. and Sheldon, K. (1997). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology*, 28, pp. 335–354.

Sabiston, C. M., Pila, E., Vani, M. and Thorersen-Ntoumanu, C. (2019). Body image, physical activity, and sport: A scoping review. *Psychology of Sport and Exercise*, 42, pp. 48-57.

Saelens, B. E. and Handy, S. L. (2008). Built Environment Correlates of Walking: A Review. *Medicine and Science in Sports and Exercise*, 40(7), pp. 550–566.

Sallis, J. F., Floyd, M. F., Rodriguez, D. A. and Saelens, B. E. (2012). Role of built environments in physical activity, obesity, and cardiovascular disease. *Circulation*, 125, pp. 729-737.

Sallis, J. F., Hovell, M. F., Hofstetter, C.R., Elder, J. P., Hackley, M., Caspersen, C. J. and Powell, K. E. (1990). Distance between homes and exercise facilities related to frequency of exercise among San Diego residents. *Public Health Reports*, 105(2), pp. 179-185.

Sallis, J. F., Johnson, M. F., Calfas, K. J., Caparosa, S. and Nichols, J. F. (1997). Assessing perceived physical environmental variables that may influence physical activity. *Research Quarterly for Exercise and Sport*, 68, pp. 345-351.

Saunders, B., Kitzinger, J. and Kitzinger, C. (2015). Anonymising interview data: challenges and compromise in practice. *Qualitative Research*, 15(5), pp. 616-632.

Sabille, S. J. (2008). Playing with fear: parkour and the mobility of emotion. *Social & Cultural Geography*, 9(8), pp. 891-914.

Scheerder, J., Breedveld, K. and Borgers, J. (2015). *Running Across Europe: The Rise and Size of One of the Largest Sport Markets.* Basingstoke: Palgrave Macmillan.

Schlange, E. (2020). New 'peak Zwift' achieved: 14,812. *Zwift Insider*, Jan 7th. Available online: https://zwiftinsider.com/peak-zwift-2020/ [Accessed: 09.02.2020].

Scott, D. (1991). The problematic nature of participation in contract bridge: A qualitative study of group-related constraints. *Leisure Sciences*, 13(4), pp. 321-336.

Seaton, M. (2010). Why coffee, cake and cycling make natural partners. *The Guardian*, 26 May. Available online: https://www.theguardian.com/environment/green-living-blog/2010/may/26/cyclists-coffe-shops [Accessed: 15.08.2019].

Secor. A. J. (2010). Social surveys, interviews, and focus groups. In, Gomez, B. and Jones, J. P. (eds.) *Research Methods in Geography*. Chichester: John Wiley & Sons, pp. 194-205.

Seo, Y. (2016). Professionalized consumption and identity transformations in the field of eSports. *Journal of Business Research*, 69(1), pp. 264-272.

Shaban, H. (2019). Twitter reveals its daily active user numbers for the first time. *The Washington Post,* 7 February. Available online: https://www.washingtonpost.com/technology/2019/02/07/twitter-reveals-its-daily-active-user-numbers-first-time/?utm_term=.7685a97bb398 [Accessed: 30.07.2019].

Shapton, L. (2012). *Swimming Studies*. London: Penguin.

Sharman, M. J., Nash, M. and Cleland, V. (2018). Health and broader community benefit of parkrun – An exploratory qualitative study. *Health Promotion Journal of Australia*, 30(2), pp. 163-171.

Shei, R. (2018). Competitive influences of running applications on training habits. *The Physician and Sports Medicine,* 46(4), pp. 414–415.

Shove, E., Pantzar, M. and Watson, M. (2012). *The Dynamics of Social Practice: Everyday Life and how it Changes*. London: SAGE.

Shubutani, T. (1961). Reference groups as perspectives. *American Journal of Sociology*, 60, pp. 562-568.

Shipway, R. and Holloway, I. (2010). Running free: Embracing a healthy lifestyle through distance running. *Perspectives in Public Health*, 130, pp. 270-276.

