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
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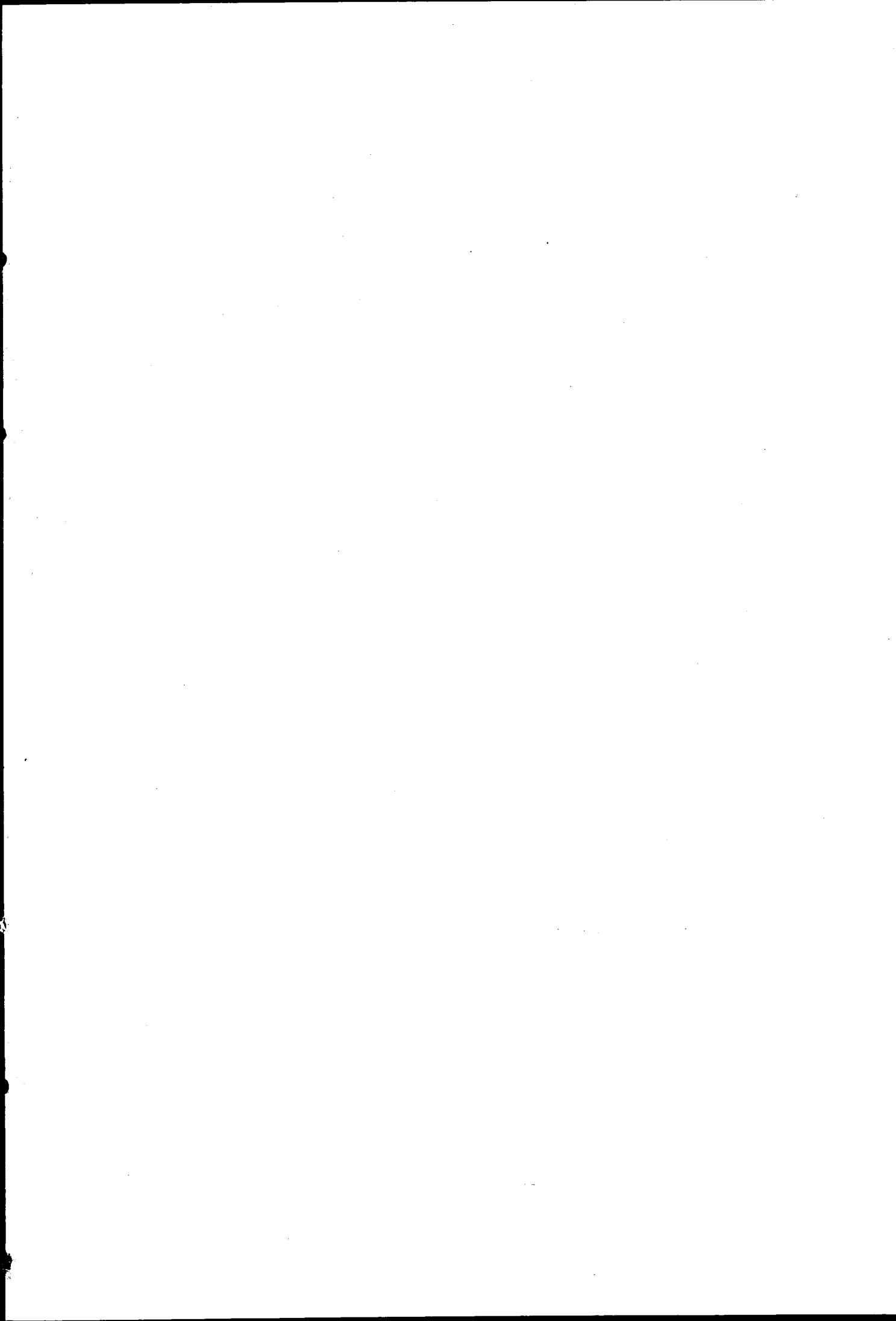
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**STRESS AND COPING**  
**IN**  
**HIGH PERFORMANCE SQUASH COACHING**


**BY**

**JENNIFER TRANFIELD**

**A DOCTORAL THESIS**  
**SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE**  
**AWARD OF DOCTOR OF PHILOSOPHY OF LOUGHBOROUGH UNIVERSITY**

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## ABSTRACT

This thesis investigates stress and coping in high performance squash coaching from the perspectives of both the coach and the player. An introduction to the thesis (chapter 1), a discussion of key concepts and theories from the general stress and coping literature (chapter 2), and a systematic review of the stress and coping in sport literature (chapter 3) are presented. The empirical work is reported in two phases.

Phase one (chapters 4, 5 & 6) documents an in-depth study of 18 high performance squash coaches. Retrospective interviews were used to collect both qualitative and quantitative data. Inductive content analysis (Patton, 1980) revealed 223 raw data themes for stress, which collapsed into 12 general dimensions, and 415 raw data themes for coping, from which 13 general dimensions emerged. Descriptive statistics on stress source characteristics revealed a number of interesting trends that required further investigation. Further, general ('multi-purpose') and specific coping strategies were identified. Coping effectiveness and frequency data detailed the analysis.

Phase two (chapters 7, 8 & 9) investigates stress and coping experiences of elite squash players during coaching activities via two studies. In study one, data were collected through telephone interviews, and analysed using inductive content analysis (QSR NUDIST), revealing 227 raw data themes for stress and coping from which 9 stress and 8 coping general dimensions emerged. These results were used to develop a postal questionnaire (study two) administered to 84 elite squash players on the England Squash World Class Performance Programme (Jan. 1999). A response rate of 60% was obtained, data was input into SPSS, and various statistical tests revealed significant contributions to 5 major investigative themes determined at the outset.

An overall picture of the landscape in stress and coping in high performance squash coaching is offered, and conclusions and future directions are presented (chapter 10).

*Keywords: Stress, coping, high performance, coaching, squash, stress appraisals, cognitive appraisals, coping outcomes, sport systematic reviews, inductive content analysis, NUDIST.*

## PUBLICATIONS RESULTING FROM THIS THESIS

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Tranfield, J.K., Campbell, E., Harwood, C.G., & Biddle, S.J.H., '*Sources of stress in high performance squash coaching; Coaches' perspectives*'.

Tranfield, J.K., Campbell, E., Harwood, C.G., & Biddle, S.J.H., '*Coping strategies used by high performance squash coaches during coaching activities*'.

Tranfield, J.K., Biddle, S.J.H., Campbell, E., & Harwood, C.G., '*Sources of stress in high performance squash coaching; Player's perspectives*'.

Tranfield, J.K., Biddle, S.J.H., Campbell, E., & Harwood, C.G., '*Cognitive appraisal of sources of stress experienced by players during high performance squash coaching activities*'.

Tranfield, J.K., Biddle, S.J.H., Harwood, C.G., & Campbell, E., '*Coping strategies used by elite squash players during coaching activities*'.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Structure of the chapter

This chapter has one main objective, to provide a comprehensive overview of the background, orientation and structure of the thesis. This objective is achieved in parts two to seven of the chapter. Part two provides an introduction to stress and coping in high performance squash coaching. Part three outlines and discusses the broad aims and purposes of the thesis. Part four documents the research rationale including both practical and theoretical perspectives. Part five identifies and discusses the strategic and applied nature of the thesis. The author's 'dual role' of international squash player and researcher is discussed in part six. The benefits and the potential drawbacks of this 'dual role' are identified. Finally, part seven provides an overview of the thesis.

### 1.2 Introduction

Having competed internationally in the sport of squash over the past 10 years, I have always taken a keen interest in sport psychology. During my time as an undergraduate at Loughborough University, this interest grew. After my graduation, I was recruited as a Sports Scientist to work on the English Squash Rackets Association's Sport Science Support Programme. In October 1996, I was given a research grant to travel with the England team to Malaysia for the Women's World Open and World Team Championships. The purpose was to observe current practice in order to develop a pertinent research question. The most noticeable observation was the psychologically demanding nature of the event for the National Coaches involved. Consequently, I spent

considerable time identifying and observing the major sources of stress experienced by these coaches throughout the duration of the event (see section 1.4 for details).

The pertinence of these primary field observations were re-confirmed during 1997 when I was asked to provide help with psychological support for the England Junior Women's Team in preparation for the World Junior Championships in Rio de Janeiro, Brazil (July/August 1997). During this time, as well as liaising closely with sport psychologists, I worked with the National Coaches, and the players. To my surprise, much of the required work involved facilitating both coaches and players in developing coping strategies to deal with and manage stress during coaching activities. Traditionally the role of the sport psychologist has been to work with players to improve psychological skills for competition. Therefore working with both players and coaches to improve psychological skills within coaching activities both pre, during and post competition was relatively novel in terms of sport psychology intervention.

In providing psychological help, my role involved helping both players and coaches to manage these sources of stress by encouraging them to implement a variety of coping strategies. In fulfilling this role, it occurred to me that I was unable to draw on previous research findings in the area to guide my thinking and intervention because the majority of sport psychology research has focused on investigating and understanding the performance of the athlete during training and competition. Stress resulting from coaching activities had yet to be considered.

Consequently, the essence of this thesis is to investigate and to understand the stress and coping experiences of both players and coaches during high performance squash coaching activities. There are a number of reasons why the sport of squash was chosen. Firstly, squash is a minority sport and as a result there is no media hype. Consequently, gaining access to participants is easier than in a sport such as tennis, golf or soccer. Secondly, squash coaching is 'one on one' in nature and there is nowhere to hide for either the coach or the player. Therefore, the psychological demands of squash coaching are potentially more immediate and acute than in a team sport. Thirdly, the dual role of

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the author as researcher and international squash player provided unique access to study participants of the highest quality working in live performance environments. The coaches were 'high performance coaches' who worked regularly with elite players and all the players were registered on the World Class Performance Programme. In fact the sample of players included both a World Champion and World Number One. Finally, squash is one of the few sports at which England excel. There are large numbers of elite players and high performance coaches based in the U.K. Therefore the costs (in terms of both time and finances) of accessing high quality participants were relatively small.

### **1.3 Broad aims of the research**

The purpose of this thesis was to investigate stress and coping in high performance squash coaching in order to develop theory and form the scientific and empirical basis necessary for effective intervention. The fieldwork consisted of two main phases. Broadly, the aim of phase one was to investigate stress and coping in high performance squash coaching from a coach's perspective. The research conducted in this phase was highly qualitative and provided an abundance of rich data on which to base phase two. In order to obtain a complete picture of stress and coping in high performance squash coaching, the aim of phase two was to investigate players' perspectives. It was necessary to undertake two separate studies in phase two. Study one was inductive and exploratory in nature and provided the necessary sport specific findings on which to base larger scale quantitative research in study two.

### **1.4 Research rationale**

There were a number of practical and theoretical reasons for undertaking this research. These rationales are explained in the following three sub divided sections; a practical perspective based on early fieldwork; a practical perspective based on recent sporting autobiographies; a theoretical perspective.

### *A practical perspective based on early fieldwork*

Due to the strategic and applied nature of the thesis, a series of initial studies, including both observations and informal interviews with elite practitioners, were helpful in developing the research topic and research questions.

The author observed high performance coaching activities in competition (the Women's World Open, Malaysia, 1996) and in training (3 national squads at Lilleshall National Sports Centre held during 1997) and noted the stressors experienced by coaches and players during coaching activities in these different situations.

#### *1996 Women's World Open, Kuala Lumpur, Malaysia.*

The author was offered a research grant to travel with the England team to observe current practice in order to develop a pertinent research question. At these championships, the author's role was solely as researcher, as she did not compete as a player. The methods used were participant observation and informal conversations with coaches and players. Giddens states,

*"So observation can be used either by itself or with other methods, by sociologists espousing very different ontological and epistemological positions. This demonstrates that what matters is not the technique itself so much as the uses to which it is put (the questions it is used to ask)" (1987; 545).*

In this case, observation was used in combination with informal conversations to explore experiences of high performance squash coaches and elite players during a major competition. Almost immediately, the psychologically demanding nature of the event for the National Coaches became clear. Consequently, the author spent considerable time identifying and observing the major sources of stress experienced by these coaches throughout the duration of the event.

An organising framework for study was developed to guide the observations and discussions. This framework incorporated both cognitive and behavioural elements.

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Cognitive elements included reports of the author's personal communications with the coaches that revealed stress and/or coping. Behavioural elements included observations of coaching processes and procedures and coaching interactions between the players and coaches that identified stress or coping. Data was reported using a dictaphone and downloaded to the record sheets at a later date. Where this was not possible, the author recorded the data from memory as soon after the event as possible. In addition, the author carried a notebook with her to record significant data and make fieldwork notes. Since the essence of this early fieldwork was informed observation, a formal data analysis procedure was not thought appropriate. Instead, the key observations are reported below.

In the competition environment, acute stress appeared to be heightened. The following observations of acute stressors experienced by the coach were observed during the daily processes and procedures and the daily coach-player interactions:

(i) *Getting players to perform optimally*

Prior to matches, a number of procedures were undertaken in an attempt to get players to perform optimally. These included pep talks with individual players, team meetings, individual practices. Coaches reported this process to be challenging.

(ii) *Dealing with team conflict*

A number of interactions were observed indicating team conflict. This impacted upon the daily procedures such as eating together as a team and practicing together. Coaches reported this to be stressful.

(iii) *Team selection and its impact on team morale*

Each day only 3 of the 4 players would be selected for the match. Therefore, one player each day would be disappointed. Some players reacted particularly badly to 'being dropped', placing particular stress upon team morale and the coach who had to deal with it.

*(iv) Dealing with the demands of competition*

During matches, a number of situations appeared to be stressful for the coaches. Personal communication with the coaches after the matches confirmed these stressors. Firstly, if a player who was expected to win started to lose, the coach had to deal with the player effectively between games. This was reported to be both challenging and threatening. Secondly, questionable refereeing decisions were reported as sources of stress for the coach. Finally, a hostile crowd influencing a player was a source of stress for the coach having to help the player to cope.

*(v) Dealing with injured players*

For example, getting the player the right treatment at the right time often disrupted normal team activities such as eating together and practicing. Furthermore, the coach was forced to play the other three players resulting in lack of rest time for them and higher risk of injury.

*(vi) Organising the logistics surrounding tournament play*

For example, getting players the right food at the right time in a country such as Malaysia appeared to cause the coaches stress.

*(vii) Organising practice, particularly in team play*

Ensuring that each player could practice in their preferred way with their preferred coach provided logistical challenges for the coaches.

*(viii) Dealing with problem players*

A problem between the coaches and one of the players was observed. Personal communication with the coaches indicated that this was the most stressful situation they had to deal with.

In response to these stressors, a number of coping strategies were observed including:



(i) *Talking things through with other coaches*

The coaches talked to the researcher and to other coaches about how to deal with the problem player.

(ii) *Taking 'time-out' from the institutionalisation of the tournament setting*

Coaches were observed getting away from the tournament hotel and the rest of the players and teams for an evening.

(iii) *Organising and running team meetings*

Team meetings were arranged every morning to discuss the strategy for the match to be played on that particular day.

(iv) *Conflict resolution meetings*

Coaches arranged meetings with the problem player to try to manage the conflict. However, the effectiveness of such meetings was questionable due to the 'deep rooted' anxieties held by the player and the historical background to the problem.

This visit proved to be particularly valuable in a number of ways. Firstly, it revealed the importance of stress and coping in high performance squash coaching as a topic requiring research. Secondly, through participant observation, the reality of high performance coaching at a major event was captured. If the author had asked the coaches to recount the experience post date, she may not have gained the same insight. Thirdly, observations of current practice and informal conversations with the coaches revealed a lack of coping strategies were employed in response to the stressors. Furthermore, from a researchers perspective, the effectiveness of the coping strategies employed appeared questionable, often avoiding the stressor rather than seeking resolution effectively. Future research in this area was considered to be desirable in order to provide the squash specific knowledge required for effective intervention.

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*1997 National Training Squads - Lilleshall National Sports Centre.*

During 1997, the author attended a number of national training squads at Lilleshall national sports centre. The squads were all weekend training camps. The purpose of these fieldwork visits was to observe stress and coping in high performance coaching activities during training rather than competition. An organising framework for study similar to the one used in Malaysia was developed to make notes of the stressors experienced by the coaches, and the coping strategies employed during coaching activities (see above). Notes were taken and informal conversations recorded using a dictaphone. Again a formal data analysis procedure was not employed. Instead, key observations of stress and coping experienced by the coaches were made. Findings suggested that stress experienced by coaches during national squads tended to be chronic or longer term in nature. Examples included:

*(i) On court concerns*

For example, coaches' encountered stress whilst trying to get a player to change his forehand technique. They were concerned with the same issue at all three squads. They held the belief that if the player didn't make the change now, it would be too late. They made a big effort at all three squads to convince the player to make the change.

*(ii) Attitudinal concerns*

Coaches' were concerned that the junior boys didn't understand the standard of elite men. They encountered stress whilst trying to teach the boys how they compare to world class.

The coping strategies observed by the coaches were problem-focused in orientation:

*(i) Provide technical support*

Coaches provided the technical expertise necessary to facilitate technical change.

*(ii) Cognitive models such as clarifying an understanding of world class parameters*

Coaches' identified each of the components of performance such as speed, strength, skill, flexibility, mental attitude and attempted to get the boys to understand world class parameters in each of these areas. The coaches reported finding this process stressful of

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itself because they were dealing with the sometimes negative or casual attitudes of teenage boys.

The primary observations made at the national squads demonstrated that stress in high performance squash coaching activity was very impactful on coach-player working relationships, and potentially affecting both relationship quality and player performance.

*Verbal communication with the Performance Director*

Informal conversations with the Performance Director for squash, Matt Hammond, were also documented. In discussion he explained the impact of lottery funding on stress experienced by high performance coaches. He mentioned a few of the sources of stress experienced by the English high performance coaches on the performance plan:

*(i) Quality assurance pressures*

High performance coaches are expected to lead in terms of knowledge, skill, mentoring, performing etc. If players feel that the coach adds no value, they often tend to look elsewhere. Therefore, these coaches are under pressure to keep on the leading edge, to be, and be seen to be, the experts.

*(ii) Appraisal pressures*

These high performance coaches are under pressure to get players to win medals. Their jobs are dependent upon results. Ability to win medals is the bottom line when dealing with the funding body.

*(iii) Time pressures*

These coaches are expected to work weekends, evenings and during the day. They have to be available at the right times for the players. They also have a lot more paperwork to do writing player reports, planning schedules etc. This all takes valuable time. Often they try to take off weekdays, but often end up dealing with urgent work related issues anyway.

(iv) *Travel concerns*

Attendance at national squads and national and international competitions means coaches are travelling regularly and are away from home and family.

(v) *Political and interpersonal pressures*

High performance coaches face a myriad of political and inter-personal pressures. These range from decision-making issues such as team selection, player funding, to dealing with the press and media to dealing with parents etc.

In conclusion, all of this fieldwork provided evidence to suggest that research into stress and coping in high performance squash coaching is a pertinent topic, and may provide the scientific foundation and empirical basis necessary for interventions potentially within sport in general and certainly squash in particular.

*A practical perspective based on recent sporting autobiographies*

Autobiographies written by famous sportsmen/women and coaches were particularly useful in legitimising the research area. A number of these were reviewed (Roger Black 1998; Lance Armstrong, 2000; Steve Redgrave, 2000; Alex Ferguson, 2000; Ian Botham, 1995) and almost all detailed a myriad of stressors occurring during coaching activities and identified a series of coping strategies employed to deal with the sources of stress. The fact that such reports occurred in autobiographies, i.e., without being prompted, suggests that this area is both a highly pertinent issue in high performance sport, and it is important to both athletes and coaches alike. A number of quotes have been taken from the various texts to illustrate the myriad of sources of stress experienced by coaches and athletes during coaching activities. Common themes were identified in these quotes and are revealed below:

*Relationship Issues*

Several of the authors identified stress, in the form of challenge, threat and harm/loss, resulting from various aspects of coach-athlete relationships. For example, Roger Black (1998) describes the stress he experienced as a result of the coach doubting his ability.

*“...for a coach too, it’s frustrating, because their reputation is bound up in the performance of their athletes. If the athlete is not performing, the coach begins to feel insecure. As my problems continued, I felt that my coach, Mike Smith, was beginning to doubt me.” (pp.102)*

Further, Black (1998) suggested that he and his coach were unable to relate to each other,

*“There is another level to which coach and athlete have to aspire...Mike and I ...couldn’t relate to each other – and that was partly due to differences in our ages.” (pp.103)*

Black describes his coach being threatened by another coach’s contribution and he describes how this impacted upon their relationship causing further stress,

*“This last week has been traumatic since I’ve had to sort out my situation with Mike Smith. It’s as if he’s happy to get involved with me when I’m okay and doesn’t acknowledge Mike Witting ton’s contribution.”(pp.115)*

In his recent autobiography “It’s not about the bike”, Lance Armstrong describes the intense stress of competition and how it impacts upon his coaching relationship. Firstly, his coach warns him,

*“Johan talked into my ear. My cadence was up at 100 rpms. ‘That’s high’ Johan warned. I was pedaling too hard. I eased off.” (pp. 236)*

but then he lost his temper,

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*“Johan, normally so controlled and impassive, checked the time. He began screaming into the radio. ‘You’re blowing up the Tour de France!’ he howled, ‘you’re blowing up the Tour de France!’ ” (pp. 237)*

Finally, in his ‘autobiography ‘Managing My Life’, Alex Ferguson (2000) describes the stress he experienced in terms of ‘loss’ of a player to another club,

*“A truly memorable season was ultimately blemished by one sadness and that was the departure of the old warhorse, Steve Bruce, to Birmingham...Real sorrow overtook me at the thought of being parted from such an admirable man and one who had been such an admirable servant to Manchester United.” (2000; 379)./*

*Insecurities concerning the knowledge and skills of the coach or the player*

A number of the authors also described stress resulting from insecurities about the knowledge and skills of the coach. For example, in his book ‘A Golden Age’, Steve Redgrave (2000; 150) describes a number of insecurities about his new East German coach Jurgen Grobber. He describes having a lack of respect for him, and being unconvinced at what he could offer.

*“Impressive credentials indeed; but it didn’t cut that much ice with me then. In my opinion at that stage, although coaches had their place, the most important people were athletes” (pp. 150)*

*“Initially, I was not totally convinced at what he had to offer. To my mind, he had to prove himself. I vowed to myself that I’d give Jurgen a year and do exactly what he said. I’d follow his ways to the letter. If it worked fair enough. If it didn’t, I’d have to reconsider whether I wanted to continue with him.” (pp.150)*

Further, Roger Black describes his coach having insecurities about his own level of intellect and therefore being threatened by Roger.

*"Mike always thought that I was aloof, because of my background – medical student...he used to jokingly call me Lord Black, but I think he was always a little bit threatened by that." (pp. 104)*

Black (1996) also identifies his coaches' lack of knowledge, planning, and expertise and he describes a lack of coaching support system in place.

*"Mike Smith is a great trainer...But to be a great coach takes more than that...We had no specific weight training programme, and if there was a long term plan, it was not entirely clear to us." (pp.103)*

*"Mike obviously wanted me to be healthy again but he didn't know how to help and he didn't have any medical network in place. He told me to go to the local hospital and to come back when I get better" (pp.104)*

Finally, Redgrave (2000) identifies a number of stressors resulting from employing a new coach. He describes stress specifically associated with adapting to new methods of coaching.

*"The way I was brought up with Mike, to win a gold medal you had to be very single minded and do things a certain way. What I've learn't since then is that there are alternative ways to get to the top. I didn't find it easy initially committing myself to Jurgen's methods." (pp.152).*

Alex Ferguson (2000;381-382) expresses concerns about the physical and mental skills of one of his players, Eric Cantona,

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*"My concern about his mood and about form that was moderate by his standards, deepened as I observed subtle differences in his body shape...the worries were serious enough to persuade me to call Eric in for a chat" (2000;382).*

The excerpts from all these recent autobiographies confirm that stress and coping during high performance coaching is a pertinent contemporary sporting issue in a number of different sports from both athlete's and coaches' perspectives.

### *A theoretical perspective*

The aim of this thesis naturally leads to two primary phenomena for the investigation; stress during high performance coaching and coping during high performance coaching. In undertaking any research study, locating the current state of knowledge in relevant subject areas is vital. Therefore, the purpose of this section is to pinpoint the current state of knowledge in these areas.

Hardy et al (1996; 167) provide a commentary on the current state and importance of research conducted on stress in sport.

*"Qualitative research that has recently been conducted on elite populations has started to unearth some of the organisational and occupational stressors that appear to have an influence on the performance of elite athletes. This is a much under-researched area that could have a very powerful impact upon elite performers and international sport." (Hardy et al, 1996; 167).*

Hardy et al (1996) make two main recommendations to facilitate knowledge contribution in this area. Firstly, they recommend the use of qualitative methodology in the process of identifying stressors and secondly, recommend future research to be conducted on elite populations, suggesting that such research may have the potential to impact powerfully on future practice. The research undertaken in this thesis embraced these recommendations in an attempt to contribute to knowledge in the area.