Shipway, R. and Jones, I. (2008). The great suburban Everest: An 'insiders' perspective on experiences at the 2007 Flora London Marathon. *Journal of Sport & Tourism*, 13(1), pp. 61-77.

Shipway, R. M. (2010). *On the Run: Perspectives on Long Distance Running.* BSc dissertation, Bournemouth University.

Shipway, R., Holloway, I. and Jones, I. (2012). Organisations, practices, actors, and events: Exploring inside the distance running social world. *International Review for the Sociology of Sport*, 48(3), pp. 259-276.

Shipway, R., King, K., Lee, I. S. and Brown, G. (2016). Understanding cycle tourism experiences at the Tour Down Under. *Journal of Sport & Tourism*, 20(1), pp. 21-39.

Siegenthaler, K. L., & O'Dell, I. (2003). Older Golfers: Serious Leisure and Successful Aging. *World Leisure Journal*, 45(1), pp. 45–52.

Silk, M., Millington, B., Rich, E. and Bush, A. (2016). (Re-)thinking digital leisure. *Leisure Studies*, 35(6), pp. 712-723.

Šilerytė, R. (2015). *Analysis of urban space networks for recreational purposes based n mobile sports tracking application data*. PhD Thesis, Delft University of Technology.

Simmons, J. M., Mahoney, T. and Hambrick, M. (2016). Leisure, work, and family: How IronMEN balance the demands of three resource-intensive roles. *Leisure Sciences,* 38(3), pp. 232–248.

Simpson, P. (2017). A sense of the cycling environment: Felt experiences of infrastructure and atmospheres. *Environment and Planning A: Economy and Space*, 49(2), pp. 426–447.

Simpson, P. (2018). Elemental mobilities: atmospheres, matter and cycling amid the weather-world. *Social and Cultural Geography*, 20(8), pp. 1–20.

Sirna, K. M. (2016). Road cycling over forty: Fitness, friends, and fondos. *Sociology of Sport Journal*, *33*, pp. 230–239.

Smith, F. M., Timbrell, H., Woolvin, M., Muirhead, S. and Fyfe, N. (2010). Enlivened geographies of volunteering: Situated, embodied and emotional practices of voluntary action. *Scottish Geographical Journal*, 126(4), pp. 258-274.

Smith, S. L. (1998). Athletes, runners, and joggers: Participant-group dynamics in a sport of "individuals". *Sociology of Sport Journal*, 15, pp.174–192.

Smith, W. (2014). *Mobile Interactive Fitness Technologies and the Recreational Experience of Bicycling: A Phenomenological Exploration of the Strava Community*. Masters Thesis, Clemson University.

Sparkes, A. (1998). Athletic identity: An Achilles' heel to the survival of self. *Qualitative Health Research*, 8(5), pp. 644–664

Sparkes, M. (2015). Cycling apps put you at risk from hi-tech burglars. *The Telegraph*, 27 January. Available Online: http://www.telegraph.co.uk/technology/news/11372189/Cycling-apps-put-you-at-risk-from-hi-tech-burglars.html [Accessed: 10.08.2017].

Sparkes, A. C. and Smith, B. (2014). *Qualitative Research Methods in Sport, Exercise and Health: From Process to Product*. New York, NY: Routledge.

Spiers, A., Harris, S., Charlton, A. and Smale, P. (2015). England: The governance and history or running, the decision to run and trends in running participation. In, Scheerder, J., Breedveld, K. and Borgers, J. (eds.) *Running Across Europe: The Rise and Size of One of the Largest Sport Markets. Basingstoke*: Palgrave Macmillan, pp. 81-104.

Spinney, J. (2006). A place of sense: A kinaesthetic ethnography of cyclists on Mont Ventoux. *Environment and Planning D: Society and Space*, 24(5), pp. 709–732.

Spinney, J. (2009). Cycling the city: Movement, meaning and method. *Geography Compass*, 3(2), pp. 817–835.

Spinney, J. (2016). Fixing mobility in the neoliberal city: Cycling policy and practice in London as a mode of political–economic and biopolitical governance. *Annals of the American Association of Geographers*, 106(2), pp. 450–458.

Sport and Recreation Alliance. (2013). *Sports Club Survey Report 2013*. London: Sport and Recreation Alliance.

Sport and Recreation Alliance. (2018). *Sports Club Survey Report 2017/18*. London: Sport and Recreation Alliance.

Sport England. (2012). *Active People Survey 6*. Available online: http://archive.sportengland.org/research/active_people_survey/active_people_survey_6/detailed_sport_results_aps6.aspx [Accessed: 15.03.2016]

Sport England. (2015). *Getting Active Outdoors*. London: Sport England.

Sport England. (2015b). Club marketing: Facebook. *Club Matters*, 11 April. Available online: https://www.sportenglandclubmatters.com/home/club-promotion/social-media/facebook/ [Accessed: 19.01.2018].

Sport England. (2016a). *Towards an Active Nation*. London: Sport England.

Sport England. (2016b). *Volunteering in an Active Nation: Strategy 2017-2021*. London: Sport England.

Sport England. (2017). *Active Lives Survey 2015-16: Year 1 Report*. London: Sport England.

Sport England. (2018). *Active Lives Survey 2.* London: Sport England.

Sport England. (2019). *Active Lives Adult Survey: November 17/18 Report*. London: Sport England.

Sport England. (2020). *Club People: Understanding Your Members*. London: Sport England.

Spracklen, K. (2015). *Digital Leisure, the Internet and Popular Culture: Communities and Identities in a Digital Age*. Basingstoke: Springer.

Stalsberg, R. and Pedersen, A. V. (2018). Are differences in physical activity across socioeconomic groups associated with choice of physical activity variables to report? *International Journal of Environmental Research and Public Health*, 15(5), p. 922.

Stamatakis, E. and Choudhurry, M. (2008). Temporal trends in adults' sports participation patterns in England between 1997 and 2006: The health survey for England*. British Journal of Sports Medicine*, 42, pp. 901-908.

Statista. (2015). Share of individuals who used health and wellbeing mobile apps in the United Kingdom (UK) in 2015, by age group. *Statista*, 18 September. Available online: https://www.statista.com/statistics/472883/health-and-wellbeing-mobile-apps-usage-in-the-united-kingdom-uk-by-age-group/ [Accessed 11.09.2019].

Statista. (2018a). *Share of people who volunteered to support sport and physical activity in England from in 2018, by gender*. London: Sport England.

Statista. (2018b). Mobile phone usage in the United Kingdom (UK) 2005-2017. *Statista*, 24 Jul. Available online: https://www.statista.com/statistics/300378/mobile-phone-usage-in-the-uk/ [Accessed: 11.09.2019].

Stebbins, R. A. (1992). *Amateurs, Professionals, and Serious Leisure*. Montreal: McGill-Queen's University Press.

Stebbins, R. A. (1996). Volunteering: A serious leisure perspective. *Nonprofit and Voluntary Sector Quarterly*, 25(2), pp. 212–224.

Stebbins, R. A. (1999). Serious leisure. In, Jackson, E. L. and Burton, T. L. (eds.) *Leisure Studies: Prospects for the Twenty-First Century*. State College, PA: Venture Publishing.

Stebbins, R. A. (2001). Volunteering - mainstream and marginal: Preserving the leisure experience. In, Graham, M. and Foley, M. (eds.) *Leisure: Marginal or Inclusive?* Eastbourne: Leisure Studies Association, pp. 1-10.

Stebbins, R. A. (2013). Unpaid work of love: Defining the work-leisure axis of volunteering. *Leisure Studies*, 32(3), pp. 339-345.

Stebbins, R. A. (2018). *Social Worlds and the Leisure Experience*. Bingley: Emerald Publishing.

Stefanidis, A., Crooks, A. and Radzikowski, J. (2013). Harvesting ambient geospatial information from social media feeds. *GeoJournal*, 78(2), pp. 319–338.