In terms of coping, Hardy et al (1996;205) note a lack of coping research in sport psychology in the past,

*“Given the practical importance of coping to the psychological preparation of elite athletes, it is surprising that until very recently, little attention was paid to coping as a sport psychological construct in its own right.”*

However, they continue to explain,

*“Coping is a complex ever changing process and cannot be conceptualized in simple, univariate, linear and stagnate terms” (1996;213).*

Hardy et al (1996; 213) offer the following advice for future research into coping in sport,

*“Researchers, then, must recognize the complex, ongoing nature of coping, and design investigations that consider this complexity” (Hardy et al, 1996; 213).*

Consequently, the theoretical frame used in this thesis was that of Lazarus and Folkman (1984). Specifically, they provided a transactional model of stress and coping that recognizes the complexities and ongoing nature of the stress/coping process.

In terms of the current coaching literature Lyle (1999;1) also notes a lack of research into coaching practice,

*“...it seems almost inconceivable at a time in the UK when coach education has been reshaped at national level and the National Lottery is able to support the provision of full time performance coaching posts, that there is such a sparse literature on coaching practice”.*

Furthermore, he suggests that the United Kingdom Sports Councils and the National Coaching Foundation have promoted research on sports performance, largely within

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specific science disciplines, but have failed to pay adequate attention to the coach's role in the delivery process.

*"...sports coaching as a process has received far less attention than the study of the athlete's performance. In addition, it has been treated as a non-problematic aspect of the purposeful improvement of sports performance" (Lyle, 1999;1).*

Although the primary focus of this thesis was to investigate stress and coping in high performance coaching, rather than only investigating current high performance coaching processes and practices, stress and coping within coaching necessarily impacts upon coaching practice. Therefore, the research findings from this thesis have implications for coaching practice. The current lack of literature in this area combined with recent developments in UK coaching practices, and heightened pressures and expectations of performance coaches to produce results, all warrants the need for more research in this area.

## **1.5 Nature and orientation of the thesis**

This thesis constitutes a first and fundamental study of stress and coping in high performance squash coaching. This research is important in that it provides the basis of knowledge and point of departure for understanding of these phenomena in this specific sport. Therefore, the primary goal of this thesis is theory development.

In addition to this, the research has a strong strategic and applied orientation in terms of both the comprehensive nature of the sample of English elite players and high performance coaches, and specificity in so far as it constitutes an in-depth study of a single sport. Therefore, in addition to furthering understanding, an important goal is to identify how the knowledge developed, might be used. Determining the scientific foundation and empirical basis necessary for interventions within squash, therefore, is a legitimate goal of the work. Langeveld (1965), emphasizes the importance of applied mindsets and the creation of 'practical sciences',

*“...we do not only want to know facts and to understand relations for the sake of knowledge, we want to know and understand in order to be able to act and act ‘better’ than we did before” (Langeveld, 1965).*

Von Aken (2001) argues in similar vein for the importance of the “design sciences” which preoccupy themselves not only with the question “what is the nature of things?”, but also, “how should things be?”. Nowotny, Scott and Gibbons (2001) also argue for the strategic importance of a “context sensitive” perspective.

Whilst the main aim of this thesis is to contribute to understanding and theory development, concerns with utility of findings and their future practical application impacted the research process throughout.

## **1.6 Dual role of the researcher**

Throughout the work, the author had a dual role, lottery funded world ranked squash player, and researcher. These roles had the potential both to facilitate and challenge the fieldwork quality. On the one hand, being a competitor on the world circuit had the potential to restrict access to the intimate player/coach relations of fellow performers who were the participants in this study. At the very least, the danger was that data access would be restricted or bias introduced in a distorting and more-than-usual way. The author’s strategy for overcoming these inherent dangers was threefold. Firstly, she remained aware of the issues at all times in the data collection process, clearly clarifying, specifying and re-clarifying her research role both to herself and others throughout the data collection period. Secondly, and following the canons of action research (Eden & Huxam, 1996), the author attempted, through reflection and feedback, “not only to generate knowledge in the domain of the project” (1996; 539), but to facilitate and support the relationships under study. Thirdly, through judicious use of the above two mechanisms, the author was able to build trust with the respondents in this early fieldwork process.

On the other hand, the researcher/player roles were also seen as facilitators of the fieldwork in a number of ways. Firstly, the author was able to understand the often restricted code of squash specific terminology and the cultural norms, values and taken for granted assumptions associated with elite squash culture. Secondly, the author is an accepted member of the elite squash group and therefore was able to gain access for covert observation, obtaining 'insider' insights as well as individual reports.

## **1.7 Overview of the thesis**

The aim of this section is to provide an overview of the thesis. A summary of the contents of each of the remaining chapters is presented followed by a flow chart (figure 1.1), designed to guide the reader.

### *Chapter Two*

Chapter two provides a review of the relevant theories and concepts in the general stress and coping literature. Specifically, it outlines the key concepts and theoretical frames on which this thesis is based.

### *Chapter Three*

Chapter three provides a systematic review of the stress and coping in sport literature. The benefits of systematic reviews plus an explanation of the methods involved are offered. The review identified 52 studies of stress and coping in sport post 1984 plus a discussion of the general trends in study characteristics are documented. The overall contribution to knowledge resulting from sport stress and coping research post 1984 is summarised.

### *Chapter Four*

Chapter four reports the study design and methodology for research phase one. The research is located in terms of current literature and practice. The research rationale, research aims, methods of data collection and methods of data analysis are identified.

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Definitions of key concepts are given and the ways in which this phase of the research extends current knowledge are pinpointed.

#### *Chapter Five*

Chapter five documents the results of the content analysis (Patton, 1980) revealing the sources of stress identified by the 18 high performance coaches. Specifically, it illustrates 12 general dimensions emerging from 223 raw data themes, and it explains the meaning of each of the profiles by providing a number of quotes from the interview transcripts. The data involving stress sources characteristics is presented and relationships between stress source characteristics are discussed.

#### *Chapter Six*

Chapter six reports the results of the content analysis (Patton, 1980) revealing the coping strategies used by the 18 high performance squash coaches during coaching activities. Specifically, it illustrates 13 general dimensions emerging from 415 raw data themes, and it explains the meaning of each of the profiles by providing a number of quotes from the interview transcripts. Links between sources of stress and coping strategies are discussed.

#### *Chapter Seven*

Chapter seven outlines and discusses the research design for phase two. Specifically, it documents the ways in which phase two extends the research undertaken in phase one. It presents the aims and objectives of phase two and details the methodological approach and rationale for methods of data collection. The various tools and techniques used to analyse data in phase two were discussed. A summary of the ways in which phase two extends current knowledge is documented.

#### *Chapter Eight*

Chapter eight reports the first study of phase two that investigated the sources of stress and coping strategies used by elite squash players during coaching activities. The purposes and rationale for the study plus the specific research questions are identified.

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Methods of data collection and data analysis are presented and the results of the inductive content analyses are illustrated.

#### *Chapter Nine*

Chapter nine documents the design, implementation and results of the second study of phase two. The purposes, rationale and specific research questions were identified. The development of the postal questionnaire using the results from the first study of phase two is documented. The data analysis procedures including explanations of various statistical tests and the results are outlined and discussed.

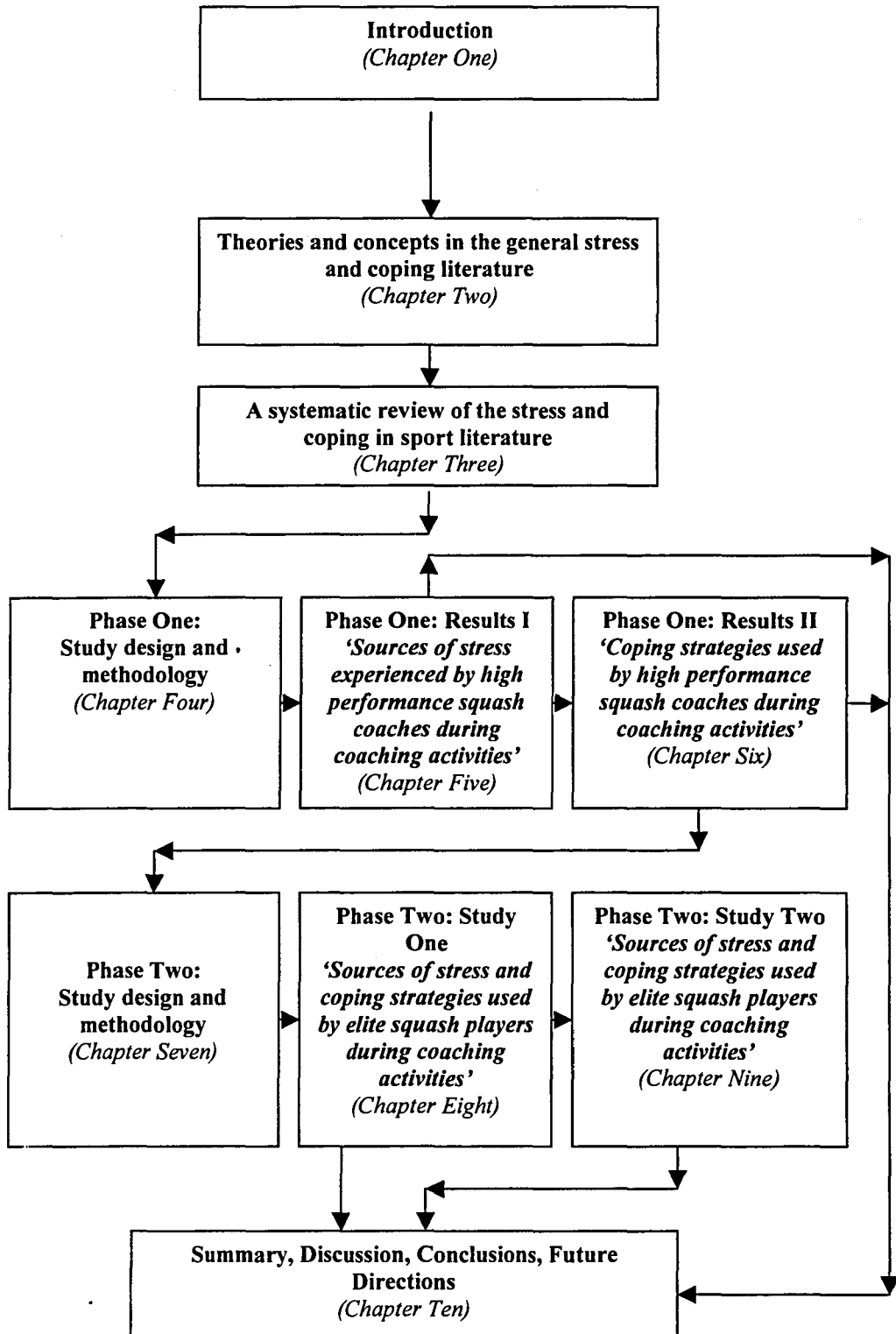
#### *Chapter Ten*

Chapter ten provides a summary, discussion and conclusions. Specifically it provides a comparative analysis of the results from phase one (coaches perceptions) with phase two (players' perceptions) to reveal a complete picture of stress and coping during high performance squash coaching. The theoretical and applied implications of the research are outlined and discussed. Finally, the implications for future research are reported.

Adopting this structure necessitates that no specific chapter is presented concerning research methodology. Rather, specific methods are justified and tailored to suit the needs of particular studies throughout the thesis, thus taking a task focused approach to the epistemological discussion.

Figure 1.1:- An overview of the thesis

### Overview of Thesis



# CHAPTER TWO

## THEORIES AND CONCEPTS IN THE GENERAL STRESS AND COPING LITERATURE

*“Theorists and researchers should make their philosophical approach to science and their view of humanity known at the outset. This helps make their outlook, prejudices, and the theoretical and research approaches that inform their arguments in our contentious discipline clear to those who read their works. It could also defuse some of the arguments about models, theories and research strategies, and improve communication” (Lazarus, 1999; 1).*

### 2.1 Structure of Chapter

The essence of this chapter is to outline and explain the theories and concepts of the general stress and coping literature that are fundamental to the thesis. Parts two to four report theories and concepts of the general stress literature. Specifically, part two provides a conceptual analysis of stress, clarifying subtle differences between stress and related terms such as anxiety, arousal, activation and strain. Part three distinguishes between levels of stress analysis such as physiological, socio-cultural and psychological. Part four outlines and explains Lazarus and Folkman’s (1984) transactional theory of psychological stress and appraisal, the theoretical frame adopted in this thesis. Parts five to eleven report theories and concepts of the general coping literature. Specifically, part five provides a conceptual analysis of coping. The coping process (Lazarus & Folkman, 1984) is outlined and explained in part six. Part seven discusses a number of situational determinants of coping whilst part eight focuses on interpersonal aspects of coping. Part nine summarises the basic concepts emerging from organisational stress and coping research. Part ten documents a number of commonly accepted categories of coping

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within the literature. Finally, part eleven outlines the current literature on coping effectiveness. Part twelve is a summary.

## 2.2 Conceptual Analysis of Stress

Lazarus and Folkman (1984; 1) note that it is virtually impossible to read extensively in any of the biological or social sciences without running into the term stress. Further, the concept is extensively discussed in health care fields, economics, political science, business, education and more recently in sport. Lazarus and Folkman (1984) identified the need to formulate a definition of stress that satisfied the majority of stress researchers.

### *Definitions of stress*

Stress has been conceptualized as a stimulus (independent variable), a response (dependent variable), and as a transaction between the person and the environment. This section distinguishes between traditional stimulus-response definitions and more recent relational definitions.

### Stimulus and Response Definitions

According to Lazarus and Folkman (1984; 12),

*“The most common definition of stress adopted by psychologists has been that it is a stimulus”.*

Stimulus definitions are usually found in human performance theory (Broadbent, 1971). In such definitions, stress is a label given to certain environmental and organismic conditions. Lazarus and Folkman (1984; 12) note ,

*“Stress stimuli are most commonly thought of as events impinging on the person”.*

Examples of such stimuli may include noise, sleep loss and heat (Campbell, 1997). Lazarus and Folkman (1984; 12) also suggest,

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*"Stimulus definitions also include conditions arising within the person, for example, drive stimuli such as hunger or sex, which are based ...on stimuli arising from neurological characteristics."*

Stress is also frequently defined as the troubled reaction to stressful stimulus, which is a response definition of stress (Lazarus, 1999;52). For example, Seyle (1980;156) provided a response definition of stress as,

*"...the non-specific response of the body to any demand placed on it".*

Therefore, according to Seyle, stress is evoked by any stimulus. Feelings of pressure, harm, threat, distress, anger, sadness etc. would all be viewed as stress according to this definition.

However, Lazarus and Folkman (1984; 15) identify a number of limitations to stimulus-response definitions of stress. Firstly, they argue that all stimulus-response approaches are circular and beg the crucial questions of what it is about the stimulus that produces a particular stress response and what it is about the response that indicates a particular stressor. Secondly, they argue that a further pitfall lies in the definition of a stress response. In defining stress as a disturbance of homeostasis, it is difficult to define a steady state or baseline on which to judge disturbance. Finally, they argue that definitions such as that offered by Seyle are limited to the physiological level of analysis. Therefore, Lazarus and Folkman (1984) aimed to overcome such limitations by developing a relational definition of stress.

#### **Relational Definitions of Stress**

The psychology of individual difference is fundamental to relational definitions of stress. According to Lazarus and Folkman (1984), the point of departure of relational definitions of stress is that,

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*"What now is stressful for some, is not for others" (Lazarus & Folkman, 1984;19)*

In other words, individual differences affect levels of psychological stress. Indeed Lazarus and Folkman (1984;19) argue that it is not possible to define stress objectively at the level of environmental conditions without reference to the characteristics of the person. Instead, they provide an interactional definition that refers to psychological stress as a particular kind of relationship between person and environment (Lazarus, 1966, Lazarus & Folkman, 1987). Specifically, Lazarus and Folkman (1984) defined psychological stress as,

*"...a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (1984;19).*

Post 1984, many researchers in the area of stress and coping have adopted this definition, which is derived from Lazarus and Folkman's (1984) 'transactional model' of stress (see section 2.4 below).

### ***Distinguishing between stress and its related terms***

Since the essence of this thesis is to investigate various aspects of stress and coping within the sporting arena, it is essential to identify distinctions between stress and its related terms within the sporting literature. Hardy, Jones and Gould (1996; 141) note,

*"Our understanding of the effects of stress and anxiety upon performance has been greatly impaired by the failure of researchers to make a clear distinction between the basic constructs of stress, anxiety, arousal and activation" (Hardy et al, 1996;141).*

Furthermore, Gould and Krane (1992) argue,

*“One of the major problems in examining stress has been the lack of consensus over a precise definition of stress and the fact that the term has often been utilised as synonymous with anxiety”.*

Consequently, a number of definitions of stress and related terms have been identified within the sporting literature and are summarised in table 2.1 below.

**Table 2.1: Definition of stress and related terms**

Concept	Citation	Definition
<b><u>Stress</u></b>	Jones (1990)	<i>“... a state in which some demand is placed upon the individual who is then required to react in some way in order to be able to cope with the situation”.</i>
	Lazarus & Folkman (1984;19)	<i>“... a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being”</i>
<b><u>Strain</u></b>	Lazarus (1999;32)	<i>“... the stress-produced change in or deformation of the body”.</i>
<b><u>Anxiety</u></b> (state, trait, cognitive & somatic)	Hardy et al (1996;141)	<i>“Doubts about ones ability to cope with a given stressor are likely to be reflected in feelings of anxiety”.</i>  <i>“... state anxiety is the response that individuals make when they are confronted by a threatening situation”.</i>
	Martens et al (1990)	<i>“... trait anxiety refers to a general disposition that certain individuals possess to respond to a variety of situations”.</i>  <i>“Cognitive anxiety is characterized by fear of failure and negative expectations about performance”.</i>  <i>“Somatic anxiety refers to individuals perceptions of their physiological state in response to the stressful situation in which they find themselves.”</i>
<b><u>Burnout</u></b>	Dale and Weinberg (1990;67)	<i>“... a reaction to chronic stress that involves an interaction between environmental and personal characteristics”</i>
<b><u>Activation</u></b>	Pribram and McGuinness' (1975)	<i>“... cognitive and physiological activity that is geared towards preparing a planned response to some anticipated situation”.</i>
<b><u>Arousal</u></b>	Pribram and McGuinness' (1975)	<i>“Cognitive and physiological activity which takes place in response to some new input to the system”.</i>

**Stress**

There appear to be a number of similarities and differences between conceptualizations of stress whether relational, stimulus-response or dispositional. Firstly, most stress theorists view stress as integral to the individual. For example, stimulus-response theorists argue that stress is either a stimulus arising within the individual, a stimulus arising external to the individual that affects the individual in some way, or an individuals' response to some external demand. Further, dispositional theorists argue that stress is personality trait and relational theorists view stress as the result of an individual's appraisal. Therefore, using all these conceptualizations, it appears that stress does not exist outside of the individual.

Secondly, both stimulus-response and relational theorists argue that a 'demand' of some sort is involved. Relational theorists suggest that it is the appraisal of a particular demand that is the crux of any stressful encounter or experience, and stimulus-response theorists argue that stress results when an individual is required to react or respond to an internal or external stimulus or demand. However, dispositional theories of stress differ in this respect, making no reference to 'demands' of any sort.

Finally, dispositional and stimulus-response conceptualizations are deterministic in nature, suggesting that stress is a stable personality trait or a simple reaction to an external demand. In contrast, relational definitions are more interpretive in nature, emphasizing individuals meaning via the process of appraisal.

**Strain**

The term 'strain' is essentially a physiological term, used to represent a stress-produced change in the body. Hardy, Jones and Gould (1996; 141) suggest that stress may or may not impose a 'strain' upon the individual (Jick & Payne, 1980; Lazarus, 1966), depending upon whether the individual perceives him or herself to be able to cope with the demands of the stressor in question. Therefore, strain is essentially a physiological change in the body that results from the stress-coping process.

**Anxiety**

'Anxiety' is the term given to 'affective' reactions to stress. For example, Hardy, Jones and Gould (1996;141) suggest that doubts about one's ability to cope with a given stressor are likely to be reflected in feelings of 'anxiety'. Within the domain of general psychology, Spielberger (1966) made a distinction between trait and state anxiety. Specifically, the term 'trait anxiety' refers to a general disposition that certain individuals possess that predetermines them to respond in a particular way. In contrast, 'state anxiety' is the term used to explain the response that individuals make when they are confronted by a threatening situation. In terms of the sport domain, Martens et al (1990) distinguished between cognitive and somatic forms of anxiety. 'Cognitive anxiety' refers to negative thoughts and expectations about performance whereas 'somatic anxiety' is the term used to explain an individual's worries about their physiological state in response to a stressful situation.

**Burnout**

The term 'burnout' refers to a reaction to chronic (long term) stress. Dale and Weinberg (1990;67) suggest that burnout has both psychological and physiological implications and therefore both levels of analysis are appropriate.

**Activation**

The term 'activation' refers to both cognitive and physiological planned responses to stress. Specifically, 'activation' includes cognitive and physiological activities that are geared towards preparing a planned response to some anticipated stressful situation (Pribram & McGuinness', 1975). Further, Hardy and his colleagues argue,

*"It is therefore more logically correct to talk about appropriate 'activation states' rather than 'levels of activation', since for any given task, there may be high levels of activity in some subsystems but low levels of activity in others." (1996; 118).*

### *Arousal*

The term 'arousal' is similar to that of activation except it implies a lack of planned preparation (for the stimulus) on the part of the performer, and a relatively short time frame (essentially because arousing agents lose their effects over time). Specifically, the term arousal refers to cognitive and physiological activity that takes place in response to new and immediate input to the system (Pribram & McGuinness, 1975).

The above conceptual analysis reveals the subtle yet significant differences between 'stress' and related concepts. Consequently, it is absolutely essential for sport psychology researchers to be aware of these different yet related concepts and to distinguish between them. Future research is required to continue to tighten and refine shared definitions within the discipline in order to further develop the precision of research and practice in the area.

### **2.3 Levels of Stress Analysis**

The phenomenon 'stress' is the subject of scientific analysis in a vast array of academic disciplines. Lazarus notes the way different scientific disciplines treat stress, thereby reflecting different levels of scientific analysis.

*"Physiology is concerned with the body, especially the brain and its hormonal neurotransmitters...sociology and cultural anthropology deal primarily with the society or sociocultural system...psychology is concerned with individual mind or behaviour" (1999;38)*

There are two main reasons why it is necessary to distinguish the study of psychological stress from physiological or socio-cultural levels of analysis. Firstly, the level of stress analysis in each of these disciplines is quite different and must be clarified prior to the outset of any research in the area. Secondly, this thesis investigates *psychological* stress rather than physiological or socio-cultural forms of stress.

***Sociocultural Level***

Lazarus (1999; 39) explains that social structure and culture are connected to stress. Macro level changes within society such as war, racism, natural disasters, economic depressions, poverty, social anarchy etc. and cultural changes in terms of values and social meanings all impact upon individual persons and social groups. Lazarus (1999;38), concludes,

*“...sources of turmoil in the society are often referred to by sociologists as social strains, which produce psychological stress in individuals and collectives or groups” (Smelster, 1963)*

***The Physiological Level***

According to Lazarus,

*“physical stressors have to do with the body’s reaction to noxious physical conditions that are harmful to living tissues” (1999;42).*

Hans Selye (1956/1976) formulated the most popular modern theory of physiological stress. He provided the most comprehensive theory about how the body responds when it must mobilise to cope with harm and threats .

***Distinguishing Psychological Stress from Physiological and Socio-cultural stress***

The distinction between psychological, physiological and socio-cultural levels of stress analysis is not clear-cut. The principle that physiological stress reactions may have psychological origins tends to obscure the distinction that needs to be drawn between physiological and psychological stressors. Physiological, psychological and socio-cultural stress operates at distinctly different levels of analysis, each of which draws on separate concepts and observations. According to Lazarus,



*“The most difficult problem for psychological stress theory is to specify what is psychologically noxious – that is, to identify the rules that make a psychological event stressful thereby producing a stress reaction” (1999;48).*

Therefore, the challenge of the research undertaken in this thesis was to identify what is psychologically noxious for players and coaches during high performance squash coaching activities.

## **2.4 Psychological Stress and Appraisal**

This section outlines and explains Lazarus and Folkman’s (1984) transactional model of stress, which was adopted as the theoretical frame for this thesis. The four basic meta-theoretical and epistemological principles that underpin this theory are identified. The process of appraisal within stress theory is then discussed. Antecedents of appraisal such as person and environmental variables are identified. Finally, the role of emotions in appraisal is reviewed.

### ***Epistemological and meta-theoretical principles underpinning the transactional model***

According to Lazarus (1999;3),

*“...we adopt an epistemological position about how we can know about ourselves and the world, and employ a meta-theory about the nature of our being without necessarily being explicit about it”.*

Kuhn’s (1970) studies of scientific revolutions revealed that these epistemological and meta-theoretical assumptions guide what we pay attention to and explain and form the basis of our scientific paradigms. Therefore, in an attempt to explain the basis of his own ‘scientific paradigm’, Lazarus (1999;11) reveals the four basic epistemological and meta-theoretical principles on which his theory of stress and emotion rests.