Stevinson, C., Wiltshire, G. and Hickson, M. (2015). Facilitating participation in health-enhancing physical activity: A qualitative study of parkrun. *International Journal of Behavioural Medicine*, 22, pp. 170-177.

Stone, E. and Priestley, M. (1996). Parasites, pawns and partners: disability research and the role of non-disabled researchers. *British Journal of Sociology*, 47(4), pp. 699-716.

Stragier, J., Mechant, P. and De Marez, L. (2013). Studying physical activity using social media: An analysis of the added value of RunKeeper tweets. *International Journal of Interactive Communication Systems and Technologies*, 3(2), pp. 16-28.

Stragier, J., & Mechant, P. (2015). *Understanding physical activity sharing in online fitness communities: a data driven approach*. ISBNPA Conference, Edinburgh.

Stragier, J., Abeele, M. V., Mechant, P. and De Marez, L. (2016). Understanding persistence in the use of Online Fitness Communities: Comparing novice and experienced users. *Computers in Human Behaviour*, 64(11), pp. 34-42.

Stragier, J., Mechant, P., Marez, L. De. and Cardon, G. (2018). Computer-mediated social support for physical activity: A content analysis. *Health Education & Behaviour*, 45(1), pp. 124–131.

Stratford, E. (2016). Mobilizing a spatial politics of street skating: Thinking about the geographies of generosity. *Annals of the American Association of Geographers*, 106(2), pp. 350–357.

Strauss, A. L. (1978). A social world perspective. *Studies in Symbolic Interaction*, 1, pp. 119–128.

Strauss, A. L. and Corbin, J. M. (1998). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (2nd ed.). Thousand Oaks, CA: SAGE.

Strava. (2016). *Insights 2016: United Kingdom*. Los Angeles, CA: Strava.

Strava. (2017). *Strava Metro: Data-Driven Bicycle and Pedestrian Planning*. Available online: http://cdn2.hubspot.net/hubfs/1979139/Strava_Metro___Data-Driven_Planning.pdf [Accessed: 04.11.2016].

Strava. (2018). Strava upload rate surges 5x, total uploads surpass 2 billion. *Strava*, 5 December. Available online: https://blog.strava.com/press/strava-upload-rate-surges-5x-total-uploads-surpass-2-billion/ [Accessed: 07.12.2018].

Strava. (2019a). Segment search. *Strava*. Available online: https://www.strava.com/segments/6695759 [Accessed: 13.08.2019].

Strava. (2019b). Segment search. *Strava*. Available online: https://www.strava.com/segments/1852291 [Accessed: 13.08.2019].

Stefanidis, A., Cotnoir, A., Croitoru, A., Crooks, A., Rice, M. and Radzikowski, J. (2013). Demarcating new boundaries: Mapping virtual polycentric communities through social media content. *Cartography and Geographic Information Science*, 40(2), pp. 116-129.

Sui, D. and Goodchild, M. (2011). The convergence of GIS and social media: Challenges for GIScience. *International Journal of Geographical Information Science*, 25(11), pp. 1737–1748.

Sutko, D. M. and De Souza e Silva, A. (2010). Location-aware mobile media and urban sociability. *New Media & Society*, 13, pp. 807-823.

Tata Consultancy Services. (2016). *TCS Digital Fitness Survey*. London: TCS.

Teddlie, C. and Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1(1), pp. 77-100.

Terry, K. (2015). Number of health apps soars but use does not always follow. *Medscape*, 18 September. Available online: http://www.medscape.com/viewarticle/851226 [Accessed: 27.07.2017].

The Leisure Database Company. (2019). *2019 State of the UK Swimming Industry Report*. London: The Leisure Database Company.

Thompson Coon, J., Boddy, K., Stein, K., Whear, R., Barton, J., and Depledge, M. H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. *Environmental Science and Technology*, 45(5), pp. 1761–1772.

Thompson, C. W. (2013). Activity, exercise and the planning and design of outdoor spaces. *Journal of Environmental Psychology*, 34, pp. 79-96.

Thomson, H., Kearns, A., Petticrew, M. (2003). Assessing the health impact of local amenities: A qualitative study of contrasting experiences of local swimming pool and leisure provision in two areas of Glasgow. *Evidence Based Public Health Policy and Practice*, 57, pp. 663-667.

Thornton, S. (1995). *Club Cultures: Music, Media and Subcultural Capital*. Cambridge: Polity.

Thorpe, H. (2017). Action sports, social media, and new technologies: Towards a research agenda. *Communication & Sport*, 5(5), pp. 554-578.

Thrift, N. and French, S. (2002). The automatic production of space. *Transactions of the Institute of British Geographers*, 27, pp. 309-335.

Throsby, K. (2016). *Immersion: Marathon Swimming, Embodiment and Identity*. Manchester University: Manchester.

Thurnell-Read, T. (2016). 'Real ale' enthusiasts, serious leisure and the costs of getting 'too serious' about beer. *Leisure Sciences*, 38(1), pp. 68-84.

Tironi, M., and Valderrama, M. (2018). Unpacking a citizen self-tracking device: Smartness and idiocy in the accumulation of cycling mobility data. *Environment and Planning D: Society and Space*, 36(2), pp. 294-312.

Tomlinson, R. (1986). A geography of flat-racing in Great Britain. *Geography*, 71(3), pp. 228-239.

Toner, J. (2018). Exploring the dark-side of fitness trackers: Normalization, objectification and the anaesthetisation of human experience. *Performance Enhancement and Health*, 6(2), pp. 75-81.

Triathlon Australia. (2017). *Triathlon Australia: Annual Report 2016-2017*. Alexandria, AUS: Triathlon Australia.

Triathlon Industry Association. (2013). UK triathlon spend soars to £192 million. *Triathlon Industry Association*, 18 September. Available online: http://www.triathlonindustryassociation.org/wp-content/uploads/2013/05/UK-Triathlon-Spend-Soars-to-%C2%A3192-million.pdf [Accessed: 01.12.2018].

Triathlon Industry Association. (2016). UK triathlon industry growth continues alongside need to entice Millenials. *Triathlon Industry Association*, 28 June. Available online: http://www.triathlonindustryassociation.org/uk-triathlon-industry-growth-continues-alongside-need-to-entice-millennials/ [Accessed: 29.11.2017].

Triathlon Industry Association. (2017). *Triathlon Industry Association Annual Report – 2017*. Addlestone: Triathlon Industry Association.

Triradar (2016). UK Triathlon industry growth continues alongside need to entice millennials. *Triradar*, 3 July. Available online: https://www.triradar.com/triathlon-features/triathlon-industry-growth/ [Accessed: 08.05.2018].

Triradar. (2018a). Sun shines on dynamic UK triathlon industry. *Triradar*, 27 June. Available online: https://www.triradar.com/news/uk-triathlon-industry-2/ [Accessed: 28.06.2018].

Triradar. (2018b). More females involved with triathlon than ever before. *Triradar*, 29 October. Available online: https://www.triradar.com/news/females-triathlon/ [Accessed 25.01.2019].

Tu, R., Hsieh, P. and Feng, W. (2018). Walking for fun or for “likes”? The impacts of different gamification orientations of fitness apps on consumers’ physical activities. *Sport Management Review*. Advance online publication. https://www.sciencedirect.com/science/article/abs/pii/S1441352318302225

Tuan, Y. (1974). *Topophilia: A study of Environmental Perception, Attitudes, and Values*. Englewood Cliffs, NJ: Prentice-Hall.

Tuan, Y. (1976). Humanistic geography. *Annals of the Association of American Geographers*, 66(2), pp. 266-276.

Tucker, I. (2017). Nike, Strava and Instagram: 10 of the best apps for runners. *The Guardian*, 13 August. Available online: https://www.theguardian.com/lifeandstyle/2017/aug/13/10-best-apps-for-runners-fitness [Accessed: 25.07.2020].