**Principle one: 'Interaction, transaction, and relational meaning'**

Lazarus (1999;12) argues that instead of viewing mind and behaviour as solely a response to an environmental stimulus display, it is more fruitful to view them in relational terms, as a product of the interplay of two sets of variables, those in the immediate environment and those within the person. Lazarus also recognizes the interaction of causal variables. He notes that models of interaction embrace the recursive principle that the environment affects the person and the person also affects the environment. However, he emphasizes that it is the mind that conjoins person and environment variables in order to appraise the relational meaning of a stressor,

*"the person and environment interact but it is the person who appraises what the situation signifies for personal well being" (1999:12).*

Although the relational meaning is not addressed in models of interaction, Lazarus distinguishes this relational meaning from interaction per se by using the word transaction (Dewey & Bentley, 1949). Transaction adds the personal connotation of what is happening to the perceived event. The term 'appraisal' refers to the evaluative process by which the relational meaning is constructed (Lazarus, 1999;13).

**Principle Two: Structure and Process**

According to Lazarus, structure implies stability and process implies change,

*"structure refers to the relatively stable arrangement of things, and process to what structures do and how they change" (1999;13).*

Structures and processes affect each other and are interdependent. Lazarus notes the usefulness of process in understanding and conceptualizing psychological stress,

*"Stress is concerned with unsatisfactory situations of life that we want to change for the better, and emotions come and go quickly with changes in circumstances.*

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*So these topics...are especially compatible with a process emphasis” (Lazarus, 1999;16).*

**Principle Three: Analysis and Synthesis**

Lazarus defines analytic reduction as,

*“...the attempt to explain phenomena at a higher level of analysis by reference to variables and processes at lower levels” (1999;16).*

However, he notes a number of limitations,

*“...reductive analytic science...is not adequate for the task of comprehending the ubiquitous inter-individual and intra-individual differences about which our field has long been so ambivalent” (Lazarus, 1999;20).*

Therefore, Lazarus (1999;22) advocates the need for both analysis and synthesis in psychological research,

*“We must move back and forth in our thinking between the two levels of abstraction, the component parts and the whole. One cannot be understood without the other “.*

**Principle Four: Systems Theory**

Lazarus (1999;22) explains that in recent years, linear S-R formulations in psychology have begun to be supplanted by systems theory. The reason for this is that linear models are too simple to reflect the complex events taking place in mind, emotion, and action, and the multiple directions of cause and effect. On the other hand, systems theory recognises mind and behaviour as subsystems operating within larger systems, usually viewed at different levels of analysis. Therefore, systems theory accounts for enormously complex relationships and their influence on outcomes. Lazarus concludes,

*“Because each variable is apt to influence every other variable, often recursively, the use of complex models of psychological analysis is invited by system theoretical analysis” (1999;23).*

### ***Origins of the appraisal construct***

Over the past 50 years, the psychology of appraisal has evolved. In 1945, Grinker and Spiegel investigated how flight crews dealt with the constant stress of air war, and in doing so were the first to refer to appraisal in a technical sense. Then in 1952, in an article reviewing and interpreting individual differences in stress, Lazarus, Deese and Osler referred to the personal meaning of stress.

*“The situation will be more or less stressful for the individual members of the group, and it is likely that differences in the meaning of the situation will appear in their performance” (1952; 294).*

The relational emphasis in conceptualisations of stress first emerged in the 1950’s when Lazarus and Baker stated,

*“stress and emotion depends on the degree of relevance of the situation to the motive state” (1956;23).*

Further, individual differences in stress were also acknowledged,

*“Relatively few studies have attempted to define stress in terms of internal psychological processes that may vary from individual to individual and which determine the subject’s definition of the situation” (Lazarus & Baker; 1956b; 267).*

By 1966, the concept of appraisal was the central tenet of Lazarus’ theory of psychological stress.

### ***Appraising and appraisal in stress theory***

Lazarus and Folkman define cognitive appraisal as,

*“...the process of categorizing an encounter, and its various facets, with respect to its significance for well-being...it is largely evaluative, focused on meaning or significance and takes place continuously during waking life” (1984;31).*

Lazarus (1999; 75) notes that there are two kinds of appraising, primary and secondary. Although they always work interdependently, they will be discussed separately.

#### ***Primary Appraising and Appraisal***

Primary appraising has to do with whether or not what is happening is relevant to one's values, goal commitments, beliefs about self and world, and situational intentions (Lazarus, 1999;75). Primary appraisals can be complex and mixed depending upon person factors and the situational context (Lazarus & Folkman, 1984;32). The fundamental question asked during primary appraisal is the question of whether anything is at stake. For example, do I have a goal at stake, or are any of my core values threatened? If the transaction is considered irrelevant to well being, there will be no stress. Conversely, if a transaction is relevant to well being, stress will occur. Lazarus and Folkman (1984;32-33) identify three types of stress; harm/loss, threat and challenge. Harm/loss consists of damage that has already occurred such as loss of a loved one or an incapacitating injury or illness. Threat consists of the possibility of such damage in the future, i.e., harms or losses that have not yet taken place but are anticipated. For example, children playing alone in the countryside poses a threat of potential harm or loss. Challenge appraisals focus on the potential for gain or growth inherent in an encounter and is characterized by pleasurable emotions such as eagerness, excitement and exhilaration, such as a sportsperson competing in a world championship final. Threat and challenge are not necessarily mutually exclusive (Lazarus & Folkman, 1984;33).

***Secondary Appraising and Appraisal***

Secondary appraising refers to a cognitive-evaluative process that is focused on what can be done about a stressful person-environment relationship, especially when there has been a primary appraisal of harm, threat or challenge. Such an appraisal, which is basically an evaluation of coping options, is not actually coping but is most often the cognitive underpinning for coping (Lazarus, 1999;76). Lazarus and Folkman note,

*“Secondary appraisal is more than a mere intellectual exercise in spotting all the things that might be done. It is a complex evaluative process that takes into account which options are available, the likelihood that one can apply a particular strategy or set of strategies effectively” (1984;35).*

Secondary appraisal activity is a crucial feature of every stressful encounter because the outcome depends on what, if anything, can be done, and what is at stake (Lazarus & Folkman, 1984;35).

***How appraisals are constructed***

Appraisals are commonly based on many subtle cues in the environment, what has been learned from previous experience, and a host of personality variables such as goals, situational intentions, and personal resources and liabilities. All this provides a basis for a decision about how to respond (Lazarus, 1999;81).

Lazarus (1999) identifies two ways an appraisal can be constructed; cognitively unconscious, or conscious and deliberate. Cognitively unconscious appraisals are intuitive and automatic whereas conscious and deliberate appraisals are usually a slow search for information on which to predicate an appropriate reaction. Appraisals become automated through previous experiences of the same appraisal process (Lazarus, 1999;82).

Lazarus (1999;83-84) addresses the possibility of conflicting appraisals, one that is conscious and therefore capable of being readily reported, and another at a deeper level

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that cannot easily be acknowledged. In doing so, he highlights the potential drawbacks of using self-report measures of appraisal. However, he suggests that the problems inherent in self-reports can be reduced if researchers make more effort to maximize accuracy and minimize sources of error.

### ***Antecedent conditions of appraisal***

Lazarus and Folkman (1984;55-115) identify a number of person and environment factors that influence the process of appraisal. These are outlined below.

Lazarus (1999;61-72) identifies four substantive environmental variables that influence stress appraisal; demands, constraints, opportunity and culture. According to Lazarus, environmental 'demands' consist of,

*"...implicit or explicit pressures from the social environment to act in certain ways and manifest socially correct attitudes" (1999;61).*

Lazarus (1999;62) argues that these 'demands' can create conflicts with inner goals and beliefs resulting in psychological stress. For example, an international athlete may be required by IAAF rules to compete on a Sunday, yet his/her personal beliefs may conflict with this requirement, resulting in psychological stress. 'Constraints', on the other hand,

*"define what people should not do, which are also backed up by punishment if violated" (Lazarus, 1999;62).*

For example, violent behaviour is not acceptable in society therefore constraining the instincts of certain individuals and resulting in psychological stress. 'Opportunities' also influence appraisal,

*"...opportunities arise from fortunate timing but could also depend on the wisdom to recognize the opportunity. To take advantage of it often requires the right*

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*action at the right moment. We can sometimes facilitate the arrival of an opportunity by preparatory activity” (Lazarus, 1999;63).*

Missed opportunities may result in stress caused by psychological loss, whereas gained opportunities may result in positive forms of stress such as feelings of challenge. Finally, Lazarus believes that cultural factors influence appraisal,

*“...variations among cultures and among the individuals living in it are the result of differences in the way a culture views human relationships. Thus, what is an offence might be defined differently by different peoples, and this will lead to diverse emotional reactions from one culture to another” (Lazarus, 1999;70).*

Lazarus (1999) also identified a number of person variables that interact with environment variables to influence stress appraisal. These person variables include goals and goal hierarchies, beliefs about self and world, and personal resources. In terms of ‘goals’ and ‘goal hierarchies’, Lazarus argues,

*“...without a goal, there’s no potential for stress...emotions are the result of how we appraise or evaluate the fate of one’s goals in adaptational transactions” (1999;70).*

However, he acknowledges a complication in the process,

*“...more than one goal is often implicated in an adaptational transaction, and they may be in conflict with each other, so a decision must be made about which goals are most and least important in any given situation” (Lazarus ;1999;71).*

Therefore distinguishing between the value of goals requires individuals to have ‘goal hierarchies’. Goals and goal hierarchies impact upon stress appraisals. For example, a player with the goal of becoming a World Champion may appraise losing in the first round of the World Open as more stressful than a player with the goal of qualifying.

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Further, Lazarus notes that 'beliefs about self and world' also influence stress appraisal,

*"they have to do with how we conceive ourselves and our place in the environment...they shape our expectation about what is likely to happen in an encounter and therefore what our anticipatory and outcome emotions are likely to be" (1999;71).*

For example, an athlete world ranked number one would expect to be selected to represent their country. Therefore, if this player was not selected, it is likely that they would appraise the situation as highly stressful. In contrast, someone world ranked number 50 would not expect to be selected and therefore non-selection may not be stressful at all.

Finally, according to Lazarus (1999;71), personal resources including,

*"...intelligence, money, social skills, education, supportive family and friends, physical attractiveness, health and energy, sanguinity, and so on",*

influence stress appraisals. For example, losing in the first round of a major tournament would affect players differently depending upon their financial resources, their family support, their self esteem etc. Lazarus (1999) explains that we are born with many of them and others are achieved by sustained effort.

### ***Emotions and Appraisal***

Lazarus (1999;91) argues that emotion is tied to the person and environmental variables that shape the appraisals on which each emotion rests. There are three primary appraisal components that influence emotion; goal relevance, goal congruence and type of ego involvement.

Goal relevance is fundamental to whether or not a transaction is viewed by a person as relevant to well being. There is no emotion without a goal being at stake (Lazarus, 1999;92). Furthermore, goal congruence or incongruence refers to whether or not conditions of a transaction facilitate or thwart what the person wants, producing positive or negative emotion respectively. Finally, the type of ego involvement has to do with the role of diverse goals in shaping an emotion. Lazarus (1999; 92) offers the following examples of types of ego involvement; self and social esteem, moral values, ego ideals, meanings and ideas, the well-being of other persons, and life goals.

Concerning secondary appraisal, Lazarus argues that there are three basic issues associated that influence emotion; blame or credit for an outcome, coping potential and future expectations.

Regarding the former,

*“blame or credit requires a judgment about who or what is responsible for harm, threat or challenge” (Lazarus, 1999;93).*

The result of blame or credit is either a cool and detached or a hot emotional response.

Coping potential,

*“arises from the personal conviction that we can or cannot act successfully to ameliorate or eliminate a harm or threat , or bring to fruition a challenge or benefit” (Lazarus 1999;93).*

Therefore coping potential also influences emotion.

Finally, future expectations,

*“may be positive or negative – for example, that the troubled person-environment relationship will change for the better or worse” (Lazarus; 1999;93).*

In other words, the emotional responses to transactions are dependent upon all these diverse appraisal components. Each emotion involves a different appraisal pattern (Lazarus, 1999;94).

## **2.5 Conceptual Analysis of Coping**

There have been many differing views as to what constitutes coping, with no general agreement drawn (Carpenter, 1992). Folkman (1992) identified four different perspectives including animal-behavioural, psychoanalytic-ego, trait-dispositional and transactional process. These perspectives are outlined and discussed below.

### ***Traditional Approaches***

Traditionally, coping has been defined from an animal-behavioural perspective as the degree of a stressor that can be tolerated. For example, Ursin stated,

*“The gradual development of a response decrement in the animal experiments as well as the human experiments is coping. The animal is learning to cope through the lowering of drive tension by positive reinforcement” (1980;264).*

This perspective puts little emphasis on process and cognitions (Houston, 1987). Lazarus and Folkman argue,

*“overall, we consider the animal model of coping simplistic and lacking in the cognitive-emotional richness and complexity that is an integral part of human functioning” (1984;118).*

Coping has also been defined using a psychoanalytic ego psychology model. This approach views coping as being unconscious defenses that enable the organism to

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manage instinct, affect and stress (Folkman, 1992). For example, Menninger (1954), Haan (1969, 1977) and Vaillant (1977) each offer a hierarchy in which coping refers to the highest and most advanced or mature ego processes, followed by defenses (hierarchically arranged neurotic modes of adaptation), and finally, at the bottom, processes called fragmentation or ego failure (Haan, 1969) or regressive/psychotic levels of ego functioning (Menninger, 1954). However, a major limitation of this approach is that it devotes little attention to the situation, focusing only on the person.

### *Coping Traits and Styles*

According to Lazarus (1999;103), there are three ways to view coping from a trait/style perspective. Firstly, coping traits/styles can be understood empirically by measuring coping stability or consistency over time and conditions. Specifically, this involves describing coping patterns that seem habitual by correlating coping thoughts and actions in the same persons over time or across conditions. Using this approach, coping traits and coping styles are viewed as the same thing.

A second way to understand coping traits/styles is to derive from theory the personality dispositions or traits that might influence stable coping action patterns (coping styles). Therefore, in this approach, coping traits and styles represent different types of constructs.

Thirdly, a conditional trait approach (Wright & Mischel, 1987) can be used to understand coping traits/styles. From this perspective, certain environmental conditions are said to be made functionally equivalent by a trait, and the trait must be shown empirically to shape the reaction under certain kinds of environmental conditions (Lazarus, 1999;104). From this perspective, coping styles are investigated by identifying personality dispositions that affect coping thoughts and actions based on the principle of functionally equivalent environmental conditions.

### ***Limitations to Traditional Approaches***

According to Lazarus (1999; 108), there are a number of limitations to traditional approaches to coping. Firstly, traditional approaches are reductionist in nature, they tend to oversimplify the varied kinds of coping thoughts, actions and strategies in to broad styles. In doing so, they fail to account for the diverse and complex nature of the coping process. Secondly, traditional approaches assume coping to be dispositional in nature rather than goal oriented and intentional. Therefore, they fail to account for personal motivations affecting the process. Finally, traditional approaches fail to consider the situation or context and portray coping to be rigid and inflexible. Process theorists such as Lazarus and Folkman argue that flexibility is a key component of effective coping.

### ***Coping as a process***

In recent years, a process view of coping has evolved as the most dominant model of coping. Lazarus and Folkman adopt a transactional process perspective of coping rather than viewing coping as a simple reaction to a stressor. Specifically, Lazarus and Folkman (1984) define coping as,

*“...constantly changing cognitive and behavioural efforts to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person” (1984;141).*

This definition of coping does not include coping outcome. Therefore coping includes all efforts regardless of effectiveness. This is the definition of coping that was used for the purposes of this thesis.

## **2.6 The Coping Process**

According to Lazarus (1999;111), a process approach to coping contains three main themes; no universally effective or ineffective coping strategy exists; coping thoughts and actions should be described in detail; major functions of coping. These themes are explained below.

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***No universally effective or ineffective coping strategy exists***

Lazarus (1999;111) argues that coping must be measured separately from its outcomes in order to evaluate the effectiveness of each individual coping strategy. He states,

*“Efficacy depends on the type of person, the type of threat, the stage of the stressful encounter, and the outcome modality – that is, subjective well being, social functioning and somatic health” (1999;111).*

He identifies a key principle,

*“the choice of coping strategy will usually vary with the adaptational significance and requirements of each threat...which will change over time” (1999;113).*

Therefore, he suggests that it is not valid to assume that a universal coping strategy exists and the way an individual copes with one threat will be the same as that chosen for a different threat.

***Coping thoughts and actions should be described in detail***

Lazarus argues,

*“To study the coping process requires that we describe what the person is thinking and doing at each stage, and the context in which it occurs” (1999;113).*

Therefore, Lazarus and his colleagues developed measuring tools for this purpose. Specifically, Folkman and Lazarus (1988) designed the ‘Ways of Coping Questionnaire-Interview’, which has been a widely used measure worldwide. Lazarus notes,

*“Research on the coping process requires an intra-individual research design, nested within inter-individual comparisons, in which the same individuals are*

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*studied in different contexts and at different times. Several individuals must be compared to avoid dependence on a single case.” (1999;114)*

He concludes that the best generic research design for this kind of research is longitudinal. However, due to time constraints, it was not possible to respond to this recommendation within this thesis.

### ***Major functions of coping***

Lazarus (1999) identifies two functions of coping, a problem-focused function and an emotion-focused function. He describes the problem-focused function as,

*“...a person obtains information about what to do and mobilizes actions for the purpose of changing the reality of the troubled person-environment relationship” (1999;114),*

For example, a person suffering from cancer seeks the opinions of several medical specialists about what treatment to select and which surgeon to employ.

In contrast, the emotion-focused function,

*“...is aimed at regulating the emotions tied to the stress situation” (1999;114).*

For example, the cancer patient may avoid thinking about the threat, without changing the realities of the stressful situation. Therefore, emotion-focused coping is a way of thinking that changes the relational meaning of the social transaction though not the actual person-environment relationship. According to Lazarus (1999), both problem-focused and emotion-focused functions are fundamental aspects of the coping process.

## 2.7 Situational Determinants of Coping

In recent years, a number of researchers have investigated situational determinants of coping. These studies are relevant to this thesis since a number of the core concepts were identified and incorporated into the research designs.

McCrae (1992) highlighted that specific behaviours are required to deal with particular problems and suggested looking at common indicators across stressors that may help to determine the most appropriate form of coping. Bjork and Cohen (1993) split these common indicators into 'quantitative' and 'qualitative' dimensions. Quantitative classifications of a stressor included measures of controllability, severity and chronicity (McCrae, 1992; Vitaliano, DeWolfe, Maiuro, Russo & Katon, 1990), whereas qualitative classifications involved appraising stressors in terms of threat, harm/loss or challenge (Bjork & Cohen, 1993). Such indicators may be helpful in determining effective coping responses (Bjork & Cohen, 1993; McCrae, 1992). The limited numbers of research studies in this area are outlined below.

McCrae (1984) investigated 151 participants from a community population. They were asked to describe stressful events that were classified by the investigator as either threatening, harmful or challenging. The controllability of each of the sources of stress was measured using a 5-point Likert scale. Participants were asked to identify coping strategies that they used in response to each of the stressors. Findings revealed that participants tended to cope with stressors labeled as losses by expressing their feelings. Further, stressors labeled as threats were dealt with via wishful thinking and those labeled as challenges were dealt with through rational action and positive thinking. In terms of quantitative classifications of stressors, those rated as high in control were dealt with using rational action, restraint coping, expression of feelings, humour and self blame, whereas stressors rated low in control were associated with fatalism, distraction, social comparison, and wishful thinking. Further, a negative correlation was found between the severity of a stressor and the coping response isolation of affect, intellectual denial, active

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forgetting and humour. McCrae (1984) suggests that these responses minimize the seriousness of the stressor.

There were two main limitations of McCrae's (1984) study. Firstly, the classification of each stressor into the 'qualitative' categories (challenge, threat and harm/loss) was determined by the investigator rather than the participants. Therefore, the personal stress experiences of the participants were assumed by the researcher, yet in reality they may have been different. Secondly, McCrae identified difficulties in classifying stressors into one of the three mutually exclusive categories. In reality, stressors may have all of the challenging, threatening and harm/loss aspects and it may not be possible to label them as exhibiting one set of characteristics. McCrae (1984) concludes by suggesting that future research should focus on gaining the participants perspective on the degree to which a stressor is challenging, threatening, harmful, controllable or severe.

Lazarus and Folkman (1984) suggested that stressors identified as high in control would be linked to problem-focused coping strategies whereas those identified as low in control would be linked to emotion-focused strategies. Furthermore, Lazarus and Folkman (1985) investigated a community population and found that problem-focused coping was associated with challenge and benefit emotions and that threat and harm emotions were linked to emotion-focused coping.

Bjork and Cohen (1993) investigated the ways in which 293 undergraduates coped with threats, losses and challenges. Participants were asked to read descriptions of six events, of which two were appraised as challenging, two as threatening and two as a loss. Participants were given Lazarus and Folkman's (1984) definitions of challenge, threat or harm/loss appraisals to ensure standardization across participants' responses. To check that participants appraised situations in a similar way to the investigator, they were asked to rate each of the six events using three separate sub-scales; challenge, threat, harm/loss. Findings revealed that participants predominantly employed problem-solving coping. These findings are consistent with previous research findings of Endler and Parker (1990) and Folkman and Lazarus (1988). Further, problem-solving was most predominantly

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used with challenging situations, then with threatening situations and finally with loss/harm situations. Results also demonstrated that emotional support was used more with a loss.

Bjork and Cohen suggested that the reason for the predominant use of problem-solving was that individuals prefer to alter their environment rather than make internal changes. They note that emotion-focused coping may imply a deficit in personal resource. Further, an individual's choice of coping may be influenced by their desire to maintain or restore personal control (Brown & Seigel, 1988; McCrae, 1992; Vitaliano et al., 1990). Bjork and Cohen (1993) suggest that the reason emotional support was used more with a loss was that it is more socially acceptable to seek social support at a time of loss. They also explain that individuals may not use social support in challenging situations to ensure that they take the sole credit for any outcome.

Therefore, Bjork and Cohen's results illustrated that the qualitative nature of the stressor influenced coping. Further, the empirical evidence offered by McCrae, Lazarus and Folkman, and Bjork and Cohen, supports the notion that it is important to investigate stress source characteristics in order to determine which coping strategies are likely to be most effective.

## **2.8 Interpersonal Aspects of Coping**

Since the very essence of coaching is social facilitation, interpersonal aspects of stress and coping are highly relevant to this thesis. Therefore, it was considered important to review some of the relevant literature in this area.

Carpenter and Scott (1992) identified three ways in which social functioning may contribute to stress and coping; the social environment itself produces stressors; the social context influences both coping selection and coping effectiveness; the social environment provides social resources for coping.

Carpenter and Scott (1992) suggested that social environments create sources of stress. They identified a number of social environmental stressors such as marriages, parent/child relationships, business relationships and friendships. Furthermore, Hobfoll (1986) advocated that social environments produce stressors, arguing that social support may not always be supportive and in some cases may be negative.

Carpenter and Scott (1992) also advocated that the social context influences both coping selection and coping effectiveness. This view reinforces Lazarus and Folkman's (1984) transactional model that views the social context as a central component of the coping process.

Finally, the social environment provides social resources for coping. Specifically, Carpenter and Scott (1992) identified 'relational competence' to be an important social resource for coping. The term 'relational competence' refers to the skills that contribute to the acquisition, development and maintenance of a relationship. Further, they advocated that perceptions of social support and relational competence may influence the way a situation is appraised and also the subsequent coping responses.

## **2.9 Coping with organisational stress**

Since high performance coaching activities in English squash exist within the organisational structure of the World Class Performance Programme, it is useful to acknowledge the organisational stress and coping literature.

Over the last decade, there has been an abundance of research into organisational stress, for example, Cox et al (1992), Dewe (1989, 1991, 1992), Euiberg et al (1988), Latack, (1986). Most of the research in this area is documented in the occupational psychology literature, although more recently, research into organisational stress in sport has been reported (Woodman & Hardy, 2001).

According to Latack and Havlovic (1992;479), due to this large interest in organisational stress, researchers have devoted considerable attention to investigating how people cope (Latack, 1986; Schuler, 1985). However, Latack and Havlovic (1992) suggested that there has been little rigorous evaluative research on coping strategies. Consequently, they reviewed 43 studies in the area and provided a conceptual evaluation framework aimed to help practitioners choose or develop appropriate and effective coping measures in relation to various occupational stressors. Further, Dewe, Cox and Ferguson (1993) reviewed 17 current research papers investigating coping with organisational stress. They highlighted the need to distinguish between coping style and coping behaviour, and the need to distinguish between occupational specific and general coping measures.