Tulle, E., Bowness, J. and McKendrick, J. H. (2018). Strava-using parkrunners: a community study. *Glasgow Caledonian University Research Briefing*. Glasgow: Glasgow Caledonian University.

Tyrrell, N. (2016). Making use of secondary data. In, Clifford, N., Cope, M., Gillespie, T. and French, S. (eds.) *Key Methods in Geography* (3rd ed.). London: SAGE, pp. 519-536.

Unruh, D. R. (1979). Characteristics and types of participation in social worlds. *Symbolic Interaction*, 2(2), pp. 115-129.

Unruh, D. R. (1980). The nature of social worlds. *The Pacific Sociological Review*, 23(3), pp. 271-296.

USA Triathlon. (2016). 2015 USA Triathlon membership report. *USA Triathlon*. https://www.teamusa.org/USA-Triathlon/About/Multisport/Demographics [Accessed: 27.07.2017].

Valentine, G. (2005). Tell me about...using interviews as a research methodology. In R. Flowerdew and D. Martin (eds.) *Methods in Human Geography: A Guide for Students doing a Research Project*. Pearson Education Limited: Essex, pp. 110-126.

Valentine, G. (2007). Theorizing and researching intersectionality: A challenge for feminist geography. *The Professional Geographer*, 59(1), pp. 10-21.

Valentine, G. (2013). Tell me about …: using interviews as a research methodology. In, Flowerdew, R. and Martin, D. M. (eds.) *Methods in Human Geography: A Guide for Students Doing a Research Project*. Abingdon: Routledge, pp. 110-127.

Van Bottenburg, M., Scheerder, J. and Hover, P. (2010). Don't miss the next boat: Europe's opportunities and challenges in the second wave of running. *New Studies in Athletics*, 25(3), pp. 125-143.

Van Duppen, J. and Spierings, B. (2013). Retracing trajectories: The embodied experience of cycling, urban sensescapes and the commute between "neighbourhood" and "city" in Utrecht, NL. *Journal of Transport Geography*, 30, pp. 234–243.

Van Leeuwen, T. A. P. (1999). *The Springboard in the Pond: An Intimate History of the Swimming Pool*. Cambridge, MA: MIT Press.

Van Selm, M. and Jankowski, N. W. (2006). Conducting online surveys. *Quality & Quantity*, 40, pp. 435-456.

Velominati. (2013). *The Rules: The Way of the Cycling Disciple*. London: Sceptre.

Vicente, P. and Reis, E. (2010) Using questionnaire design to fight nonresponse bias in web surveys. *Social Science Computer Review*, 28(2), pp. 251-267.

Vickey, T., Breslin, J. and Williams, A. (2012). Fitness – There's an app for that: Review of mobile fitness apps. *International Journal of Sport & Society*, 3(4), pp. 109-127.

Vleck, V., Millet, G. P. and Alves, F. B. (2014). The impact of triathlon training and racing on Athletes' General Health. *Sports Medicine*, 44(12), pp. 1659–1692.

Vuchic, V. (1999). *Transportation for Livable Cities*. New York, NY: Routledge.

Waardenburg, M. and Nagel, S. (2019). Social roles of sport organisations: Development, context and challenges. *European Journal for Sport and Society*, 16(2), pp. 83-87.

Wacquant, L. J. D. (1995). Pugs at work: Bodily capital and bodily labour among professional boxers. *Body and Society*, 1(1), pp. 65–93.

Waite, C. (2015). *Professional Cricket Migrants 'Going Down Under': Temporary, Skilled, International Migration*. PhD Thesis, Loughborough University.

Walford, G. (2005). Research ethical guidelines and anonymity. *International Journal of Research & Method in Education*, 28(1), pp. 83-93.

Walker, B. (1986). The demand for professional football and the success of football league teams: Some city size effects. *Urban studies*, 9, pp. 203-207.

Walker, P. (2016). City planners tap into wealth of cycling data from Strava tracking app. *The Guardian*, 9 May. Available online: https://www.theguardian.com/lifeandstyle/2016/may/09/city-planners-cycling-data-strava-tracking-app [Accessed: 13.08.2019].