## **2.10 Categories of Coping**

Many behaviours have been labeled as coping and researchers have tried to derive these separate behaviours into categories (Carpenter, 1992). Cox and Ferguson (1991) suggest that having categories and taxonomies can help both researchers and practitioners to gain a greater understanding of coping behaviours. A number of coping categories have been identified:

### ***Problem-focused and emotion-focused***

Lazarus and Folkman (1984) identified two coping categories that are now widely accepted, problem-focused and emotion-focused coping. Problem-focused coping involves cognitive and behavioural efforts to change the problem causing the distress. This category includes strategies such as problem solving or planning for eventualities. Emotion-focused coping involves regulating emotional arousal and distress and includes strategies such as relaxation.

### ***Appraisal-reappraisal***

Billings and Moos (1984) and Cox and Ferguson (1991) suggested another additional category to problem-focused and emotion-focused, that of appraisal-reappraisal. This category would include strategies such as; logical analysis of a situation, looking for

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causes of a situation, cognitive redefinition, and social comparison (Cox & Ferguson, 1992).

### ***Task-oriented, emotion-oriented and avoidance***

Endler and Parker (1990) suggested three coping categories, two of which, task-oriented and emotion-oriented fit with Lazarus and Folkman's problem and emotion focused categories. The third category proposed was avoidance, defined as,

*"...efforts, whether physical or mental, to disengage from the stressor". (Endler & Parker, 1990)*

They suggested that to determine the effectiveness of avoidance coping, it is essential to consider the length of time over which the stressor is occurring, since avoidance may not be effective over a long period of time.

## **2.11 Coping Effectiveness**

Assessing the effectiveness of coping strategies in dealing with particular stressors is essential to the development of mental skills. According to Hardy et al (1996), despite its importance, researchers have had problems in assessing coping effectiveness. It is possible to identify three methods of measuring coping effectiveness in the literature; outcome measures; 'goodness of fit' measures; perceptions of effectiveness measures. Each of these methods is outlined and discussed below:

### ***Outcome measures***

This method involves measuring important outcomes of the coping process, such as performance or satisfaction. However, Carpenter (1992;6) identifies a number of difficulties in use. Firstly, it is difficult to operationalise because coping may occur very quickly and therefore is difficult to assess. Secondly, coping may have long-term outcomes that may appear non-existent at a particular point in time. Further, some strategies, such as consuming alcohol, may in the short-term have a positive outcome yet

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in the long-term be maladaptive. Carpenter summarises problems associated with outcome measures,

*“...because coping is embedded within a stress process that is constantly updated via complex feedback loops, it is often difficult to determine if causal relationships exist between stress, coping, and stress-coping outcomes” (1992;6).*

### ***‘Goodness of fit’ measures***

A further method of measuring coping effectiveness was that advocated by Lazarus and Folkman (1984). They suggested examining the ‘goodness of fit’ of coping strategies. Specifically, assessing the ‘goodness of fit’ is based on two judgments, the fit between reality and appraisal, and the fit between appraisal and coping. Whilst there are many aspects of the ‘goodness of fit’ notion, its basic predictions are twofold. Firstly, it suggests that problem-focused coping strategies will be most effective in situations where the individual has personal control over important elements of the stressful encounter, i.e., he/she can do something about the cause of the stress. Secondly, it suggests emotion-focused coping strategies will be most appropriate in stressful encounters where the individual has little control over the situation and the recurrence of stress. In such cases, since little can be done about changing the source of stress, the individual should focus on managing his/her emotional reaction to it.

In terms of the usefulness of the ‘goodness of fit’ notion, Hardy et al note,

*“...the ‘goodness of fit’ notion is difficult to test and reviewers are in disagreement over its utility” (1996;211).*

Folkman et al (1991) view ‘goodness of fit’ in a positive light whereas Cox and Ferguson (1991) and Dewe et al (1993) judge it less favourably. Therefore, further research is required to test the utility value of this notion.

### ***Perceptions of effectiveness measures***

A further way to assess coping effectiveness has been employed by Bar-Tal, Lurie and Glick (1994), who focus on perceptions of effectiveness measures. They asked male and female Israeli soldiers to rate the effectiveness of the coping strategies they employed during the Gulf War. This study was methodologically strong since all participants experienced similar objective conditions. Further, this study extended previous research that examined coping effectiveness by measuring the extent of use of coping (Billings & Moos, 1984, 1985; McCrae & Costa, 1986; Spitzer, Bar-Tal & Golander, 1993). Bar-Tal et al (1994) argue that the extent of coping is quite different to the effectiveness of coping. Employing a particular strategy more regularly does not imply that it is necessarily more effective. Therefore, Bar-Tal et al (1994) concluded that future research should consider both extent and effectiveness measures.

One drawback of measuring perceptions of coping effectiveness is that self-report measures may not always provide an accurate picture of reality. For example, a participant may rate a particular strategy as effective, yet objective behavioural measures may reveal it to be ineffective. Therefore, self-report measures are constrained by the ontological standpoint of the participants.

### **2.12 Summary**

This chapter has provided a traditional narrative review of a variety of theories and concepts in the general stress and coping literature that were considered particularly relevant to this thesis. A systematic review of the stress and coping in sport literature is provided in chapter three.

# CHAPTER THREE

## A SYSTEMATIC REVIEW OF STRESS AND COPING IN SPORT

*“Systematic reviews of research evidence are invaluable scientific activities...required to refine unmanageable amounts of information. Through critical exploration, evaluation, and synthesis, the systematic review separates the insignificant, unsound or redundant deadwood from the salient and critical studies that are worthy of reflection.” Mulrow (1995;2).*

### 3.1 Structure of the chapter

This chapter provides a systematic review of the literature on stress and coping in sport. Part two offers an introduction highlighting the benefits of systematic rather than traditional reviews. Part three is an explanation of the methods. It outlines the search procedures and the development of selection and inclusion criteria. Part four provides a comprehensive review of fifty-two studies identified in the sport stress and coping literature post 1984. Part five outlines the main results and discusses the general trends in the study characteristics and the over-all contribution to knowledge resulting from sport stress and coping research post 1984. Finally, part six summarises the current state of knowledge in the area and concludes with suggestions for future research.

### 3.2 Introduction

A systematic review is a review that uses some form of systematic approach. This type of review was favoured over a more traditional review for a number of reasons. Firstly, a systematic review of the literature on stress and coping in sport does not currently exist. Therefore, it would be a unique way of evaluating the state of knowledge in the area. Secondly, according to Mulrow, this type of review contributes to an “improved reflection upon reality...traditional reviews have been criticised as haphazard and biased,



subject to the idiosyncratic impressions of the individual reviewer" (1995;5). Furthermore, Eysenck (1995;64) comments, "Traditional reviews are often not very systematic, and are frequently biased". Systematic reviews, on the other hand, apply explicit scientific principles aimed at reducing random error and systematic errors (Mulrow, 1995). Another advantage of systematic reviews is that they "...reduce large quantities of information into palatable pieces for digestion" (Mulrow, 1995;2). Each study is reviewed using a number of standardised criteria. These provide the basis for making sense of the masses of data from different studies in the same area. In fact Mulrow (1995;3/4) explains, "...diversity of multiple reviewed studies provides an interpretive context not available in any one study." Finally, systematic reviews establish the generalisability of scientific findings. Mulrow (1995;4) states,

*"...systematic reviews establish whether scientific findings are consistent and can be generalised across populations, settings, and treatment variations or whether findings vary significantly by particular subsets."*

Therefore, the systematic review assesses consistency among studies of the same type and explains any data inconsistencies and conflicts. Mulrow (1995;7) concludes, "It is an efficient scientific technique that can prevent meandering down an already explored path."

### **3.3 Method**

#### ***Search Procedures***

English language studies were located from four main sources. Firstly, the computerised databases PsychLit, Sports Discus and BIDS were searched using the keyword combinations of sport, high performance, athletes, stress, coping, and coaching. All articles from 1984 (the publication year of Lazarus and Folkman's book 'Stress, Appraisal and Coping' that provided both conceptual clarity and an accepted theoretical model to stress and coping research) to September 2000 were examined. Secondly, a manual search was conducted of the 1997-2000 issues of the following serial titles: *The*

*Sport Psychologist, The Journal of Sport and Exercise Psychology, The Journal of Applied Sport Psychology, The International Journal of Sport Psychology, and the Journal of Sport Behaviour.* These titles were selected because they had published the majority of studies identified by the computerised search. Thirdly, reference sections from both review articles and primary studies located from the previous two methods were examined. The final search procedure was of personal files including personal communication with investigators such as Elizabeth Campbell and Daniel Gould who have published research on stress and coping in sport.

### ***Selection and Inclusion Criteria***

In order to organise the review, four broad categories were developed; Qualitative studies of stress in sport, qualitative studies of coping in sport, quantitative studies of stress in sport, quantitative studies of coping in sport. Distinguishing between studies solely in terms of methodological approach has been accepted by researchers as an effective way of organising a review of stress and coping in sport (Hardy, Jones & Gould, 1996; Campbell, 1997).

A number of criteria were used to delimit the search. Firstly, only studies published post 1984 and therefore post Lazarus and Folkman's 1984 book ('Stress, Appraisal and Coping'), were included. This book provided conceptual clarity regarding stress and coping research. Prior to 1984, there was a lack of consensus concerning definitions of stress, and related terms such as anxiety, arousal and strain and these terms were used interchangeably. Therefore, it was assumed that studies post 1984 would be more likely to adopt Lazarus and Folkman's definitions and therefore provide more coherence to the body of research in the area.

Secondly, a number of criteria were used to delimit the search in terms of subject area/topic. With regard to stress, only studies in sport focusing on 'sources of stress' 'stressors', 'stressful situations', 'intensity of stress', 'magnitude of stress' or 'measurement/ratings' of stress' were included. Studies in which 'sources of stress' and 'burnout' were examined together, plus 'burnout' studies that revealed sources of stress,

were included (the 'sources of stress' data was important to the review). However, studies looking at 'anxiety', 'strain', 'arousal', and 'life stress' were excluded because they were not highly relevant to the focus of the review, stress in sport. In terms of coping, those studies in sport in which the primary variable was coping including 'coping with...', 'coping strategies', 'coping styles', 'personal and situational predictors of coping', 'ways of coping', or 'measurement of coping' were featured. Those studies looking at coping as a single or as one of a number of possible moderator variables were excluded because they contributed more to the existing knowledge of other literature sets than to the coping literature.

Thirdly, publication status was used to delimit the search. In order to ensure that only studies reporting primary data were included, published empirical studies in the form of journal articles, and conference presentations in the form of published abstracts, were incorporated in the review. Book chapters, grant reports and narrative reviews were excluded since they tend to report secondary data. Ph.D/Masters theses were also excluded due to pragmatic reasons. Even though they usually report primary data, the task of obtaining copies of entire theses is an expensive and arduous one for the author and her institution. Furthermore, many of the studies reported in Ph.D/Masters theses are published in journal articles and inclusion of both in the review may lead to repetition.

### **3.4 Reviewing the studies**

In order to review each study in a consistent manner, a set of criteria was developed. One of the most 'user friendly' ways to illustrate the results of a systematic review is to tabulate the findings. Whilst it is particularly useful to compare characteristics such as sample sizes, sample make-up, sporting level of participants and study design, tabulating the results of qualitative research is potentially problematic.

Researchers often use qualitative methodology in order to provide an in-depth understanding of the phenomena under investigation. Consequently much qualitative data exist in the form of text units that emerge from quotations from individual participants. Summarising such findings in order to insert them into a table is

reductionist in nature, and the true meaning and understanding of the results may be lost in the translation. However, in most qualitative studies of stress and coping in sport, the data are content analysed using techniques advocated by Patton (1980). Content analysed data is usually illustrated in tree diagrams in which raw data themes are bound together with other raw data themes of a similar core meaning to form first and second order themes and general dimensions. Since general dimensions emerge from the data as it progresses into the higher order themes, theoretically the meanings of the raw data themes should be encapsulated. Consequently, by tabulating the results of the general dimensions, the meaning should still be represented. Therefore, all the studies on stress and coping in sport, both quantitative and qualitative, are represented in the table format (see tables 3.1, 3.2, 3.3, 3.4).

The criteria used to review the studies were; 'age', 'gender', 'sample size' (n), 'country' (in which empirical work was conducted), 'data collection method', 'data analysis method', 'level/type of sport' (in which participants were involved), 'unit of analysis', and 'findings'. These categories form the columns of the table. The rows consist of the citation plus the review information under each category.

There were a number of reasons for choosing the review criteria. The age range of participants was identified in order to investigate the overall ratio of youth sport to young adult to veteran participants. Gender was also deemed important in order to determine the ratio of males to females. Sample sizes of various studies were required in order to assess the overall validity and reliability of research. The country in which the empirical work was conducted was identified in order to examine the volume of research in stress and coping in sport in various global locations. Additionally, information about the type of sport participant used in each study was required to determine the number of studies using athletes, sports officials, and sports coaches. Furthermore, the performance level of these sports participants, elite (international, national, inter-collegiate, regional, state etc.) to amateur (club level), was chosen in order to assess the specificity of the findings to various levels of the sporting population. Finally, key findings from all the studies in stress and coping in sport were identified in order to provide a comprehensive picture of

the current body of knowledge in the area, to facilitate the process of comparing results of similar studies, and to reveal any gaps in the literature.

### **3.5 Results and Discussion**

A total of 52 studies were identified using the above criteria for inclusion. The methodological spilt of these studies was as follows: 5 qualitative studies of stress in sport (see table 3.1), 14 quantitative studies of stress in sport (see table 3.2), 9 qualitative studies of coping in sport (see table 3.3), and 24 quantitative studies of coping in sport (see table 3.4). Therefore the total number of studies of stress in sport amounted to 19 and the total number of studies of coping in sport totalled 33. This is a relatively small number of studies over the period of 16 years.

**Table 3.1: Qualitative Studies of Stress in Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QLSOS1 Cohn, P.J. (1990) "An exploratory study on sources of stress and athlete burnout in youth golf"	Range 15-17	10 Male	10	U.S.A.	Retrospective Interviews (90-120 mins) - Guided Interview Approach	Typological Analysis of Interview Transcripts - Deductive Content Analysis (Lincoln and Guba, 1985)	Youth Golf	All sources of stress mentioned by the golfers fit into one of the four pre-determined categories: -Competitive, -Demands and costs, -Personal struggles, - Significant other relationships. All 10 golfers experienced burnout at some stage, absence due to burnout was 5-14 days, there were 13 perceived causes of burnout. Conc.-supports Smith' cognitive-affective model of athlete stress and burnout.
Ref: QLSOS2 Gould, D., Jackson, S.A., Finch, L.A. (1993) "Sources of stress in national champion figure skaters"	Range 18 - 33	10 Females 7 Males	17	U.S.A.	Retrospective Interviews (90 - 180 mins) Telephone Interviews	Inductive Content Analysis (Patton, 1980)	U.S. National Champion Figure Skaters who held titles between 1985 - 1990	71% of skaters experienced more stress after winning their title than before doing so. Stress source dimensions included; - relationship issues, -expectations and pressure to perform, -psychological demands on skater resources, - environmental demands on skater resources, -life direction concerns, - miscellaneous.
Ref: QLSOS3 Gould, D., Udry, E., Bridges, D., Beck, L.(1997) "Sources of stress encountered when rehabilitating from season-ending ski injuries."	Mean = 23.9	11 Male 10 Female	21	U.S.A.	Retrospective Interviews (60-90 mins) - max time between skier's injury and interview was 48 months.	Inductive Content Analysis (Patton, 1980)	U.S.A. Ski Team members who suffered season-ending injuries	182 raw data themes coalesced into 8 general dimensions of stress: -Psychological concerns, -Social concerns, -Physical concerns, -Medical/rehab concerns, - Financial concerns, - Career concerns, -Missed non-ski opportunities, - Other concerns. Successfully recovered skiers reported more isolation concerns. Unsuccessfully recovered skiers reported lack of attention/empathy and negative relationship social dimension concerns plus poor performance and inactivity physical dimension concerns.

**Table 3.1: Qualitative Studies of Stress In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QLSOS4 James, B., Collins, D. (1997) "Self presentational sources of competitive stress during performance"	Mean = 22, Range = 17 - 31	10 Males 10 Females	20	U.K.	Retrospective Interviews (35 - 55 mins). Interview conducted no more than 2 days after a competitive event. Standardised interview guide used.	Inductive Content Analysis (Patton, 1980)	Criterion = involvement in competition (defined by Martens 1976), from 11 different sports. N made up of 2 internationals, 8 nationals, 3 regional, 7 club level.	8 general dimensions emerged from 48 raw data themes: -Significant other stressors (22.9%), -Social evaluation and self presentational concerns (20.8%), -Competitive anxiety and doubt (16.7%), -Perceived readiness issues (14.6%), - Nature of competition (8.3%), -Environmental demands (8.3%), -Not performing to required standard (4.2%), -Miscellaneous factors (4.2%). Further analysis for self presentation mechanisms in raw data themes were conducted. Self presentation was found to play a role in the generation of competitive stress in our sample of athletes.
Ref: QLSOS5 Scanlan, T.K., Ravizza, K., Stein, G.L. (1991) "An in depth study of former elite figure skaters III: sources of stress"	Range = 22-49	15 Male 11 Female	26	U.S.A.	Retrospective Interviews (90-120 mins) - Standardised Interview Guide	Inductive Content Analysis (Patton, 1980) Descriptive Statistics	Former Elite Figure Skaters	5 major sources of stress:-Negative aspects of competition, negative significant other relationships, demands/costs of skating, personal struggles, traumatic experiences. Descriptive statistics show:-Elite athletes experience stress from competition and non competition sources, Individual differences exist between elite athletes stress, Elite and youth sport athletes have similar competition related stressors.

Table 3.2: Quantitative Studies of Stress in Sport: 1984 Onwards

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTSOS1 Anshel, M.H., and Weinberg, R.S.(1995), "Sources of Acute Stress in American and Australian Basketball Referees"	<u>U.S.A</u> Range = 19-45, Mean=32.6 <u>Aussie</u> Range = 20-37, Mean = 29.8	All Male	132 (70= USA, 62= Aussie)	U.S.A. Aussie	Survey – BOSSI Basketball officials source of stress inventory consisting of 15 items (stressors). Subjects circle 1-not at all, to, 10-extremely.	-Descriptives -Pearson's correlational analysis -Unpaired t-test -One way MANOVA -Stepwise discriminant function analysis	-70 basketball ref's from south western USA -62 were from New South Wales, Aussie, all had intermediate or advanced expertise (Levels 1 or 2)	Ranking for sources of acute stress were: 1. Making a wrong call, 2. Verbal abuse by coaches, 3. Threats of physical abuse, 4. Being in the wrong location when making a call, 5. Experiencing injury. The top stressors have a mean of 4 and 5 on a 10 point scale thus indicating moderate as opposed to high levels of stress. Most often and least often reported stressors for USA and Aussie officials were similar and both groups experienced overall acute stress to a similar extent.
Ref: QTSOS2 Goldsmith, P.A., Williams, J.M. (1992) "Perceived stressors for football and volleyball officials from 3 rating levels"	<u>Intramural Official</u> Mean=21.7 <u>Non-certified official</u> Mean=31.6 <u>Certified Official</u> Mean=41.6	24 Male Volleyball Officials 14 Female Volleyball Officials 61 Male Football Officials, mix of officiating level.	99	U.S.A.	OST Officials Stress Test was created from the 31 item Soccer Officials Stress Survey (SOSS)	Principal components factor analysis with varimax rotation, MANOVA, MANCOVA, ANCOVA	-28 Uni of Arizona intramural officials -26 non-certified Arizona Interscholastic officials -45 Certified AIA officials	The analysis produced a five factor solution: 1. Fear of physical harm, 2. Pressure game, 3. Verbal abuse by players and coaches, 4. Time pressure, 5. Fear of failure accounted for 60% of the variance in questionnaire responses. There were no significant differences between males and females responses. There were no significant differences between types of sport and rating level of stress. Football officials reported greater stress from fear of physical harm than did volleyball officials. Certified officials reported significantly more fear of failure than intramural and non-certified officials.
Ref: QTSOS3 Gould, D. and Weinberg, R. (1985) "Sources of worry in successful and less successful intercollegiate wrestlers" Journal of Sport Behaviour, 8, 115-127.	Range = 18-22 Mean = 20	Not given	37	U.S.A	Questionnaire – The sources of stress scale previously employed by Gould, Horn and Spreemann (1983), wrestlers rated 1-7 on a likert scale how often they typically worried about a particular source of stress.	-Descriptive statistics -Discriminant function analyses -T-tests	Intercollegiate wrestlers competing in the U.S. Wrestling Hall of Fame Classic Competition	Descriptive statistics revealed: "Not wrestling well", "Improving on my last performance", "What my coach will think or say", "losing", and "Performing up to my level of ability" were the most frequently cited sources of worry. -No significant differences were found between winners and losers on Match 1 outcome. -On match 2, losers were found to worry significantly more than winners, with concern about coach evaluation, losing and making mistakes contributing most to the differences between groups. -Wrestlers who did not lose in both matches compared to those who did not win was also significant, suggesting that the coach evaluation worry item contributed most to the separation between groups.



**Table 3.2: Quantitative Studies of Stress in Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTSOS4 Kaissidis-Rodafinos, A., Anshel, M.H., Sideridis, G. (1998) "Sources, Intensity and Responses to Stress in Greek and Australian Basketball Referees"	All 18+ 38 Aussies Mean=29.8 75 Greeks M=32.6	Male	113	Aussie Greek	BOSSS (Basketball Officials Sources of Stress Survey) 15 items (officiating stressors) ratings 1-10 likert scale, plus officials asked to provide an example of the stressor from their experience.	-Descriptive statistics -MANOVA	-38 Aussie ref's who attended the New South Wales Referees conference. -75 Greeks at Annual National Basketball Referees Conference	Overall stress level experienced by ref's from both samples was moderate. Stressors ranked highest by both Aussie and Greek ref's were:- -Making a wrong call, -Working with my partner, -Presence of my supervisor, -Threats of physical abuse, and verbal abuse from coaches. Stressors ranked lowest by both samples were : -Arguing with players, -Calling a technical foul, -Arguing with coaches. The MANOVA revealed Aussies considered arguing with players, arguing with coaches, making a controversial call, verbal abuse from players to be significantly more stressful than Greeks. Greeks perceived presence of media to be more stressful than Aussies. Qualitative data revealed differences in perceived intensity of stress, thoughts and coping responses to the stress. This was attributed to sociological and cultural differences between subjects.
Ref: QTSOS5 Madden, C.C., Kirby, R.J, McDonald, D., Summers, J.J., Brown, D.F., King, N.J., (1995) "Stressful situations in competitive basketball"	Mean=23 Range=15-44	All Male	84	Australia	SSBQ Stressful Situations in Basketball Questionnaire (Madden, 1987, Madden et al , 1990)	-Descriptive statistics -Correlational Analysis -T-Tests	Basketball players playing competitive basketball at A, A-Reserve, B, and C grades in one of two stadia in the Latrobe Valley, Victoria.	The most stressful situations were found to be: -A slump in personal form, -The team is losing and -The opposition is holding up play. The most commonly experienced category of stressor, according to frequency of responses on the SSBQ was: -Errors in general play (scale 3). Other highly endorsed scales were: -Being outplayed (scale 1), -Other performance (scale 6), and - game tension (scale 4). Analyses of independent t-tests indicated that while there were no differences according to experience, players who said that they trained more reported negative team performance situations as more stressful than those who trained less. This finding appears to reflect a greater investment in the teams performance by players who reported that they trained for a longer period than their team-mates.

**Table 3.2: Quantitative Studies of Stress in Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTSOS6 Rainey, D. (1995a) "Sources of stress among baseball and softball umpires."	Mean = 43.2 years	763 Male 19 Female	782	U.S.A.	OSOS Ontario Soccer Officials Survey (Taylor, Daniel, Leith and Burke 1990)	Principal components factor analysis with oblimin rotation.  Confirmatory factor analysis with LISREL 7.	Basketball / softball umpires from a mid-western state, officiated amateur competitions from youth to college adult leagues.	Factors labeled: -Fear of failure, -Fear of physical harm, -time pressures, -Interpersonal conflict emerged from the responses of umpires. These factors have been identified in studies involving soccer (Taylor and Daniel, 1977), volleyball and football (Goldsmith and Williams, 1992), and baseball/softball umpires. Factors that emerged can be interpreted in a manner compatible with Smith's (1986) model. Mean factor scores and standard deviations suggested that these factors contributed 'mildly' to their officiating stress. Thus while the factors have been consistently implicated across studies, officials do not perceive them to be very potent.
Ref: QTSOS7 Rainey, D. (1995b) "Stress, burnout and intention to terminate among umpires"	Mean = 43.2 years	763 Male 19 Female	782	U.S.A.	OSOS Ontario Soccer Officials Survey (Taylor, Daniel, Leith and Burke 1990)	Structural Equation Modeling with LISREL 8.	Basketball / softball umpires from a mid-western state.	Contrary to results based on soccer officials, age and role/culture conflict were not predictors of burnout or termination, but time pressure did predict burnout. The structural model hypothesizing that: -Fear of failure, time pressure and interpersonal conflict predict burnout -Burnout predicts intention to terminate This hypothesis did fit the observed data with a goodness of fit index of .94.
Ref: QTSOS8 Rainey, D. and Winterich, D. (1995) "Magnitude of stress reported by basketball referees".	Mean=41.9	56=Female 667=Male	723	U.S.A.	Survey - data were generated by a 3-item scale (Rainey, 1994) on which stress experienced by the referees in a just completed season was rated.	Descriptive statistics	Basketball Referees	The mean stress score for the stress scale among the entire sample was 2.5 indicating stress between "very little" and "moderate amount". In fact, 89% of referees had mean scores in this range; only 4% had mean scores of "quite a bit" or "great deal". The mean stress score for female referees was 2.7, the mean for males was 2.4. Analysis of covariance, with age and years of experience as covariates indicated that women had significantly higher mean stress ratings than men, however, gender accounted for only 1% of the variance in stress scores in this sample.

**Table 3.2: Quantitative Studies of Stress in Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTSOS9 Rainey, D.W. and Hardy, L. (1997) "Ratings of stress by rugby referees"	Mean=41	Not given	682	Wales, England, Scotland.	Four-section postal questionnaire designed and validated for the study. Participants stress measured using a 3-item scale.	Descriptive statistics.	Officials from Rugby Unions of Wales (n=126), England (n=416), Scotland (n=140).	Mean ratings for the total sample and each group were between "very little" and "a moderate amount". Results support earlier studies, suggesting that most sports officials do not experience much stress while officiating.
Ref: QTSOS10 Seggar, J.F., Pedersen, D.M. (1997a) "A measure of stress for athletic performance; study one"	Not given	Female	148	U.S.A	Developed the "Athlete Stress Inventory"	Factor analysis on the intercorrelations of responses	All members of women's intercollegiate sports teams in NCAA Division 1.	Four orthogonal factors of stress in student athletes were identified: -Negative mood, -Team compatibility, -Physical well being, -Academic efficacy. Scales for these factors were reliable and valid.
Ref: QTSOS11 Seggar, J.F., Pedersen, D.M. (1997b) "A measure of stress for athletic performance; study two"	Not given	Female	32	U.S.A	Developed performance measures: -Tennis = No. of games won by participant minus no. of games won by her opponent. Gymnastics = points awarded by judges in competition. Basketball = sum of points scored, steals, assists, and rebounds minus the sum of turnovers and missed shots divided by no. of minutes of play.	Correlations of scores on athletic stress inventory with athletic performance.	Members of three women's intercollegiate sports teams in NCAA Division 1; tennis, gymnastics, and basketball.	Stress scores (except Emotional Mood) reported four days prior to competition tended to be significantly correlated with performance for the individual sports (tennis and gymnastics) but not for the team sport (basketball). The correlation involving Physical Well Being was not significant for gymnastics.

**Table 3.2: Quantitative Studies of Stress in Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTSOS12 Stewart, M.J. and Ellery, P.J. (1996) "Amount of psychological stress reported by high school volleyball officials"	Mean =37.8	Male=37% Female=63%	353	U.S.A	Self Report Survey asking about overall stress levels whilst officiating volleyball (likert scale was used for ratings 1-5)	Descriptive Statistics	High school volleyball officials in a mid-western state	The mean rating of stress was 2.3 (SD=0.6) (between "very little" and "a moderate amount") which is similar to past findings for certified, amateur baseball and softball umpires.
Ref: QTSOS13 Stewart, M.J. and Ellery, P.J. (1998) "Sources and magnitude of perceived psychological stress in high school volleyball officials"	Mean =37.8 years	Male=126 Female=218	349	U.S.A	Ontario Soccer Officials Survey (Taylor et al 1990)	Principal components analysis with varimax rotation	High school volleyball officials in a mid-western state	Four dimensions of stress sources emerged: -Fear of failure, -Time pressure, - Interpersonal conflict, -Fear of physical harm. Magnitude of stress: -57% of officials reported "none" or "very little" stress associated with volleyball officiating.
Ref: QTSOS14 Taylor, Daniel, Leith and Burke (1990) "Perceived stress, psychological burnout and paths to turnover intentions among sports officials"	Mean =38.7	Male	529	Canada	The Ontario Soccer Officials Survey (Taylor and Daniel, 1988a, 1988b), 30 items to assess perceived stress using a 4-point likert scale, a 16 item version of the Maslach burnout inventory, 5 items to assess turnover intentions.	-Descriptive statistics -Correlational analyses -Path analysis involving multiple regression analysis	Soccer referees certified at Youth competitive level and above.	-Cross-sectional path analysis revealed; fear of failure, role-culture conflict and interpersonal conflict have only indirect effects, through burnout on turnover intentions. -Age was negatively related to burnout. -A longitudinal path analysis suggested that total perceived stress and burnout had only indirect effects on turnover intentions. -Stress had a direct negative effect on burnout while burnout appeared to have a direct positive effect on perceived stress over time.

**Table 3.3: Qualitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QLCOP1 Dale, G.A. (2000) "Distractions and coping strategies of elite decathletes during their most memorable performances"	Range =26-30	All Male	7	U.S.A.	Phenomenological Interviews	Content Analysis (Patton, 1980, 1990)	Decathletes who have competed at national/international level (Each athlete had scored 8000 points, the standard for excellence in at least one competition)	Two major themes emerged from the interviews, distractions and coping strategies. Distractions: -Lack of confidence, -Fatigue, -A bad event, -Pain, -Fear, -Weather, -Other competitors, -The 1500m. Coping strategies: -Imaging/visualising, -Being aware of cues, -Competing only against self, -Confidence in ones training, -Consistency, -Camaraderie.
Ref:QLCOP2 Gould, D., Eklund, R.C., Jackson, S.A. (1993) "Coping strategies used by U.S. Olympic Wrestlers"	Range =21-35 Mean =26.6	20 Males	20	U.S.A.	Retrospective Interviews (90-120 mins) Standardised Interview Guide	Inductive Content Analysis (Patton, 1980, 1990)	U.S. Olympic Wrestling Team at Seoul Olympics	Coping strategies included: -Thought control strategies, -Task focus strategies, -Behavioural based strategies, -Emotional control strategies. -Coping was not limited to a particular strategy nor a single approach when dealing with a particular stressor. -Results supported notion that coping is a dynamic complex process involving a number of strategies often in combination. -The degree to which coping strategies are well learned or automated is related to perceived effectiveness.
Ref: QLCOP3 Gould, D., Finch, L.M., Jackson, S.A. (1993) "Coping strategies used by national champion figure skaters"	Range =18-33 Mean =25	10 Female 7 Male	17	U.S.A.	Retrospective Interviews (90-180 mins) Standardised Interview Guide	Inductive Content Analysis (Patton, 1980, 1990)	U.S. National Champion Figure Skaters	General coping dimensions reported by at least 40% of the skaters included: -Rational thinking and self talk, -Positive focus and orientation, -Social support, -Time mmt and prioritization, -Pre-competitive mental preparation and anxiety, -Training hard and smart, -Isolation and deflection, -Ignoring the stressor. Skaters used different coping strategies depending upon the specific stressor encountered.

**Table 3.3: Qualitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QLCOP4 Gould, D., Udry, E., Bridges, D., Beck, L. (1997) "Coping with season- ending injuries"	Mean =23.9	11 Male 10 Female	21	U.S.A.	Retrospective Interviews (60- 90 mins)	Content Analysis (Patton, 1980, 1990)	U.S. Alpine (n=14) and Freestyle (n=7) ski team members who suffered season- ending injuries between 1990- 94.	Coping strategies used (140 RDT's coalesced into 7 GD's): - Driving through, -Distracted self, -Managed emotions and thoughts, -Sought and used social resources, -Avoidance and isolation, -Took note and drew up lessons and learned, -Other. Facilitating factors in recovery (78 RDT's coalesced into 6 GD's: -Interpersonal resources, -Accessible quality medical resources, -Fortunate circumstances, -Environmental resources, -Past experience with injury, -Financial backing. Significant differences were found in successful/unsuccessful skier and male/female comparisons.
Ref: QLCOP5 Jackson, S.A., Mayocchi, L., Dover, J. (1998) "Life after winning gold II: Coping with change as an Olympic Gold Medallist.	Mean =32 Range =24- 40	6 Female 12 male	18	Australia	Retrospective Interviews (1-3 hours) Open-ended Structured Questions	Content Analysis using QSR NUDIST	18 Olympic Gold Medallists (6 individual sports, 12 team sports, from 3 Olympic Games, '84, '88, '92).	Career after the win: -Prep./training negatively affected, -Loss of single-minded motivation and intensity, -Detrimental changes in mental approach, -Maintained motivation and continued to move forward, -Perspectives on competing after winning an Olympic Gold. Athletes coping strategies: -Social support, -Taking action to improve our own situation, -Personal strength, -Cognitive re- structuring, -Ignore/Block things out, -Maladaptive coping, - Preparedness for Olympic Champion role.
Ref: QLCOP6 Kreimer-Phillips, K., and Orlick, T. (1993), "Winning after winning: The psychology of Ongoing Excellence"	Not Given	11 Male 6 Female	17	Canada U.S.A. Swiss Sweden	Elite Athlete Interview Guide adapted from Athlete Interview Schedule used by Orlick and Partington 1988 (1-3 hours)	Deductive Content Analysis	17 World Champion Athletes from 7 different sports between 1964- 1988.	Results split into 8 sections based on qualitative analysis of interview transcripts. Part 8 = Recommendations to help athletes cope successfully with the additional demands of winning: -Enjoy it, -Remember where you came from and keep it all in perspective, -Know why you win, why you lose and work hard toward your goals, -Believe in yourself, think positively and stay on a track that has worked, -Be well rested physically and mentally, -Avoid accepting the pressure of other people's expectations, -Create new challenges and let the politics of sport pass by, -Work on the feeling aspect of your sport, be mentally prepared and keep the desire sharp, -Know what is important and what isn't, -Create a system for dealing effectively with the demands.

Table 3.3: Qualitative Studies of Coping In Sport: 1984 Onwards

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QLCOP7 Park, J.K. (2000) "Coping strategies used by Korean National Athletes"	Mean=25.5 Range=14-58	117 Males 63 Females	180	Korea	Retrospective Structured Interviews (open-ended questions) 180 students from 2 <sup>nd</sup> year Sp's Psyc. Class interviewed 180 athletes (30-100mins)	Inductive Content Analysis (Patton, 1980, 1990)	178 subjects were present or former Korean National Athletes, 2 were Professional Players. All from 41 different sports.	156 RDT's or unique coping strategies were identified from the analysis of the interview data, combining 25 first order themes, 11 second order themes and 7 GD's: -Psychological training (49.7%), -Training strategies (15.6%), -Relaxation (14.4%), -Hobby activities (7.8%), -Social support (6.1%), -Prayer (5.2%), -Substance use (1.2%). There may be important cultural differences between Korean athletes and those from the West, for example meditating was evidence of this.
Ref: QLCOP8 Udry, E., Gould, D., Bridges, D., Beck, L. (1997) "Down but not out: athlete responses to season ending injuries"	Mean=23.9	11 Male 10 Female	21	U.S.A.	Retrospective Interviews Semi-structured, questions developed from a pilot (60-90 mins)	Inductive Content Analysis (Patton, 1980,1990 )	U.S. Ski Team athletes, ABC Alpine and Freestyle members who sustained season ending injuries in 1990-1994	Relative to athletes reactions to being injured, 136 RDT's were extracted which coalesced into 4 G.D's: - Injury relevant information processing/awareness, - Emotional upheaval/reactive behaviour, -Positive outlook/coping attempts, -Other. With respect to injury benefits, 81 RDT's emerged and formed 4GD's: - Personal growth, -Psychologically based performance enhancements, -Physical/technical development, -None.
Ref: QLCOP9 Udry, E., Gould, D., Bridges, D., and Tuffey, S. (1997) "People helping people? Examining the social ties of athletes coping with burnout and injury stress"	N=10, Mean=17.4  N=21, Mean=23.9	N=10 6=Male 4= Female  N=21 11= male 10= female	N=10 Burnout participants N=21 Injury participants  Total N=31	U.S.A	In-depth Retrospective Interviews (60-90 mins) Semi-structured format	Inductive Content Analysis (Patton, 1980,1990 )	10 former elite junior tennis players  21 U.S. Ski Team ABC members	In 3 of the 4 contexts, athletes under stress were more likely to view their interactions with important others as negative rather than as positive or neutral. Athletes experiencing burnout viewed the influence of both their coaches and parents as more negative than positive. Injured athletes were more likely to view their coaches' role as negative but the influence of their family and team-mates as positive. Athletes evaluations of the specific behaviours of important others tended to vary according to the stress/burnout experienced.

**Table 3.4: Quantitative Studies of Coping in Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP1 Anshel, M.H., Gregory, L., Kaczmarek, M. (1990), "The Effectiveness of a Stress Training Program In Coping with Criticism in Sport: A Test of the Cope Model".	Range =18- 23	24=Male 15= Female	39	U.S.A.	Experiment – 3 Groups: -Experimental (COPE) treatment group -The placebo treatment group. -No treatment control group. -Questionnaires – Self- monitoring scale (SMS) Snyder (1979), RSES Rosenberg Self Esteem Scale Rosenberg (1965), Fear of appearing incompetent scale (FAIS, Good and Good, 1973), Fear of Negative Evaluation Scale (Watson and Friend, 1969).	-Analysis of covariance ANCOVA -Descriptive Statistics -ANOVA	Inter- collegiate baseball (males) or softball (females)	The COPE program, designed to foster recovery from Acute stress in sport: -Reduced the athletes fear of appearing incompetent and fear of negative evaluations while enhancing desirable affectations such as self- esteem, -Minimised negative affect associated with acute psychological stress due to unpleasant feedback, - Promoted causal attributions of their performance more to internal than external factors while encouraging more control over their future as a baseball athlete.
Ref: QTCOP2 Anshel, M.H. (1990), "Toward Validation of a Model for Coping with Acute Stress in Sport"	Mean =19.8	All Female	12	U.S.A.	Experiment:- Subjects were exposed to 10, 15 or 20 pretreatment stress trials. Stress consisted of 2 sources, -being told that the drill would affect team ranking for the season, - being given unpleasant verbal feedback from the coach. Tasks included hitting shots in a drill. Pre and post treatment was assessed. Dependent variables included: Performance accuracy and subjects mood.	-ANOVA	College Tennis Team	-Coping strategies significantly improved performance and affect for all treatments for pre- and post intervention comparisons. -However, between group comparisons showed that competitors who experienced 20 pre-intervention stress trials were significantly better on post treatment scores in contrast to other groups. -The use of cognitive-behavioural strategies commensurate with the COPE model as an approach to handling acute stress in a sport situation was at least partially supported.



Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP3 Anshel, M. (1996) "Coping styles among adolescent competitive athletes"	Mean=16.4 Range=14-17.8	All Male	421	Australia	128 item inventory, athletes asked to report their usual responses to each of 8 acute stressors commonly experienced in sport	-Factor Analysis -Correlational Analysis	Moderate/ high skilled athletes from team sports: Basketball, Field Hockey, Soccer, Rugby, Volleyball.	-The reliability coefficient (Cronbach's alpha) for each stressor ranged from 0.81 to 0.92. -26 of the original 128 items on the inventory, were retained on the basis of factor analysis. -Correlations between stressors indicated that coping styles were a function of type of stressor, providing support for the transactional model. Goodness of fit was high (0.87) -These results partially support the construct of coping style among adolescent aged sports competitors.
Ref: QTCOP4 Anshel, M.H., Weinberg, R.S. (1996) "Coping with Acute Stress Among American and Australian Basketball Referees"	U.S.A Range=19-45 Median=32.6 years Aussie Range=20-37 Median=29.8	All male	137 U.S.A=72 Aussi=65	U.S.A. Australia	BOSSI Anshel and Weinberg (1995) Basketball officials were asked to write their cognitive and behavioural coping responses for each stressor when experienced at its highest intensity.	Frequency analysis on coping strategies  Deductive Content Analysis (Patton, 1990)	All aged 18+ with officiating experience in organised competitive basketball (min 3 yrs experience in high school in U.S. sample, or level A or B competition in Australia). Expertise was intermediate (level 2) or advanced (level 1).	-There were more similarities than differences between Australian and American basketball referees in their manner of coping with acute stressors. -However, cultural differences were also apparent, for example, in response to an abusive coach, both groups were similarly punitive, but Americans were more likely to speak calmly to the coach than were Australians. -They argue that the results support Duda and Allison's (1990) call for recognising cultural variation in style and meaning of participating in physical activity.
Ref: QTCOP5 Anshel, M.H., Kaissidis, A.N. (1997) "Coping style and situational appraisals as predictors of coping strategies following stressful events in sport as a function of gender and skill level."	18-44	93=Male 97=Female	190	Australia	Anonymous surveys consisting of the Miller Behavioural Style Scale (MBSS, Miller, 1987) A new survey, the Coping Style Inventory for Athletes was developed.	Regression Analyses	Competitive Australian Basketball Players	Regression analyses indicated that: -Participants approach and avoidance coping responses varied across four sport-related stressful situations. -Both personal and situational factors accounted for significant variation in players' approach coping responses with situational factors better predictors of approach coping than personal dispositions. -For avoidance coping, again situational appraisals (i.e., perceived stress and controllability) were better predictors than personal dispositions. The results lend credence to the interactional contextual model of coping in which participants use of coping strategies is at least a partial function of situational demands.

Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref. QTCOP6 Anshel, M.H., Williams, L.R.T., Hodge, K. (1997) "Cross-cultural and gender differences on coping style in sport"	U.S.A Mean=20.7  Aussie. Mean=20.6	U.S.A, Males=157 Females=139 Aussie Males=128 Females=209	USA 296  Aussie 337	U.S.A  Australia	Development of a survey comprised of 134 items	Multiple discriminant analysis using all 134 items for the 4 country/gender groups.	College students participated in a wide variety of sports that they classified their level on a likert scale 1=hardly ever to 5=serious player. Mean =3.97. Levels included high school, college, state, national, international.	-Differentiation between groups was significant and accounted for 95% of the total dispersion. -All pairwise comparisons between groups were also significant. -The first function was characterised by gender differences in stressors involving a cheating opponent, experiencing pain and a bad call by the referee/umpire -The second function tended to reflect differences between countries for these same acute same stressors, and for an additional acute stressor called opponents performance. -This study confirms the uniqueness of the individual (i.e. coping style) and situational factors (i.e. stressors) as mutually relevant in identifying coping tendencies. Hence this reinforces the transactional model.
Ref. QTCOP7 Anshel, M.H., Porter, A., Quek, J.J. (1999) "Coping with Acute Stress in sport as a Function of Gender; An Exploratory Study"	Range=15.8-20.3	288= Male 189= Female	477	Republic of Singapore	A survey was developed by the authors, content validity tested but no need for psychometrics due to descriptive nature of exploratory study.	Separate stepwise logistic regression analyses were conducted for each of 7 acute stressors based on the responses to a 134 item inventory developed for this study.	Competitive athletes from 8 sports n=189 (national athletes), n=288 (community participants).	Results generally supported evidence for predicting use of coping strategies as a function of the athletes gender. For example, gender differences on selected items existed for each of the seven sources of acute stress, with rates of correctly predicting subjects sex ranging from 51% (making an error) to 60% (pain/injury) for males and from 61% (cheating opponent) to 65% (bad call from the referee) for females. Additionally, the use of approach coping strategies was associated more often with males than females and with some types of stressful events more than others. The results strongly suggest consideration of gender as a factor for further study of the coping process following acute stress.

**Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP8 Anshel, M.H., and Weinberg, R.S. (1999) "Re-examining Coping Among Basketball Referees Following Stressful Events: Implications for Coping Interventions"	U.S.A Mean=32.6 Range=19-45 Aussie Mean=33.7 Range=20-37	All Males	137	U.S.A Australia	An inventory used by Anshel and Weinberg (1995,1996) was used to ascertain the extent to which the referees used various cognitive and behavioural strategies for coping with each of 14 sources of acute stress.	-Deductive Content Analysis  -Two sets of Chi Squared Analyses	Adult male basketball referees – highly skilled, (employed in organised competitive basketball with min of 3 yrs experience)	Deductive content analysis results. <b>Approach Coping:</b> - Calling a technical foul, -Criticising the coach, -Trying to sell the call, -Concentrating on the rules, -Verbally expressing anger, -Answering politely. <b>Avoidance Coping:</b> - Ignoring/discounting the coach, -Quickly continuing play, - Ignoring the player, -Stay in on task, -Concentrating on the game. Chi Square results indicated significant differences between coping styles as a function of the type of stressor and between American and Australian referees in the use of approach and avoidance coping styles.
Ref: QTCOP9 Anshel, M.H., Wells, B. (2000) "Personal and situational variables that describe coping with acute stress in competitive sport"	Mean=24.6 Range=17-48	147 Male	147	Australia	-The approach and avoidance coping strategies inventory was developed measuring coping style, stress intensity, cognitive appraisals, and situational coping.	-One way repeated measures ANOVAS -Correlational Analysis	A-Grade Amateur Basketball Players	<b>Stress Intensity:</b> -A significant difference (sig. diff.) between situations for stress intensity existed. <b>Appraisal:</b> - A sig diff between the perceived challenge means across situations existed. -A sig diff across situations for perceived threat existed. <b>Coping Strategies:</b> -Physical abuse (70% App, 30% Avoid), -A bad call (64% Avoid, 36% App), - Missing an easy basket (76% App, 24% Avoid), -Losing the ball (78% App, 22% Avoid). <b>Cross-situational consistency of coping responses:</b> -App strategies were more prevalent than avoid following 3 out of 4 events. <b>Correlational analysis:</b> -Partial correlations between cog appraisals (Chall/threat/harm) and coping style (avoid, app)

**Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP10 Bouffard, M., Crocker, P.R.E. (1992) "Coping by Individuals with Physical Disabilities with Perceived Challenge in Physical Activity: Are People Consistent?"	Range= 19-72 Median =26	Female= 11 Male=19	30	Canada	3 assessments over a 6 month period.. The COPE (Carver et al, 1989) and the PANAS (Watson, Clark and Tellegen, 1988) was used in an interview setting and then as 2 postal questionnaires	Descriptive statistics  An alternative procedure to factor analysis, suggested by Comrey (1988).  GENOVA (Brennan, 1983)	Subjects had varying disabilities and participated regularly in physical activity (one or more activities per week).	-The data indicated that perceived challenge was characterised by high levels of positive affect. - Generalisability theory used to determine the relative stability of coping strategies, indicated that individuals with physical disabilities did not consistently use the same coping skill strategies across settings.-The results support the process view of coping espoused by Lazarus and Folkman (1984), who argued that coping should be conceptualised as a process instead of a style. -The findings are consistent with Lazarus and Folkman (1984, 1985) that perceived challenge is characterised by high levels of problem-focused coping and positive affective states.-Findings indicate that individuals with physical disabilities show the same coping and affective patterns to challenge as reported from other adult and community samples.
Ref: QTCOP11 Crocker, P.R.E. (1992) "Managing stress by competitive athletes: ways of coping"	Range= 16-32  Mean= 21	118= Female 119= Male	237	Canada	-Athlete asked to write a description of a stressful situation -Athlete asked to complete a questionnaire with the modified WOC checklist included along with additional items concerning cognitive appraisal and emotion	Descriptive and Inferential Statistics	80 Basketball, 65 Volleyball, 25 Soccer, 12 Hockey, 10 Ski-Jumping, 9 Swimming, 8 Cross Country Ski-ing, 7 Field Hockey, 7 Wrestling, 6 Free Style Ski-ing, 3 Gymnasts, 2 Track and Field, 2 Cycling, 1 Triathlon. All national, regional, provincial or intercollegiate.	-Athletes used a variety of cognitive and behavioural coping strategies. -Factor analysis found that these strategies could be classified into 8 separate dimensions: -Active coping, -Problem focused, -Seeking social support, -Positive re-appraisal, -Self control, -Wishful thinking, -Detachment, -Self blame. -This WOCS checklist is a contribution to knowledge because it allows an assessment of athletes coping strategies rather than inferring coping based on outcome measures.
Ref: QTCOP12 Crocker, P.R.E., and Graham, T.R. (1995) "Coping by Competitive Athletes with Performance Stress"	Range= 15-30	169 Female 208 Male	377	Canada	-COPE instrument, plus 3 others items -Perf. incongruence measured by 3 items -Positive and negative affect schedule	Various statistical tests	Athletes were recruited from regional, provincial, university, junior national, and national levels. Sports included football, volleyball, hockey, basketball, soccer, track and field, and wrestling.	-Athletes used primarily problem-focused coping strategies, -Many of these strategies were employed in combination, -Data showed high use of self blame coping, -Findings provide some evidence that male and females cope differently, -Found relationship between coping and positive and negative affect, positive affect being related to problem focused coping and negatively related to wishful thinking and behavioural disengagement.

**Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP13 Crocker, P.R.E., and Isaak, K. (1997) "Coping During Competitions and Training Sessions: Are Youth Swimmers Consistent?"	Range =10-16	Female=12 Male=13	25	Canada	-11 Scales from the COPE (Carver et al 1989) -3 other scales used in previous research were added -Each item was scored on a 5 point scale -Swimmers were assessed during four separate meets and the one week training period following each meet	The data was analysed by calculating 3 variance components: -Person, -Situation -Person x Situation (Morrow 1989)	Age class swimmers, all competed in the regional and provincial champs	Coping during competition findings indicated a lack of coping consistency (high person x situation variance component) for most coping categories except active coping. Coping during training sessions findings indicated that in contrast to the competition data, many of the coping scales showed relative stability (low person x situation variance component). Over-all, findings suggest that age class swimmers may exhibit different coping patterns across competition and training sessions.
Ref: QTCOP14 Giacobbi, P.R., and Weinberg, R.S. (2000) "An Examination of Coping in Sport: Individual Trait Anxiety Differences and Situational Consistency"	Range =18-23 Mean = 19.57	136 Males 137 Females	273	U.S.A	SAS Sports anxiety scale, Smith, Smoll and Schutz, (1990) MCOPE The sport adapted cope (Crocker and Graham, 1995).	Descriptive Statistics  Multivariate repeated measures MANOVAS  Pearson's correlational coefficients	They represented 5 schools with division I, II and III programs included in the sample. schools represented.	-The results of the multivariate, repeated measures, MANOVA'S showed that high trait anxious athletes responded to stressful situations using different coping behaviours (e.g. denial, wishful thinking and self blame) than the low trait anxious athletes. -Coping appears to be more stable than situationally variable as Pearson correlational coefficients computed between the three measures ranged from 0.53 to 0.80.
Ref: QTCOP15 Grove, J.R., Lavallee, D. and Gordon, S. (1997) "Coping with Retirement from Sport: The Influence of Athletic Identity"	Most retired at 25.21 years of age and had been retired for 3.44 years	Female=28 Males=20	48	Australia	-Postal questionnaire asking them to provide descriptive info about their careers in sport. -Athletic Identity Measurement Scale was administered (AIMS; Brewer et al 1993) -The COPE was administered (Carver et al, 1989)	A one way repeated measures ANOVA  Bivariate correlational analysis  MANOVA	Semi-professional athletes from 13 different sports	-Acceptance, positive reinterpretation, planning and active coping were the most frequently used coping strategies during the career transition process. -Athletic identity at the time of retirement exhibited significant relationships to coping processes, emotional and social adjustment, pre-retirement planning and anxiety about career decision making.

**Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP16 Grove, R.J. and Heard, P.N. (1997) "Optimism and Sport Confidence as Correlates of Slump Related Coping Among Athletes"	Sample one (N=90) Mean=2.28  Sample two (n=123) Mean=2.17	Not Given	213	Australia	-Questionnaire of Dispositional Optimism -Questionnaire of Trait Sport Confidence (TSCI, Vealey, 1986) -A slump-referenced version of CISS Coping Inventory for Stressful Situations (Endler and Parker, 1990a) -The LOT Life Orientation Questionnaire (Scheier and Carver 1985)	Descriptive statistics  Alpha coefficients  Correlational analysis	Variety of team and individual sports. Sample one 67% all city/state athletes, played 7 hours per week for 34 wks. Sample two 80% all city/state athletes, played 6 hours per week for 35 wks.	-Both personality measures were positively related to the use of problem focused strategies and negatively related to the use of emotion focused strategies. -This study provides empirical support for Hardy, Jones and Gould's 1996 model of sport related coping, that points to wards goodness of fit i.e., a strategy that is appropriate for dealing with a given stressor at one point in time may not be appropriate for dealing with the same stressor at another point in time.
Ref: QTCOP17 Johnston, B. and McCabe, M.P. (1993) "Cognitive Strategies for Coping with Stress in a Simulated Golfing Task"	Range=1 7-40	All female	90	Australia	Experiment: Golf putting task  Questionnaire	-Descriptive statistics -Repeated measures ANOVAS on all four factors: score, perceived demand, perceived capability, and stress.	Undergraduate Students enrolled in an 'Introduction to Psychology' course.	-Some evidence was found to support the classification of stressful transactions as requiring either an approach or an avoidance strategy. -The use of the appropriate strategy enhanced perceived capability and improved performance. -Evidence was also found to support the conceptualisation of stress as an appraised imbalance between perceived demand and perceived capability. -These results suggest that the training of an appropriate strategy can lower stress and enhance the performance of people in a sporting situation.

**Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards**

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP18 Kaissidis-Rodafinos, A., Anshel, M.H., and Porter, A. (1997). "Personal and Situational Factors that Predict Coping Strategies for Acute Stress among Basketball Referees".	Range=18-33	Not given	133	Australia	Surveys of psychological inventories. -MBSS Miller Behavioural Style Scale (Miller 1987) -CSI Coping Style Inventory (Kaissidis, 1993)	3 sets of analyses: -Correlations between the personal disposition of monitoring and blunting coping styles -Examining the appraisals of perceived control and stress intensity for the three stressful events (MANOVA) -Comparisons between participants actual approach and avoidance coping responses to 3 stressful events (2 separate ANOVAS)	All 18+ categorised as highly skilled, or level 1, according to the Australian Basketball Referees Association.	-Referees exhibited consistent avoidance, but not approach coping styles; they used more avoidance than approach strategies. -They perceived stress to be positively correlated with approach and negatively associated with avoidance coping strategies. -These findings suggest that individual differences exist in perceptions of stress (i.e., situational appraisals), controllability and coping styles among moderately and highly skilled basketball referees.
Ref: QTCOP19 Kaissidis-Rodafinos, A., and Anshel, M.H. (2000) "Psychological Predictors of Coping Responses Among Greek Basketball Referees"	Range=19-47 years  Mean=33.9	Not given	162	Greece	-MBSS (Miller, 1987) -LOT (Scheier, Weintraub and Carver, 1986) -Rosenberg Self Esteem Scale (SES 1965) -CSI (Kaissidis-Rodafinos et al 1997)	-Correlational analysis -One way repeated measures ANOVAS -Regression analyses	All referees members of Greek Basketball Ref's Association and participated in National divisions i.e., organized competitive basketball games at intermediate or advanced level, (paid)	-The Greek referees were not consistent in using avoidance and approach coping responses across situations. -Approach coping was more predictable than avoidance coping in accounting for both situational and personal variables.

Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP20 Madden, C.C., Kirkby, R.J. and McDonald, D. (1989) "Coping Styles of Competitive Middle Distance Runners"	Range=14-20	Male=12 Female=9	21	Australia	WOCS (Madden, Summers, Brown, 1987) administered 3 days before competitive event. Players asked how they cope with a performance slump.	Correlational Analyses Multiple Regression Analyses T Tests	Middle distance runners - International (n=6) -National (n=8) -State (n=7)	-Seeking social support, increased effort and resolve, and problem-focused coping were reported consistently as being the most frequently utilised strategies for coping with a slump in performance. -WOCS has good utility for predicting differences in the coping styles of athletes at different levels of competition.
Ref: QTCOP21 Madden, C.C., Summers, J.J. and Brown D.F. (1990) "The influence of perceived stress on coping with competitive basketball"	15-44	Male=84 Female=49	133	Australia	SSBQ (Stressful situations in basketball questionnaire) WOCS checklist (Madden, Summers and Brown, 1987, 1988, 1990)	- Descriptives (cumulative stress scores) - Multivariate analysis of variance (coping for 3 stress groups; low, mid, high)	Basketball players playing regular organised competitive grade basketball	-Cumulative stress scores on the SSBQ were obtained for each player so that high, mid and low stress groups could be established and the coping patterns for each one identified. -Results indicated that a slump in performance was the equal most stressful situation therefore the basketball players were asked to apply the WOCS to this situation -Subjects reporting high levels of competitive stress use increased effort and resolve, problem-focused coping, social support seeking and wishful thinking coping strategies more frequently than subjects reporting low competitive stress.
Ref: QTCOP22 Ryska, T.A. (1993) "Coping style and response distortion on self report inventories among high school athletes"	12-18	Male=126 Female=144	270	U.S.A.	SCAT (Martens, 1977) CSAI-2 (Martens et al 1982) Social Provisions Scale (SPS) (Russell and Cutrona, 1984) Marlowe-Crowne Social Desirability Scale (M-C SDS) (Crowne and Marlowe 1960)	A series of 2x2 MANOVAS	Tennis players from 56 teams within the Florida State High School Activities Association (all held at least a district USTA ranking)	-On the basis of SCAT and M-C SDS scores, 4 stress coping style groups were developed. -Results did not reveal significant differences between these groups on the reporting of CSAI-2 subscales -Athletes high in social desirability reported significantly greater coach support than athletes low in social desirability. -These conflicting results suggest that the effect of response distortion on self report measures be more closely scrutinized according to variables such as sport type, level of expertise and degree of mental skills training.



Table 3.4: Quantitative Studies of Coping In Sport: 1984 Onwards

Citation	Age	Gender	N	Country	Data Collection Method	Data Analysis Method	Level/type of Sport	Findings
Ref: QTCOP23 Smith, R.E., Schutz, R.W., Smoll, F.L., Ptacek, J.T., (1995), "Development and Validation of a Multi-dimensional Measure of Sport Specific Psychological Skills: The Athletic Coping Skills Inventory - 28".	Not given	Males and females (numbers not specified)	637	U.S.A	ASCI - 87 item scale	Study one - principal component analyses with varimax rotation Study two - Confirmatory factor analysis with LISREL 8.	41 High School Teams in 3 sports and 135 college football players at Division 1 University	-The scales can be summed to yield a Personal Coping Resources score, which is assumed to reflect a multifaceted psychological skills construct. -Confirmatory factor analyses demonstrated the factorial validity of the ASCI-28, as the 7 subscales conform well to the underlying factor structure for both male and female athletes.
Ref: QTCOP24 Udry, E. (1997) "Coping and social support among injured athletes following surgery"	Range =16-40 Mean =27.9	Male=15 Female=10	25	U.S.A.	-Demographic Questionnaire -CHIP (Coping with Health and Injury Problems, Endler and Parker, 1992) -POMS (Profile of Mood States, Shacham) -SSI (Social Support Inventory, Brown et al 1987/8) -Adherence (No. of clinical appointments)	4 Stages: -Verify internal reliability of inventories -Descriptive statistics on selected variables -One-way repeated analyses (effect sizes were calculated) - Simultaneous multiple regression analyses	Subjects underwent anterior cruciate ligament surgery through one of two participating clinics who used the same procedures	-Descriptives revealed that instrumental coping was the most used coping strategy -A series of repeated measures analyses showed significant time changes in 2 types of coping (negative emotion and palliative) with effect sizes ranging from 0.16 to 0.32. -A series of simultaneous multiple regression analyses indicated that instrumental coping was a significant predictor of adherence at 9 weeks post surgery, explaining approximately 44% of the variance.

The following two sections provide an analysis and discussion of the systematic review. The first section provides an overview of the characteristics of stress and coping research. The second section provides an overview of the findings from all the studies.

#### **A. Characteristics of stress and coping research studies post 1984**

In order to analyse the study characteristics of all 52 studies, a table was developed (see table 3.5). Table 3.5 consists of eight columns, and each column provides summary information about each study characteristic. Specifically, each column representation was as follows:

**Column one:** An abbreviation of the citation

**Column two:** Methodology, split into two sub sections, QL (qualitative) and QT (quantitative).

**Column three:** Age range and mean, split into four sub sections, U19 (under nineteen), 19-30, 31-45 and 46+ (forty six and over). These summary categories were devised to represent youth sport (U19), young adult participants (19-30), mature adult participants (31-45) and veteran participants (46+).

**Column four:** Gender, split into four sub sections, studies using male and female participants, studies using male participants only, studies using female participants only.

**Column five:** Sample size, split into three sub sections, 0-21, 22-100 and 100+ (over one hundred). These categories were chosen to distinguish between small, medium and large-scale studies.

**Column six:** Type of sport participant in each study. In the review of fifty-two studies, only two types of participant were identified, athlete and official. Therefore there are two sub sections under this column, A (athlete) and Off (official).

**Column seven:** Level of sport participant used in each study, split into four sections, Elite (includes Olympic, national, and international standard participants), I.C. (includes inter collegiate standard participants), St (includes regional or state standard participants), Club/H.S. (includes club recreational participants and/or high school participants).

**Column eight:** Country/countries in which each research study took place, split into four sections, N.A. (North America including Canada), E (Europe), Aus (Australia), A (Asia).

A tick was used to highlight the appropriate column. An unmarked column indicates that the information was not provided in that study. A column marked in one or more sections indicates that the characteristics of all the marked sections apply.

### ***Results of summary table 3.5***

A number of interesting findings emerged from table 3.5. These findings are expressed below.

In terms of the type of sport participants used in the studies, table 3.5 demonstrates that 38 of the 52 studies (73%) investigate stress and coping of athletes, and 14 (27%) investigate sports officials. There are no studies investigating coaches. Since sports coaching is an important facet of sport at all levels, there is clearly a 'black hole' in the literature, implying that future research is essential.

The methodological split of these studies is interesting. All the studies of sports officials are quantitative in nature whereas 37% of studies of athletes are qualitative. Future qualitative studies of sports officials are required in order to gain greater understanding and insight into the experiences of these officials.

In terms of the level/standard of sports participants used in studies, table 3.5 demonstrates that 33% of studies featured participants of varying standard, providing generalised findings, whilst 62% of studies featured participants of the same standard, providing context specific findings. Of the 62%, 25% of studies featured elite, 10% featured inter-collegiate, 0% featured state and 27% featured youth sport. Therefore, context specific findings exist for elite, youth sport/club and inter-collegiate level participants, but do not exist for state level participants. Of the 33%, state level sports performers were most used as research participants (14 studies), followed by club/high school (13 studies), then

inter-collegiate (10 studies) and finally elite level participants (8 studies). Therefore, generalised findings are based on research studies using all levels of performer.

Table 3.5 demonstrates that youth sport/club level participants are the most used research participants over all the studies. This is expected in sports research because there are more of them, facilitating researcher access. However, it is surprising and impressive, that there are more studies using elite level participants than inter-collegiate and state level, since it is usually much more difficult to gain access to elite performers.

There appears to be a methodological split in studies using certain levels of performer. Studies investigating stress and coping of elite level participants tend to be qualitative in nature. Specifically, out of 21 studies of elite performers, 13 were qualitative in nature. This may be explained by the scarcity of elite performers making opportunities to gain in depth insights and understanding highly valued. Consequently the findings from these studies tend to be both context specific and useful for intervention. In contrast, studies featuring varying levels of performer tend to be quantitative in nature, providing insight into stress and coping of the general sporting population.

Overall, these findings suggest that the stress and coping in sport literature has been based on research using all levels of performer (youth sport to elite). Consequently, knowledge of stress and coping at a number of levels of sporting prowess exists. Future context specific research is required to enhance the existing knowledge of stress and coping in specific levels of performer, and to produce findings that are useful for practical intervention. Furthermore, research is required to compare findings from the different levels of performer in order to develop specific guidelines for a sport psychologist working performers of each level.

In terms of the countries in which studies have been conducted, table 3.5 demonstrates that of the 52 studies, 30 (57%) were conducted in North America (including Canada), 3 (6%) in Europe, 11 (21%) in Australia and only 2 (4%) in Asia. Additionally, 6 (12%) of the 52 studies were cross-cultural, based in 2 separate countries. Consequently, the

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knowledge base has emerged predominantly out of North America and may be culturally biased.

Cross-cultural studies exist (Anshel et al., 1995; Anshel et al., 1996; Kaissidis-Rodafinos, et al., 1998) and although significant differences between countries in terms of sources of stress and coping in officiating were not found, differences were identified sufficient to provoke the authors into suggesting culture was a distinguishing factor (Kaissidis-Rodafinos, et al 1998). Furthermore, there has been no cross-cultural research investigating stress and coping in athletes or coaches. There is therefore, in order to complement the existing North American literature, a need for future research studies from other global locations (especially Europe and Asia).

According to table 3.5, study participants ranged in age from under 19 to over 45. In total, 25 studies incorporated under 19's (youth sport), 38 studies used participants aged 19-30 (young adult), 30 studies used participants aged 31-45 (mature adults) and 6 studies incorporated participants aged 46 and over (veterans). Overall, the bulk of research is based on 'young adults' and 'mature adults'. Most studies incorporated participants from more than one age range and produced results general to all age groups. However, Cohn, (1990) studied stress in youth golfers, producing findings specific to youth sport participants. Future research is necessary to investigate participants of a similar age range in order to identify stress and coping specific to that age group. The findings of such studies would facilitate the development of age specific intervention strategies for a sport psychologist working in the area.

Table 3.5 demonstrates that of the 52 studies, 32 (62%) incorporate male and female participants, 11 (21%) incorporate male participants only and 4 (8%) incorporate female only. There are 5 studies (10%) that fail to give information on gender of participants. Therefore, the majority of research findings in the area are based on both male and female experiences. Future research is required to investigate gender specific experiences of stress and coping in sport. Findings may facilitate the development of gender specific intervention strategies for a sport psychologist working in the area.

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Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant Athlete/ Official		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)				
	QL	QT	U19	19-30	31-45	46+	M+ F	M	F	0-21	22-100	100+	A	Off	Elite	I.C	St	Club/ HS	N.A	E	Aus	A	
<b>SPORT STRESS</b>																							
Cohn (1990)	√		√							√			√					√	√				
Gould et al (1993a)	√		√	√	√		√			√			√		√				√				
Gould et al (1997a)	√			√ (M)			√				√		√		√				√				
James, Collins (1997)	√		√	√ (M)	√		√			√			√		√		√	√		√			
Scanlan et al (1991)	√			√	√	√	√				√		√		√				√				
Anshel, Weinberg (1995)		√		√ (M= Aus)	√ (M= USA)			√				√		√	√	√	√	√	√			√	
Goldsmith Williams (1992)		√		√	√	√	√				√			√		√	√	√	√			√	
Gould, Weinberg (1985)		√		√	√ (M)						√		√			√			√				

**Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984**

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant (Athlete/ Official)		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)				
	QL	QT	U19	19-30	31-45	46+	M+F	M	F	0-21	22- 100	100+	A	Off	Elite	LC	St	Club/ HS	N.A	E	Aus	A	
Kaissidis Rodafinos et al (1998)		√		(M= Aus)	(M= Greek)			√				√		√							√	√	
Madden et al (1995)		√	√	√ (M)	√			√			√		√				√	√				√	
Rainey (1995a)		√			(M)		√					√		√		√	√	√	√				
Rainey (1995b)		√			(M)		√					√		√		√	√	√	√				
Rainey (1995c)		√			(M)		√					√		√		√	√	√	√				
Rainey (1997)		√			(M)							√		√							√		
Seggar et al (1997a)		√							√		√		√			√				√			
Seggar et al (1997b)		√							√		√		√			√				√			

Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant Athlete/Official		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)				
	QL	QT	U19	19-30	31-45	46+	M+F	M	F	0-21	22-100	100+	A	Off	Elite	LC	St	Club/ HS	N.A	E	Aus	A	
Stewart and Ellery (1996)		√			(M)		√					√		√				√	√				
Stewart and Ellery (1998)		√			(M)		√					√		√				√	√				
Taylor et al (1990)		√			(M)			√				√		√				√	√				
<b>SPORT COPING</b>																							
Dale (2000)	√			√				√		√			√		√				√				
Gould et al (1993b)	√			√ (M)	√			√		√			√		√				√				
Gould et al (1993c)	√		√	√ (M)	√		√			√			√		√				√				
Gould et al (1997)	√			(M)			√			√			√		√				√				
Jackson et al (1998)	√			√	√ (M)		√			√			√		√							√	



Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant Athlete/Official		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)			
	QL	QT	U19	19-30	31-45	46+	M+F	M	F	0-21	22-100	100+	A	Off	Elite	LC	St	Club/ HS	N.A	E	Aus	A
Kreimer-Phillips and Orlick (1993)	√						√			√			√		√				√	√		
Park (2000)	√		√	√ (M)	√	√	√					√	√		√							√
Udry et al (1997a)	√			(M)			√			√			√		√				√			
Udry et al (1997b)	√		(M)	(M)			√				√		√		√				√			
Anshel et al (1990)		√	√	√			√				√		√			√			√			
Anshel (1990)		√		(M)					√	√			√			√			√			
Anshel (1996)		√	√ (M)	√					√			√	√				√	√				√
Anshel and Weinberg (1996)		√	√	√	√				√			√		√				√	√			√
Anshel, Kaissidis (1997)		√	√	√	√		√					√	√					√				√

**Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984**

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant Athlete/Official		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)			
	QL	QT	U19	19-30	31-45	46+	M+F	M	F	0-21	22-100	100+	A	Off	Elite	LC	St	Club/ HS	N.A	E	Aus	A
Anshel et al (1997)		√		(M)			√					√	√					√	√		√	
Anshel et al (1999)		√	√	√			√					√	√		√			√				√
Anshel, Weinberg (1999)		√	√	√	√	(M)		√				√		√			√	√	√		√	
Anshel, Wells (2000)		√	√	√	√	(M)		√				√	√					√			√	
Bouffard, Crocker (1992)		√	√	√	√	√	√				√		√					√	√		√	
Crocker (1992)		√	√	√	√		√					√	√		√	√	√		√			
Crocker, Graham (1995)		√	√	√			√					√	√		√	√	√		√			
Crocker, Isaak (1997)		√	√				√				√		√				√	√	√		√	

**Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984**

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant Athlete/Official		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)			
	QL	QT	U19	19-30	31-45	46+	M+F	M	F	0-21	22-100	100+	A	Off	Elite	I.C	St	Club/ HS	N.A	E	Aus	A
Giacobbi, Weinberg (2000)		√	√	√ (M)			√					√	√					√	√			
Grove at al (1997)		√		(M)			√				√		√		√	√					√	
Grove, Heard (1997)		√		(M)								√	√					√			√	
Johnston, McCabe (1993)		√	√	√	√						√		√					√			√	
Kaissidis- Rodafinos et al (1997)		√		√	√							√		√	√	√	√	√			√	
Kaissidis- Rodafinos, Anshel (2000)		√	√	√	√	√						√		√	√					√		

**Table 3.5: Summary of study characteristics for studies of stress and coping in sport post 1984**

Citation	Methodology (qualitative/ quantitative)		Age Range and Mean (M)				Gender (male and female/male only/female only)			Sample Size (N)			Type of participant Athlete/Official		Level of sport (elite/intercollegiate/ state/club/high school)				Country of study (North America/Europe/ Australia/Asia)				
	QL	QT	U19	19-30	31-45	46+	M+F	M	F	0-21	22-100	100+	A	Off	Elite	I.C	St	Club/ HS	N.A	E	Aus	A	
Madden et al (1989)		√	√	√			√			√			√		√		√					√	
Madden et al (1990)		√	√	√	√		√					√	√					√				√	
Ryska (1993)		√	√				√					√	√					√	√				
Smith et al (1995)		√					√					√	√			√		√	√				
Udry (1997)		√	√	√	√		√				√		√						√				

In terms of sample sizes of the 52 studies, 12 studies consisted of small samples of 21 or less, 14 studies used samples of 22-100, and 26 studies boasted samples sizes of 100 and over. Therefore, 50% of the research studies in stress and coping post 1984 are large scale. Small-scale research is required to develop greater insight and understanding of the stress and coping process in all types of sports participants, athletes, officials and coaches. Table 3.6 summarises the key findings from the study characteristics data and provides key learning points for the study design of future research.

### **B. Over-all contribution to knowledge made by research post 1984**

Currently, there are two main ways to assess the overall contribution to knowledge made by research in a particular area, either meta-analysis or traditional subjective reviews of study findings.