Wallace, W. (2012). Strava – From the Beginning. *Cycling Tips*, 27 February. http://cyclingtips.com.au/2012/02/ [Accessed 27.07.2017].

Wang, K. (2015). Application of wearable devices to running during training. *International Journal of Machine Learning and Computing*, 5(6), pp. 445-449.

Ward Thompson, C. (2013). Activity, exercise and the planning and design of outdoor spaces. *Journal of Environmental Psychology*, 34, pp. 79–96.

Ward Thompson, C. and Aspinall, P. A. (2011). Natural environments and their impact on activity, health, and quality of life. *Applied Psychology: Health and Well-Being*, 3(3), pp. 230-260.

Ward, M. (2012). On technology, memory and place. *Cyborgology*, 10 November. https://thesocietypages.org/cyborgology/2012/11/10/on-technology-memory-and-place/ [Accessed: 01.09.2017].

Ward, M. (2017). Swimming in a contained space: Understanding the experience of indoor lap swimmers. *Health & Place*, 46, pp. 315-321.

Warn, S. and Witherick, M. (2003). *The Geography of Sport and Leisure.* Cheltenham: Nelson Thornes.

Warde, A. (2014). After taste: Culture, consumption and theories of practice. *Journal of Consumer Culture*, 14(3), pp. 279-303.

Watson, S. (2006). *City Publics: The (dis) Enchantments of Urban Encounters*. Routledge: London.

We Are Social and Hootsuite. (2019). *Digital 2019*. Available online: https://wearesocial.com/uk/digital-in-the-uk [Accessed 11.09.2019].

Weinberg, R. and Gould, D. (2015). *Foundations of Sport and Exercise Psychology* (6th ed.) Champaign, IL: Human Kinetics.

Wellard, I. (2016). Gendered performances in sport: an embodied approach. *Palgrave Communications*, 2. Available online: https://www.nature.com/articles/palcomms20163.pdf [Accessed: 28.02.2019].

Wellman, B. (2001). Physical place and cyberspace: The rise of personalized networking. *International Journal of Urban and Regional Research*, 25(2), pp. 227-252.

Westlake, E. J. (2020). “If you see me collapse, pause my strava”: Biopower, fitness data, and the anxious online performance of the fit body. In, Walsh, S. L. (ed.) *Sporting Performances: Politics in Play*. Abingdon: Routledge, pp. 130-147.

Wheaton, B. (2004). *Understanding Lifestyle Sport: Consumption, Identity and Difference*. London: Routledge.

White, M. P., Elliott, L. R., Taylor, T., Wheeler, B. W., Spencer, A., Bone, A., … Fleming, L. E. (2016). Recreational physical activity in natural environments and implications for health: A population based cross-sectional study in England. *Preventive Medicine*, 91, pp. 383–388.

Whiting, J. W., Pawelko, K. A., Green, G. T. and Larson, L. R. (2011). Whitewater kayaking: A social world investigation. *Illuminaire*, 9(1), pp. 1-15.

Wicker, P., Hallmann, K., Prinz, J., and Weimar, D. (2012). Who takes part in triathlon? An application of lifestyle segmentation to triathlon participants. *International Journal of Sport Management and Marketing*, 12(1/2), pp. 1–24.

Wicker, P., Prinz, J. and Weimar, D. (2013). Big spenders in a booming sport: consumption capital as a key driver of triathletes' sport-related expenditure. *Managing Leisure*, 18(4), pp. 286–299.

Wild, K., Woodward, A., Field, A. and Macmillan, A. (2017). Beyond 'bikelash': engaging with community opposition to cycle lanes. *Mobilities*, 13(4), pp. 505-519.

Wilks, L. (2014). The lived experience of London 2012 Olympic and Paralympic Games volunteers: A serious leisure perspective. *Leisure Studies*, 35(5), pp. 652-667.

Williams, T. (2019). *26th January*. Available at: https://twitter.com/tomwilliams1974/status/1089240209198325768 [Accessed 26.01.2019].