Meta-analysis is a well-established scientific approach used to "...combine the results of separate but similar studies" (Thompson, 1995;48). More precisely, Eysenck (1995;64) notes "... (meta-analysis ) is the statistical summary of the numerical outcomes of each study (in a review)". Furthermore, Durlak (1998; 320). explains that meta-analysis quantifies the data from all the studies in a review in two ways,

*"(Firstly) descriptive features of each study are coded using categorical or continuous coding schemes, and (secondly) the outcomes or results of each study are transformed into a common metric across studies called the effect size (ES)".*

Durlak (1998;352) concludes,

*"In summary, meta analysis is an effort to review the results of a research domain in quantitative terms with the intent of identifying what significant relationships exist between study features (the independent variables) and outcomes (expressed as an ES and representing the dependent variable) "*

Table 3.6: Key Learning Points for Study Design of Future Research

Study Characteristic	Key observations of trends over the 52 studies	Key learning points for study design of future research
<b><u>Type of sport participants</u></b>	<ul style="list-style-type: none"> <li>• 73% of studies investigate athletes</li> <li>• 24% of studies investigate sports officials</li> <li>• No studies investigate sports coaches</li> <li>• Studies investigating sports officials are quantitative</li> <li>• 37% of studies investigating athletes are qualitative</li> </ul>	<ul style="list-style-type: none"> <li>• Research studies investigating stress and coping of coaches are required</li> <li>• Qualitative studies investigating officials and coaches are required in order to gain greater insights and understanding.</li> </ul>
<b><u>Level/standard of sport participants</u></b>	<ul style="list-style-type: none"> <li>• 33% of studies featured participants of varying standard and provided generalised findings</li> <li>• 62% of studies featured participants of the same standard and provided context specific findings</li> <li>• Of the 62%, 25% of studies featured elite level only, 10% featured inter-collegiate only, 0% featured state only, and 27% featured youth sport/club only.</li> </ul>	<ul style="list-style-type: none"> <li>• Context specific research is required to further our understanding of the stress and coping experiences of various levels of performer, elite, inter-collegiate, state and youth sport/club.</li> <li>• Future research is required to compare findings from different levels of performer and to develop an intervention strategy for a sport psychologist</li> </ul>
<b><u>Country of study</u></b>	<ul style="list-style-type: none"> <li>• 57% of studies were conducted in North America and Canada, 6% in Europe, 21% in Australia, and 4% in Asia.</li> <li>• 12% of studies were cross-cultural in nature.</li> <li>• Cross-cultural studies investigated sports officials only.</li> <li>• Research to date is globally biased towards North America and Canada.</li> </ul>	<ul style="list-style-type: none"> <li>• Research in other global locations (Europe, Asia and Australia) is required to prevent cultural bias in the literature.</li> <li>• Future cross-cultural research is necessary to build on existing literature.</li> <li>• Cross-cultural research investigating athletes, coaches and officials is required to provide greater insights.</li> </ul>
<b><u>Age of sport participants</u></b>	<ul style="list-style-type: none"> <li>• Study participants ranged in age from U19 to over 45.</li> <li>• The majority of research studies have been based on young and mature adults.</li> </ul>	<ul style="list-style-type: none"> <li>• Age specific research is required to further our understanding of the influence of maturity on stress and coping experiences.</li> <li>• Age specific research is required to develop age-related intervention strategies for a sport psychologist</li> </ul>
<b><u>Gender of research participants</u></b>	<ul style="list-style-type: none"> <li>• 62% of studies featured males and females, 21% featured males only, 8% featured females only and 10% failed to provide information on gender.</li> </ul>	<ul style="list-style-type: none"> <li>• Gender specific research is required to further our understanding of the impact of gender on stress and coping.</li> <li>• Gender specific research is required to develop gender-related intervention strategies for a sport psychologist</li> </ul>
<b><u>Sample Sizes</u></b>	<ul style="list-style-type: none"> <li>• 23% of studies had sample sizes of 21 or less</li> <li>• 27% of studies had sample sizes of between 22 – 100</li> <li>• 50% of studies had sample sizes of 100 or more, and were large scale studies.</li> </ul>	<ul style="list-style-type: none"> <li>• Small scale research is required in order to provide greater insights and understanding of the nature of stress and coping in sport.</li> </ul>

Therefore, meta-analysis is a particularly useful technique used to quantify the overall contribution made by a number of studies. However, one limitation of meta-analysis is that it is not possible to include the findings from qualitative research. Since a significant proportion (27%) of the stress and coping in sport literature is qualitative in nature, a meta-analysis on this research domain was not possible. Consequently, a traditional review of the study findings follows. The purpose of the review is to summarise 'what we know' and 'what we don't know' as a result of the studies in stress and coping in sport post 1984. In order to facilitate the analysis, summary tables were developed identifying all the 52 studies and their major investigative themes (see tables 3.7 and 3.8).

### **Sport Stress Research**

The systematic review revealed that there were nineteen studies of stress in sport. The major investigative themes of these studies were '*sources of stress*', '*intensity/magnitude/rating of stress*', '*stress and burnout*' and '*measurement of stress*'. Table 3.7 illustrates the studies that correspond to the investigative themes. Some studies are broad in orientation and therefore encompass more than one investigative theme, whereas others are more focused. For example, Kaissidis-Rodafinos et al (1998) investigated source, magnitude and responses to stress of Australian and Greek basketball referees, whilst Scanlan et al (1991) conducted an in-depth study of the sources of stress of elite skaters.

#### **a) 'Sources of stress'**

Of the 19 studies of stress in sport, 10 investigated 'sources of stress'. A number of difficulties occurred whilst comparing the results from the 10 studies. Most problematic was the differing study design of many of the studies, and the consequent lack of coherence in the data format (the results of some studies being numerical and others textual). However, despite these difficulties, a general analysis was possible and a number of trends did emerge from an over-view of the results from all 10 studies.

Table 3.7: Studies investigating stress in sport post 1984

Investigative Themes	Citation
<u>Sources of Stress</u>	<ul style="list-style-type: none"> <li>• Cohn (1990)</li> <li>• Gould et al (1993a)</li> <li>• Gould et al (1997a)</li> <li>• James and Collins (1997)</li> <li>• Scanlan et al (1991)</li> <li>• Anshel and Weinberg (1995)</li> <li>• Goldsmith and Williams (1992)</li> <li>• Gould and Weinberg (1985)</li> <li>• Kaissidis-Rodafinos et al (1998)</li> <li>• Rainey (1995)</li> <li>• Madden et al (1995)</li> </ul>
<u>Intensity/Magnitude/Rating of Stress</u>	<ul style="list-style-type: none"> <li>• Kaissidis-Rodafinos et al (1998)</li> <li>• Anshel and Weinberg (1995)</li> <li>• Rainey (1995)</li> <li>• Rainey and Winterich (1995)</li> <li>• Stewart and Ellery (1996)</li> <li>• Stewart and Ellery (1998)</li> <li>• Rainey and Hardy (1997)</li> </ul>
<u>Stress and Burnout</u>	<ul style="list-style-type: none"> <li>• Rainey (1995)</li> <li>• Taylor et al (1990)</li> <li>• Cohn (1990)</li> </ul>
<u>Measurement of Stress</u>	<ul style="list-style-type: none"> <li>• Seggar and Pedersen (1997a, 1997b)</li> <li>• Anshel and Weinberg, (1995)</li> <li>• Goldsmith and Williams (1992)</li> <li>• Madden, (1987)</li> <li>• Madden et al, (1990)</li> <li>• Taylor and Daniel (1988a, 1988b)</li> </ul>



Table 3.8: Studies investigating coping in sport post 1984

Investigative Themes	Citation
<b><u>Coping strategies</u></b>	<ul style="list-style-type: none"> <li>• Dale (2000)</li> <li>• Gould et al (1993b)</li> <li>• Gould et al (1993c)</li> <li>• Gould et al (1997b)</li> <li>• Jackson et al (1998)</li> <li>• Kreimer-Phillips and Orlick (1993)</li> <li>• Park (2000)</li> <li>• Udry et al (1997)</li> <li>• Udry et al (1997b)</li> <li>• Anshel and Weinberg (1999)</li> <li>• Anshel and Wells (2000)</li> <li>• Grove et al (1997)</li> <li>• Udry (1997)</li> </ul>
<b><u>Coping styles</u></b>	<ul style="list-style-type: none"> <li>• Anshel (1996)</li> <li>• Anshel and Kaissidis (1997)</li> <li>• Anshel and Wells (2000)</li> <li>• Anshel et al (1999)</li> <li>• Anshel and Weinberg (1999)</li> <li>• Crocker and Isaak (1997)</li> <li>• Giacobbi and Weinberg (2000)</li> <li>• Kaissidis-Rodafinos et al (1997)</li> <li>• Kaissidis-Rodafinos and Anshel (2000)</li> <li>• Madden et al (1989)</li> <li>• Ryska (1993)</li> <li>• Johnston and McCabe (1993)</li> </ul>
<b><u>Models of coping</u></b>	<ul style="list-style-type: none"> <li>• Anshel et al (1990)</li> <li>• Anshel (1990)</li> </ul>
<b><u>Categories of coping</u></b>	<ul style="list-style-type: none"> <li>• Crocker and Graham (1995)</li> <li>• Grove and Heard (1997)</li> </ul>
<b><u>Cross-cultural studies of coping</u></b>	<ul style="list-style-type: none"> <li>• Anshel and Weinberg (1996)</li> <li>• Anshel et al (1997)</li> </ul>
<b><u>Measurement of coping</u></b>	<ul style="list-style-type: none"> <li>• Crocker (1992)</li> <li>• Smith et al (1995)</li> <li>• Anshel and Kaissidis, (1997)</li> <li>• Anshel and Wells (2000)</li> <li>• Madden, Summers and Brown, (1987)</li> <li>• Crocker and Graham (1995)</li> </ul>
<b><u>Gender and coping</u></b>	<ul style="list-style-type: none"> <li>• Anshel et al (1999)</li> <li>• Anshel et al (1997)</li> <li>• Anshel and Kaissidis (1997)</li> </ul>

*'What we know' about 'sources of stress' in sport (table 3.10)*

The findings from the qualitative studies suggest that some sources of stress in sport are related to competition, and others are not. Competition sources of stress occur as a result of competition, non-competition sources of stress occur outside of competition. Table 3.9 illustrates the sources of stress falling into the categories 'competition' and 'non-competition'. Most of the quantitative studies of sources of stress investigate sports officials. Findings from these studies fall into the category 'competition' sources of stress, for example, 'fear of failure', 'fear of physical harm', 'time pressures', and 'interpersonal conflict' were identified in studies involving soccer (Taylor & Daniel et al., 1990), volleyball and football (Goldsmith & Williams, 1992) and baseball/softball umpires (Rainey, 1995).

Analysis of all the findings from the studies on 'sources of stress' reveal a number of common characteristics amongst the data sets; some of the findings are 'person stressors' and others are 'environment/situation stressors' (see figure 3.1). Findings suggest that 'person' sources of stress are manifest internally, and can be both 'physical' and 'psychological'. The common characteristics of 'physical' sources of stress are concerns about physical well-being. All the findings identifying 'physical' sources of stress are derived from the Gould et al (1997a) study of sources of stress encountered from rehabilitating season ending ski injuries. The common characteristics of 'psychological' sources of stress are concerns about psychological well being. The findings identifying 'psychological' sources of stress are derived from all 14 studies. Common characteristics of 'psychological' sources of stress are 'cognitive', 'affective' or 'behavioural'. 'Cognitive' sources of stress result from thought processes, 'behavioural' stressors result from actions and 'affective' sources of stress are related to feelings and emotions. Figure 3.1 illustrates the common characteristics of findings in each category. Fear is the main sources of emotional ('affect') stress, for example, 'fear of failure' (Goldsmith & Williams, 1992; Rainey, 1995) and 'fear of physical harm' (Anshel & Weinberg, 1995; Goldsmith & Williams, 1992; Rainey, 1995). The main source of behavioural stress is competitive performance, for example, 'under-performing' (Gould & Weinberg, 1985;

Table 3.9: Competition and Non-Competition Sources of Stress in Sport.

Competition Sources of Stress	Non-Competition Sources of Stress
<ul style="list-style-type: none"> <li>◆ <i>Pressure to perform (Gould et al., 1993)</i></li> <li>◆ <i>Self doubt (James &amp; Collins, 1997)</i></li> <li>◆ <i>Environmental demands (Gould et al., 1993; James &amp; Collins, 1997)</i></li> <li>◆ <i>Perceived readiness issues (James &amp; Collins, 1997)</i></li> <li>◆ <i>Competitive (Cohn, 1990)</i></li> <li>◆ <i>Expectations (Gould et al., 1993; Gould &amp; Weinberg, 1985)</i></li> <li>◆ <i>Nature of competition/pressure game (Goldsmith &amp; Williams, 1992; James &amp; Collins, 1997)</i></li> <li>◆ <i>Fear of failure (Goldsmith &amp; Williams, 1992; Rainey, 1995)</i></li> <li>◆ <i>Under-performing (Gould &amp; Weinberg, 1985; James &amp; Collins, 1997)</i></li> <li>◆ <i>Negative aspects of competition (Scanlan et al., 1991)</i></li> <li>◆ <i>Traumatic experiences (Scanlan et al., 1991)</i></li> <li>◆ <i>Fear of physical harm (Anshel &amp; Weinberg, 1995; Goldsmith &amp; Williams, 1992; Rainey, 1995)</i></li> <li>◆ <i>Making a wrong call (Anshel &amp; Weinberg, 1995)</i></li> <li>◆ <i>Interpersonal conflict (Rainey, 1995)</i></li> <li>◆ <i>Verbal abuse from players and coaches (Anshel &amp; Weinberg, 1995; Goldsmith &amp; Williams, 1992)</i></li> <li>◆ <i>Experiencing injury (Anshel &amp; Weinberg, 1995)</i></li> <li>◆ <i>A slump in personal form (Madden et al., 1995)</i></li> <li>◆ <i>The team is losing and the opposition is holding up play (Madden et al., 1995)</i></li> <li>◆ <i>Time pressures (Goldsmith &amp; Williams, 1992; Rainey, 1995)</i></li> <li>◆ <i>Errors in general play (Madden et al., 1995)</i></li> <li>◆ <i>Being outplayed (Madden et al., 1995)</i></li> <li>◆ <i>Game tension (Madden et al., 1995)</i></li> </ul>	<ul style="list-style-type: none"> <li>◆ <i>Relationship issues/significant other relationships (Cohn, 1990; Gould et al., 1993; James &amp; Collins, 1997; Scanlan et al., 1991)</i></li> <li>◆ <i>Financial concerns (Gould et al., 1997a)</i></li> <li>◆ <i>Career concerns (Gould et al., 1997a)</i></li> <li>◆ <i>Life direction concerns (Gould et al., 1993)</i></li> <li>◆ <i>Demands/costs (Scanlan, 1991)</i></li> <li>◆ <i>Personal struggles (Cohn, 1990; Scanlan, 1991)</i></li> <li>◆ <i>Social evaluation (James &amp; Collins, 1997; Gould &amp; Weinberg, 1985)</i></li> <li>◆ <i>Demands/costs (Cohn, 1990)</i></li> <li>◆ <i>Social concerns (Gould et al., 1997a)</i></li> <li>◆ <i>Physical concerns (Gould et al., 1997a)</i></li> <li>◆ <i>Psychological concerns (Gould et al., 1997a)</i></li> <li>◆ <i>Medical/rehabilitation concerns (Gould et al., 1997a)</i></li> </ul>

Table 3.10: 'What We Know' about Sources of Stress in Sport

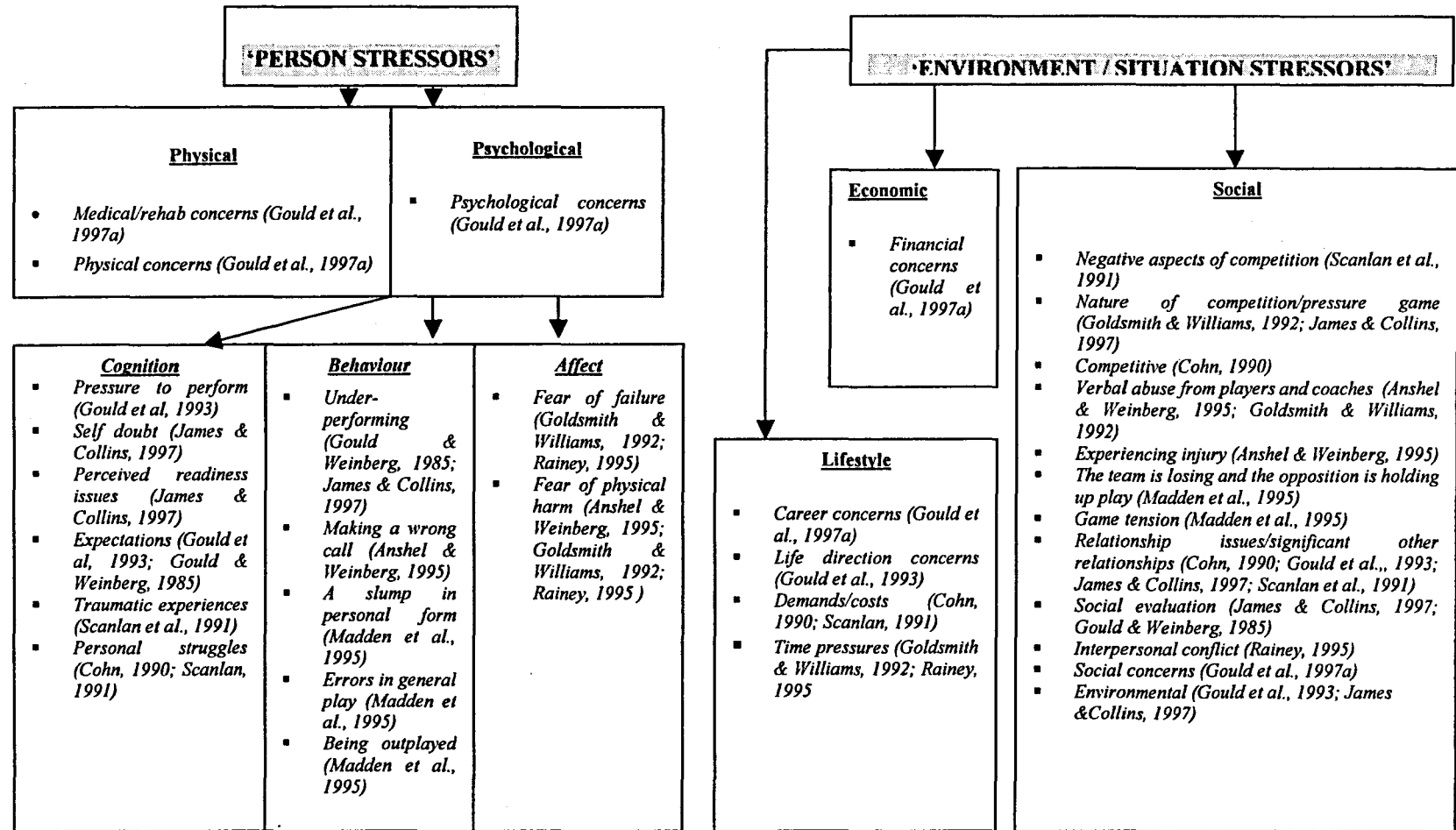
'What we know'	Explanation
<b><u>Competition and non-competition sources of stress exist in sport</u></b>	<ul style="list-style-type: none"> <li>• <i>Some sources of stress in sport are related to competition and others are not.</i></li> <li>• <i>Competition Sources of Stress</i></li> <li>• <i>Competition sources of stress occur as a result of competition.</i></li> <li>• <i>Non-competition Sources of Stress</i></li> <li>• <i>Non-competition sources of stress occur outside of competition.</i></li> </ul>
<b><u>Some sources of stress in sport are manifest within the person</u></b>	<ul style="list-style-type: none"> <li>• <i>'Person' Sources of Stress</i></li> <li>• <i>'Person' stressors are either 'physical' or 'psychological' in nature.</i></li> <li>• <i>Physical sources of stress</i></li> <li>• <i>Physical stressors include concerns about physical well-being (such as medical/ rehabilitation concerns).</i></li> <li>• <i>Psychological sources of stress</i></li> <li>• <i>Psychological sources of stress include concerns about psychological well being. There are three sources of psychological stress: 'cognition', 'affect' and 'behaviour'. Cognitive sources of stress are manifest in thoughts (for example, 'self doubt'), behavioural sources of stress are manifest in particular behaviours, (for example 'under-performing') and 'affect' stressors are manifest in certain feelings and emotions, such as fear.</i></li> </ul>
<b><u>Some sources of stress in sport are manifest in the 'environment or situation'.</u></b>	<ul style="list-style-type: none"> <li>• <i>'Environment/Situation' Sources of Stress</i></li> <li>• <i>Environmental/situational sources of stress include 'economic', 'social' or 'lifestyle' concerns.</i></li> <li>• <i>Economic sources of stress</i></li> <li>• <i>Economic stressors are concerns about financial well being.</i></li> <li>• <i>Social sources of stress</i></li> <li>• <i>Social stressors are concerns about the social environment such as negative aspects of competition, relationship issues, social evaluation, and the nature of the competition.</i></li> <li>• <i>Lifestyle sources of stress</i></li> <li>• <i>Lifestyle stressors are concerns about way of life such as time pressures and career concerns.</i></li> </ul>

James & Collins, 1997), 'making a wrong call' (Anshel & Weinberg, 1995), 'a slump in personal form' (Madden et al., 1995), 'errors in general play' (Madden et al., 1995), and 'being outplayed' (Madden et al., 1995). Cognitive sources of stress are more diverse, some are related to thoughts about competition such as 'pressure to perform' (Gould et al., 1993a), 'perceived readiness issues' (James & Collins, 1997), and others are related to thoughts about personal well being such as 'traumatic experiences' (Scanlan et al., 1991) and 'personal struggles' (Cohn, 1990; Scanlan, 1991).

Findings suggest that 'environment/situation' sources of stress exist outside of the person, in the environment or in a particular situation, and can be 'social' or 'economic' in nature, or related to 'lifestyle'. The main sources of 'economic' stress are financial concerns (Gould et al., 1997a). 'Social' sources of stress are related to particular social environments such as the competitive environment, for example, 'negative aspects of competition' (Scanlan et al., 1991), and 'nature of competition' (Goldsmith & Williams, 1992; James & Collins, 1997). Additionally, 'social' stressors are related to particular social situations such as 'the team losing and the opposition holding up play' (Madden et al., 1995), 'game tension' (Madden et al., 1995) and officials 'experiencing injury' (Anshel & Weinberg, 1995). Furthermore, 'social' stressors also result from managing social interactions and social relationships, for example, 'verbal abuse from players and coaches' (Anshel & Weinberg, 1995; Goldsmith & Williams, 1992), 'relationship issues' (Gould et al., 1993a) and 'negative significant other relationships' (Cohn, 1990; James & Collins, 1997; Scanlan et al., 1991). 'Lifestyle' sources of stress are concerns about quality of life and are cited in the results from 3 of the 5 qualitative studies. 'Lifestyle' stressors include 'career concerns' (Gould et al., 1997a), 'life direction concerns' (Gould et al., 1993a) and 'demands/costs' (Cohn, 1990; Scanlan et al., 1991).

The above analysis (see figure 3.1) provides a general overview of the current state of literature on sources of stress in sport. It illustrates that the most common sources of stress in studies within sport (in terms of number of citations in study findings) are 'person/psychological' and 'environment-situation/social'. The least common sources of stress in the studies are 'person/physical' and 'environment-situation/economic'.

Diagram 3.1: 'Person' and 'Environment / Situation' Sources of Stress



*'What we don't know' about sources of stress in sport (see table 3.11)*

Current research into sport stress and coping fails to investigate source of stress appraisal. Instead, stress is assumed to be negative or debilitating to a sports participant. This is surprising since a number of authors in the mainstream stress literature (Bjork & Cohen, 1993; Lazarus & Folkman, 1984; McCrae, 1992) distinguish between positive (challenge) and negative (threat and harm/loss) sources of stress. Furthermore, McCrae (1992) and Vitaliano et al (1990) distinguish between the controllability, severity and chronicity of stressors. Future research is required to gain a precise understanding of the ways in which stress is appraised and to provide greater insight into the nature and characteristics of the sources of stress.

The temporal patterning of sources of stress in sport is also un-researched despite potential implications for sport psychology theory and practice. Research is required to identify sources of stress occurring pre, during and post competition and to investigate any significant differences between sources of stress occurring in different time periods. Furthermore, in terms of non-competition stressors, research is required to identify and understand acute and chronic sources of stress.

Currently, research to date has failed to investigate the determinants of various sources of stress. Future research is necessary to investigate the 'person' and 'environment-situational' determinants of sources of stress. For example, the extent to which sources of stress are a function of 'person' variables such as age, gender, personality (and others) and the extent to which they are determined by environmental variables such as culture, type of sport, level of sport (and others).

Finally, the literature to date is limited due to a lack of studies investigating the relationship between sources of stress and coping strategies. Future research is necessary to determine whether or not certain coping strategies can be identified in dealing with specific sources of stress and whether or not others are used to dealing with a range of stressors. Such an insight would provide greater understanding of specific links and inter-relationships between variables.