Wiltshire, G. and Stevinson, C. (2018). Exploring the role of social capital in community-based physical activity: Qualitative insights from parkrun. *Qualitative Research in Sport, Exercise and Health*, 10(1), pp. 47-62.

Wilson, M. W. (2018). On being technopositional in digital geographies. *Cultural Geographies*, 25(1), pp. 7-21.

Winchester, H. P. M. (1999). Interviews and questionnaires as mixed methods in population geography: The case of lone fathers in Newcastle, Australia. *The Professional Geographer*, 51(1), pp. 60-67.

Windsor, R. (2015). Riders urged to consider Strava privacy settings after thieves target Manchester cyclist. *Cycling Weekly*, 23 December. Available online: http://www.cyclingweekly.com/news/latest-news/riders-urged-to-consider-strava-privacy-settings-after-thieves-target-manchester-cyclist-205098 [Accessed: 10.08.2017].

Winters, M., Babul, S., Becker, H. J., Brubacher, J. R., Chipman, M., Cripton, P., Cusimano, M. D., … and Teshke, K. (2012). 'Safe cycling: How do risk perceptions compare with observed risk?' *Canadian Journal of Public Health*, 103(9), p. 42-47.

Wood, M. (2016). On norms and their transgression in serious leisure: Two case studies from rock climbing. *Culture and Organization*, 22(3), pp. 262–282.

Woods, O. (2018). The digital subversion of urban space: Power, performance and grime. *Social & Cultural Geography*. Advance online publication. https://www.tandfonline.com/doi/full/10.1080/14649365.2018.1491617#

World Health Organization. (2003). *Health and Development Through Physical Activity and Sport*. Geneva: World Health Organization.

Woźniak, P. W., Knierim, P. and Hoppe, M. (2019). Health, fun and engagement: Computing technologies that support physical activity. *XRDS*, 25(4), pp. 16-20.

Wright, K. B. (2005). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3), pp. 00-00.

Wylie, J. (2005). A single day's walking: Narrating self and landscape on the South West Coast Path. *Transactions of the Institute of British Geographers*, 30(2), pp. 234-247.

Wylie, J. (2009). Landscape, absence and the geographies of love. *Transactions of the Institute of British Geographers*, 34(3), pp. 275–289.

Yuen, F. and Johnson, A. J. (2017). Leisure spaces, community, and third places. *Leisure Sciences*, 39(3), pp. 295-303.

Zach, S. and Lissitsa, S. (2016). Internet use and leisure time physical activity of adults – A nationwide survey. *Computers in Human Behaviour*, 60, pp. 483-491.

Zeng, L., Almquist, Z. Q. and Spiro, E. S. (2017). Let's Workout! Exploring Social Exercise in an Online Fitness Community. *iConference 2017 Proceedings*, 2, pp. 89-98. Available online: https://pdfs.semanticscholar.org/08c2/a776b2c0e4d831aa7ef58e27e8e689b3cf0a.pdf [Accessed: 30.07.2020].

Zhang, J., Brackbil, D., Yang, S., Becker, J., Herbert, N. and Centola, D. (2016). Support or competition? How online social networks increase physical activity: A randomized controlled trial. *Preventive Medicine Reports*, 4, pp. 453-458.

Zook, M. A., Dodge, M., Aoyama, Y. and Townsend, A. M. (2004). New digital geographies: information, communication, and place. In, Brunn, S. D., Cutter, S. L. and Harrington, J. W. (eds.) *Geography and Technology*. New York, NY: Springer, pp. 155-176.

Zunft, H. J., Friebe, D., Seppelt, B., Widhalm, K., de Winter, A. M. R., de Almeida, M. D. V., Kearney, J. M. and Gibney, M. (1999). Perceived benefits and barriers to physical

activity in a nationally representative sample in the European Union. *Public Health Nutrition*, 2, pp. 153-160.

Zwift. (2019). *Zwift: The at home training app connecting cyclists around the world*. Available online: https://zwift.com/ [Accessed: 14.08.2019].