Table 3.11: 'What We Don't Know' about Sources of Stress in Sport

'What we don't know'	Implications for future research
<u>Appraisal of Sources of Stress</u>	<p><b>Positive versus Negative Sources of Stress (Bjork &amp; Cohen, 1993; Lazarus &amp; Folkman, 1984; McCrae, 1992)</b></p> <ul style="list-style-type: none"> <li>• <i>Are the sources of stress perceived to be positive or negative? Do participants distinguish between challenge (positive stress), threat and harm/loss (negative stress)?</i></li> </ul> <p><b>Controllability (McCrae, 1992; Vitaliano et al, 1990)</b></p> <ul style="list-style-type: none"> <li>• <i>How controllable are these sources of stress?</i></li> </ul> <p><b>Severity (McCrae, 1992; Vitaliano et al, 1990)</b></p> <ul style="list-style-type: none"> <li>• <i>How severe are the sources of stress?</i></li> </ul> <p><b>Frequency (McCrae, 1992; Vitaliano et al, 1990)</b></p> <ul style="list-style-type: none"> <li>• <i>How frequently do these sources of stress occur?</i></li> </ul>
<u>Temporal Patterning of Competition Sources of Stress</u>	<p><b>Pre-competition</b></p> <ul style="list-style-type: none"> <li>• <i>Which sources of stress occur pre-competition?</i></li> </ul> <p><b>During-competition</b></p> <ul style="list-style-type: none"> <li>• <i>Which sources of stress occur during competition?</i></li> </ul> <p><b>Post competition</b></p> <ul style="list-style-type: none"> <li>• <i>Which sources of stress occur as a result of competition?</i></li> </ul> <p><b>General</b></p> <ul style="list-style-type: none"> <li>• <i>Are there any significant differences between sources of stress occurring in different time periods?</i></li> </ul> <p><b>Acute versus Chronic Sources of Stress</b></p> <ul style="list-style-type: none"> <li>• <i>In terms of non-competition sources of stress, is there a distinction between acute and chronic stressors?</i></li> </ul>
<u>Determinants of Sources of Stress</u>	<p><b>Person</b></p> <ul style="list-style-type: none"> <li>• <i>To what extent are sources of stress a function of 'person' variables such as age, gender, personality, and others?</i></li> </ul> <p><b>Environment</b></p> <ul style="list-style-type: none"> <li>• <i>To what extent are sources of stress are a function of 'environment' variables, such as culture, type of sport, level of sport and others?</i></li> </ul>
<u>Relationship between Sources of Stress and Coping Strategies</u>	<p><b>Specificity</b></p> <ul style="list-style-type: none"> <li>• <i>Are certain coping strategies used to deal with specific sources of stress?</i></li> </ul> <p><b>Generality</b></p> <ul style="list-style-type: none"> <li>• <i>Are certain coping strategies used to deal with a range of stressors?</i></li> </ul>



**b) 'Intensity/Magnitude/Rating' of Stress**

Of 14 studies of stress in sport, the investigative theme of 7 of them was intensity/magnitude/rating of stress (see table 3.7 for citations). Although these studies use different terminology, 'intensity', 'magnitude' and 'rating' may be seen as referring to the 'amount' of stress experienced. The way these studies measure the 'amount' of stress is similar. For example, in most of the studies, sports officials are asked to rate levels of particular sources of stress using Likert scales ranging from 1 "very little" to 10 "high levels". Mean ratings are used to calculate the 'amount' of stress.

***'What we know' about 'amount' of stress in sport (see table 3.12)***

Findings from the research studies suggest that sports officials experience relatively low amounts of stress. Rainey (1995) studied baseball and softball umpires and concluded from mean factor scores "...officials do not perceive sources of stress to be 'potent'".

Anshel and Weinberg (1995) studied Australian and U.S.A. basketball referees and concluded "...the top stressors have a mean of 4 or 5 on a 10 point scale indicating moderate as opposed to high levels of stress". Furthermore, Rainey and Winterich (1995) found that the mean stress scores for the entire sample of basketball referees were 2.5 indicating that "...stress was between 'very little' and a 'moderate amount'". Kaissidis-Rodafinos et al (1998) confirmed these findings "...the over-all stress level experienced by basketball referees from both samples (Australian and Greek) was moderate". Stewart and Ellery (1996a, 1996b) studied volleyball officials and found that "...the mean rating for stress was 2.3, between 'very little' and a 'moderate amount'" (1996a), and "...57% of officials reported 'none' or 'very little'" (1996b). Finally, Rainey and Hardy (1997) studied rugby referees and found that "...mean ratings for the total sample and for each group were between 'very little' and a 'moderate amount'".

In a cross cultural study of Australian and Greek basketball referees, Kaissidis-Rodafinos et al (1998) found that although the overall mean amounts of stress were 'moderate' for both samples, there were some differences in amounts of stress of particular stressors. For example, Australian referees considered arguing with players, calling a technical foul

and making a controversial call more stressful than their Greek counterparts and Greeks perceived presence of media to be more stressful than their Australian counterparts. Kaissidis-Rodafinos conclude “qualitative data revealed differences in perceived intensity of stress...this was attributed to sociological and cultural differences between subjects” (1998).

Table 3.12: ‘What We Know’ about Intensity/Magnitude/Rating of Stress in Sport

‘What we know’	Explanation
<b>Low ‘amounts’ of stress experienced by sports officials</b>	<p><b>Baseball/Softball Umpires</b></p> <ul style="list-style-type: none"> <li>• Rainey (1995)</li> </ul> <p><b>Basketball Referees</b></p> <ul style="list-style-type: none"> <li>• Anshel and Weinberg (1995)</li> <li>• Rainey and Winterich (1995)</li> <li>• Kaissidis-Rodafinos (1998)</li> </ul> <p><b>Volleyball Officials</b></p> <ul style="list-style-type: none"> <li>• Stewart and Ellery (1996a, 1996b)</li> </ul> <p><b>Rugby Referees</b></p> <ul style="list-style-type: none"> <li>• Rainey and Hardy (1997)</li> </ul>
<b>Cultural and environmental factors may affect ‘amount’ of stress</b>	<p><b>Kaissidis-Rodafinos (1998)</b></p> <p>Greeks referees perceived ‘presence of media’ to be more stressful than Australian referees. Australian referees perceived ‘arguing with players’, ‘calling a technical foul’ and ‘making controversial calls’ more stressful than Greek referees. Differences in amounts of stress were attributed to cultural factors.</p>

**‘What we don’t know’ about ‘amount’ of stress in sport (see table 3.13)**

The research studies to date provide no information about ‘amounts’ of stress experienced by athletes or coaches. Current literature is based on studies of sports officials only. Therefore, future research should focus on ‘amounts’ of stress experienced by athletes and coaches.

Currently, the terms ‘magnitude’, ‘intensity’ and ‘rating’ of stress are used synonymously in research investigating ‘amount’ of stress. This lack of clarity in research terminology is confusing. Precise definitions of the different terms or a comprehensive definition incorporating all existing terms is required.

The term 'amount' of stress refers to the 'level' of stress experienced. However, measuring other characteristics of a stressor may provide a fuller understanding. For example, measuring the 'severity' and 'frequency' (McCrae, 1992, Vitaliano et al., 1990) may provide a more precise insight into the nature of a stressor. 'Severity' refers to the intensity of the stressor and 'frequency' refers to the regularity of occurrence. Both 'frequency' and 'severity' are components of 'amount' of stress. Therefore, future research is necessary to investigate the 'amounts' of stress using the constructs 'frequency' and 'severity'.

**Table 3.13: 'What We Don't Know' about Intensity/Magnitude/Rating of Stress in Sport**

<b>'What we don't know'</b>	<b>Implications for future research</b>
<b><u>'Amount' of stress experienced by athletes and coaches</u></b>	<b>Current literature studies sports officials only</b> <i>Future research is required to investigate amounts of stress in athletes and coaches.</i>
<b><u>Clarity of research terminology</u></b>	<b>Rating/Magnitude/Intensity</b> <i>These terms are used synonymously to refer to 'amount' of stress. Conceptual analysis is required in order to develop precise definitions for each of the different terms.</i>
<b><u>'Severity' and 'Frequency' as measures of 'amount' of stress</u></b>	<i>It may be more useful to use the constructs 'severity' and 'frequency' as more precise measures of 'amounts' of stress.</i>  <b>Severity</b> <i>The term 'severity' refers to the intensity of the stressor</i>  <b>Frequency</b> <i>The term 'frequency' refers to the occurrence of the stressor.</i>

### c) 'Stress and burnout'

#### *'What we know' about stress and burnout (see table 3.14)*

Only 3 of the 14 studies of stress in sport investigated stress and burnout. In an in depth study of youth male golfers Cohn (1990) found that all 10 golfers claimed that they had experienced burnout, and that the burnout lasted between 5 and 14 days. Therefore, he concluded that burnout exists even in youth sports participants.

Taylor et al. (1990) studied Canadian Soccer referees and concluded “stress had a direct negative effect on burnout while burnout appeared to have a direct positive effect on perceived stress over time”. Furthermore, Taylor et al. (1990) found certain sources of stress predicted burnout, including ‘age’, ‘fear of failure’, ‘role culture conflict’ and ‘interpersonal conflict’. Rainey (1995) studied U.S.A. baseball and softball officials and contrary to Taylor et al (1990) found ‘role culture conflict’ and ‘age’ did not predict burnout, but ‘time pressure’, ‘fear of failure’ and ‘interpersonal conflict’ were positive predictors. In both Rainey and Taylor et al’s study, ‘fear of failure’ and ‘interpersonal conflict’ were identified as predictors of burnout.

**Table 3.14: ‘What We Know’ about Stress and Burnout in Sport**

‘What we know’	Explanation
<b><u>Youth sport participants experience burnout</u></b>	<p><b>Cohn (1990)</b>  <i>Found all 10 youth golfers in his study experienced burnout lasting between 5 and 14 days.</i></p>
<b><u>Sources of stress can predict burnout</u></b>	<p><b>Taylor et al (1990)</b>  <i>Found the sources of stress ‘age’, ‘fear of failure’, ‘role culture conflict’ and ‘interpersonal conflict’ were predictors of burnout.</i></p> <p><b>Rainey (1995)</b>  <i>Found the sources of stress ‘time pressure’, ‘fear of failure’ and ‘interpersonal conflict’ were predictors of burnout.</i></p>

***‘What we don’t know’ about stress and burnout (see table 3.15)***

Knowledge concerning stress and burnout in sport is restricted by a lack of studies in the area. Future research is required to determine other sources of stress as predictors of burnout. Furthermore, research to date investigating sources of stress as predictors of burnout is based on studies of sport officials. Future research is required to investigate athletes and coaches’ sources of stress as predictors of burnout.

Table 3.15: 'What We Don't Know' about stress and burnout in Sport

'What we don't know'	Implications for future research
<b>What other sources of stress predict burnout?</b>	<p><i>Current research investigating stress as a predictor of coping identifies the sources of stress experiences by officials as predictors of coping. Future research is required to study:-</i></p> <p><b>Official's sources of stress as predictors of burnout</b> <i>Further research is required to add to the existing knowledge base.</i></p> <p><b>Athlete's sources of stress as predictors of burnout</b> <i>Are athlete's sources of stress predictors of burnout? If so, which stressors?</i></p> <p><b>Coaches' sources of stress as predictors of burnout</b> <i>Are coaches' sources of stress predictors of burnout? If so, which stressors?</i></p>

#### d) 'Measurement of stress'

##### *Stress Measurement Tools (see table 3.16)*

A number of researchers have attempted to develop measures for stress in sport. Seggar and Pedersen (1997a, 1997b) attempted to develop a measure of stress for athletic performance, the 'Athlete Stress Inventory'. The 'Athletic Stress Inventory' was developed using 148 female intercollegiate athletes (1997a) and was tested in a study of 32 female intercollegiate athletes from tennis, gymnastics and basketball (1997b). As a result, this tool is most useful for measuring stress experienced by student athletes. Seggar and Pedersen (1997a) found four orthogonal factors contributed to stress in student athletes, 'negative mood', 'team compatibility', 'physical well being', 'academic efficacy'. Scales for these factors were reliable and valid. In a follow up study, Seggar and Pedersen (1997b) found that stress scores (except emotional mood) reported four days prior to competition tended to be significantly correlated with performance for individual sports (tennis and gymnastics) but not for team sport (basketball).

The basketball officials source of stress inventory (BOSSI) was developed by Anshel and Weinberg (1995) to ascertain the extent to which different sources of stress were experienced by officials. The BOSSI consisted of 15 items (stressors) from which participants circled a number from '1' (not at all) to '10' (extremely) after each item,

indicating the extent they had experienced the stressor. The 15 items were generated from three sources. First, open-ended interviews were conducted with eight current basketball referees (two from the U.S. and six from Australia) and three former Australian basketball referees, with 10 years of officiating experience. Secondly, magazine articles such as 'Referee Magazine'. Thirdly, research articles that identified sources of stress among sports officials were also considered (e.g., Goldsmith & Williams, 1992; Lehman & Reifman, 1988; Quain & Purdy, 1988). Taken collectively, a comprehensive set of acute stressors experienced by basketball referees was developed. The BOSSI was tested for content validity by five former (two American and three Australian) and 12 current (five American and seven Australian) basketball officials of similar age and experience to the sample. This ensured clarity and comprehension of all information. Additionally, these officials were asked to offer suggestions regarding vocabulary, omissions of content and other deficiencies that might inhibit the reliability and validity of subject's responses, although no changes were made. Construct validity was measured by ascertaining common meaning across cultures. This consistency in meaning was evident though the interviews with Australian and American officials in determining the sources of stress in their respective countries. The BOSSI was used to measure sources of acute stress in American and Australian basketball referees (Anshel & Weinberg, 1995) and to measure sources, intensity and responses to stress in Greek and Australian basketball referees (Kaissidis-Rodafinos et al., 1998).

The SSBQ was developed by Madden (1987) and modified by Madden et al (1990) to determine the perceived relative degree of stress experienced across a range of sporting situations in competition basketball. The SSBQ consisted of 20 situations or game states chosen from an initial list of items developed by analysis of the range of game states occurring in competitive basketball. The resultant items were administered to basketball players in a pilot trial. Items were altered or deleted and additional items were included based on the feedback obtained. The resultant SSBQ contained items relating to a range of offensive, defensive and neutral situations or game states that occur in competition basketball. These include items relating to being outplayed, making skill errors, errors in general play or strategic errors, game tension, team performance and errors on specific

tasks. Madden et al (1990) used the SSBQ in combination with the WOCS to study the influence of perceived stress on coping with competitive basketball. Furthermore, Madden et al (1995) used the SSBQ to investigate stressful situations in competitive basketball.

The OSOS (Ontario Soccer Officials Survey) contained various multi-item sections to gain latent measures of perceived officiating stress, burnout and intent to quit. A pilot study led to the development of the scales and demonstrated acceptable psychometric properties (Taylor & Daniel, 1988a, 1988b). The OSOS consisted of 30 items to assess perceived stress using a 4-point likert scale. Responses ranged from 0 (did not), to 3 (strongly), to the question, "How much did these contribute to the amount of stress you felt?" Items represented 1 of one of 7 sub scales of perceived stress (derived from factor analysis in the pilot study), and were randomly ordered in the survey. The sub scales were labelled fear of physical harm, fear of failure, peer conflicts, time pressures, interpersonal conflicts, role culture conflict and fitness concerns. The burnout section included a 16 item modified version of the Maslach burnout inventory (MBI) to fit the officiating role. The usual 7-point scale on the MBI was modified to a 4-point scale from (never=0) to (often=3). Turnover intentions were assessed using 5 items developed to form a composite index of intent to quit. Additional questions were concerned with personal and officiating background. Taylor, Daniel, Leith and Burke (1990) used this tool to measure perceived stress, psychological burnout and paths to turnover intentions among sports officials. Stewart and Ellery (1998) used the OSOS to investigate sources and magnitude of perceived psychological stress in high school volleyball officials. Finally, Rainey (1995a) used the OSOS to investigate sources of stress among baseball and softball umpires, and also to investigate stress, burnout and intention to terminate amongst umpires (Rainey, 1995b).

Goldsmith and Williams (1992) created the 'Officials Stress Test' (1992) from the 31 item soccer officials stress survey (Taylor & Daniel, 1988). Minor changes were made in the original soccer questionnaire in order to make the questionnaire applicable to officials from other sports. Participants responded in terms of how much each item contributed to

their personal stress during this particular officiating season. The SOSS used a Likert scale ranging from zero to three (0=did not, 3=strongly). This was changed on the OST to a 4 point Likert scale (ranging from 1=did not, 2=rarely, 3=moderately, 4=strongly). The frequency of the stressors was not measured because Lazarus and Launier (1978) argue that greater importance should be placed on how events are perceived rather than how frequently they are experienced when measuring stress. Goldsmith and Williams (1992) used the OST to measure perceived stressors for football and volleyball officials from 3 ratings levels.

*Limitations of stress measures (see table 3.17)*

There are a number of limitations to the existing measures of stress. Firstly, the existing measurement tools are designed to measure stress in officials or in athletes. There is no tool that measures stress in coaching. Future research should focus on the development of such a tool. Currently, the only measurement tool designed to measure athletes stress is the 'Athlete Stress Inventory'. This tool has been developed to cater specifically for the inter-collegiate athlete. Perhaps future research should focus on developing a more general measurement tool to use with all levels of athlete in a variety of different sports.



Table 3.16: 'What we know' about stress measurement in sport

'What we know'	Explanation
<b><u>The Athlete Stress Inventory</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Seggar and Pedersen (1997a)</b> <i>Designed and validated the Athlete Stress Inventory. It measures 4 items of stress for student athletes, 'negative mood', 'team compatibility', 'physical well being', and 'academic efficacy'.</i></li> <li>▪ <b>Seggar and Pedersen (1997b)</b> <i>Used the inventory to study stress related to athletic performance of members of 3 women's inter-collegiate sports teams.</i></li> </ul>
<b><u>The Basketball Officials Source of Stress Inventory</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The BOSSI</b> <i>Measures 15 items (stressors in basketball officiating). The respondent circles the appropriate level of stress for each stressor using a likert scale (1=not at all stressful, 10=extremely stressful). This tool was used by Anshel and Weinberg (1995) and Kaissidis-Rodafinos (1998)</i></li> </ul>
<b><u>The Officials Stress Test</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The OST</b> <i>Modified from the 31-item soccer officials survey. Designed and validated by Goldsmith and Williams (1992) who used it to study perceived stressors for football and volleyball officials.</i></li> </ul>
<b><u>The Stressful Situations in Basketball Questionnaire</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The SSBQ</b> <i>Designed by Madden (1987) and further modified by Madden et al (1990). They used it to study stressful situations in competitive basketball.</i></li> </ul>
<b><u>The Ontario Soccer Officials Survey</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The OSOS</b> <i>Designed and validated by Taylor and Daniel (1988a, 1988b) and used by Taylor et al (1990) to study soccer officials, Stewart and Ellery (1998) to study volleyball officials and Rainey (1995a, 1995b) to study baseball/softball umpires.</i></li> </ul>

Table 3.17: Limitations of Tools for Measuring Stress in Sport

Limitations	Implications for future research
<b><u>No existing tool for measuring sources of stress experienced by coaches</u></b>	<p>Currently, only tools measuring athlete's and official's sources of stress exist.</p> <ul style="list-style-type: none"> <li>▪ <i>The development of a measure for stress in coaching is required.</i></li> </ul>
<b><u>No existing tool for measuring sources of stress experienced by all levels of athlete</u></b>	<p>Currently only tools measuring intercollegiate athletes exist.</p> <ul style="list-style-type: none"> <li>▪ <i>The development of tool for measuring stress in all levels of athletes is required.</i></li> </ul>

## Sport Coping Research

The systematic review revealed that there were 33 studies of coping in sport. The major investigative themes of these studies were 'coping strategies', 'coping styles', 'models of coping', 'categories of coping', 'stress appraisal and coping', 'cross-cultural studies of coping', 'measurement of coping', and 'gender and coping'. Table 3.8 illustrates the studies that correspond to the investigative themes. Similar to the stress literature, some studies are broad in orientation and therefore encompass more than one investigative theme, whereas others focus on one. For example, Anshel et al (1997) studies coping style and situational appraisals as predictors of coping strategies following stressful events in sport as a function of gender and skill level, and Dale (2000) conducted an in-depth study of the coping strategies of elite decathletes.

### a) 'Coping strategies'

#### *'What we know' about coping strategies in sport (see table 3.18)*

Of the 33 studies of stress in sport, 13 investigated 'coping strategies' in sport. A number of researchers have attempted to categorise coping behaviours (Carpenter, 1992). Cox and Ferguson (1991) believed that having categories/taxonomies helps researchers/practitioners to gain a greater understanding of coping behaviours. Lazarus and Folkman (1984) distinguished between 'problem' and 'emotion' focused coping.

*"Problem-focused coping strategies are similar to strategies used for problem solving. As such, problem focused efforts are often directed at defining the problem, generating alternative solutions, weighting the alternatives in terms of their costs and benefits, choosing among them and acting....Problem-focused coping also includes strategies that are directed inward" (1984;152).*

In contrast, emotion-focused coping strategies are,

*"...cognitive processes directed at lessening emotional distress" (1984;150).*

In addition to problem and emotion focused strategies, Cox and Ferguson (1991) and Billings and Moos (1984) suggested a further category, 'appraisal/re-appraisal'. This category included strategies such as logical analysis of a situation, looking for causes of a situation, cognitive re-definition and social comparison (Cox & Ferguson, 1991). Furthermore, Endler and Parker (1990) suggested three coping categories, two of which, 'task-oriented' and 'emotion-oriented' fit with Lazarus and Folkman's problem and emotion focused categories. The third category proposed was avoidance, that is, efforts, whether physical or mental, to disengage from the stressor.

The categories 'problem-focused', 'emotion-focused', 'appraisal/re-appraisal' and 'avoidance' were used to organise the general data from all the studies on coping strategies in sport and the results are illustrated in table 3.19. The coping strategies cited in this table are general dimensions from content analysed coping data or the emergent factor solutions from the factor analysed data. All the coping strategies fit into the four categories, providing support for the usefulness of the category based framework.

Table 3.19 illustrates that nearly half of the coping strategy dimensions/factors identified from the studies are problem-focused in orientation. Therefore general trends in overall data suggest that the most frequently cited strategies are problem-focused in orientation.

Madden et al (1990) studied Australian basketball players and found that subjects reporting high levels of competitive stress use increased effort and resolve, problem-focused coping, social support seeking and wishful thinking more frequently than subjects reporting low competitive stress.

Table 3.18: 'What We Know' about Coping Strategies in Sport

'What we know'	Explanation
<p><b><u>Support for Categories of Coping</u></b></p>	<p><i>The results from the analysis of all the studies investigating coping strategies in sport were identified and categorised into the following accepted categories of coping:</i></p> <ul style="list-style-type: none"> <li>▪ <i>Problem-focused (Lazarus &amp; Folkman, 1984)</i></li> <li>▪ <i>Emotion focused (Lazarus &amp; Folkman, 1984)</i></li> <li>▪ <i>Appraisal/Re-appraisal (Cox &amp; Ferguson, 1992; Billings &amp; Moos, 1984)</i></li> <li>▪ <i>Avoidance (Endler &amp; Parker, 1990)</i></li> </ul> <p><i>All the strategies identified from the studies fitted into these categories providing evidence to support the usefulness of the categorisation.</i></p>
<p><b><u>Problem-focused coping is most frequently used</u></b></p>	<ul style="list-style-type: none"> <li>▪ <i>See Table 3.19</i></li> </ul> <p><i>Nearly half of the coping strategy dimensions identified from all the studies fit into the 'problem-focused' coping category.</i></p>
<p><b><u>High levels of stress lead to increased use of coping strategies</u></b></p>	<ul style="list-style-type: none"> <li>▪ <i>Madden et al., (1990)</i></li> </ul> <p><i>Found that highly stressed Australian basketball players used coping strategies more frequently than their less stressed counterparts.</i></p>

Table 3.19: Coping Strategies in Sport

<b>Problem Focused Coping</b> <i>(Lazarus and Folkman, 1984)</i>	<b>Emotion Focused Coping</b> <i>(Lazarus and Folkman, 1984)</i>
<ul style="list-style-type: none"> <li>▪ <i>Being aware of cues (Dale, 2000)</i></li> <li>▪ <i>Competing only against self (Dale, 2000)</i></li> <li>▪ <i>Consistency (Dale, 2000)</i></li> <li>▪ <i>Task-focused strategies (Gould et al, 1993b)</i></li> <li>▪ <i>Behavioural based strategies (Gould et al, 1993b)</i></li> <li>▪ <i>Time management and prioritization (Gould et al, 1993c)</i></li> <li>▪ <i>Training hard and smart (Gould et al, 1993c)</i></li> <li>▪ <i>Pre-competitive mental preparation (Gould et al, 1993c)</i></li> <li>▪ <i>Isolation and deflection (Gould et al, 1993c)</i></li> <li>▪ <i>Driving through (Gould et al, 1997b)</i></li> <li>▪ <i>Sought and used social resources (Gould et al, 1997b)</i></li> <li>▪ <i>Took note and drew up lessons and learned (Gould et al, 1997b)</i></li> <li>▪ <i>Taking action to improve our own situation (Jackson et al, 1998)</i></li> <li>▪ <i>Preparedness for Olympic Champions role (Jackson et al, 1998)</i></li> <li>▪ <i>Be well rested physically and mentally (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Work on the feelings aspect of your sport (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Create a system for dealing effectively with the demands (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Training strategies (Park, 2000)</i></li> <li>▪ <i>Injury relevant information awareness (Udry et al, 1997)</i></li> <li>▪ <i>Calling a technical foul (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Criticise the coach (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Try to sell the call (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Concentrate on the rules (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Answer politely (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Planning (Grove et al, 1997)</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Camaraderie (Dale, 2000)</i></li> <li>▪ <i>Imaging/visualising (Dale, 2000)</i></li> <li>▪ <i>Thought control (Gould et al, 1993b)</i></li> <li>▪ <i>Emotional control strategies (Gould et al, 1993)</i></li> <li>▪ <i>Rational thinking and self talk (Gould et al, 1993c)</i></li> <li>▪ <i>Positive focus and orientation (Gould et al, 1993c)</i></li> <li>▪ <i>Social support (Gould et al, 1993c)</i></li> <li>▪ <i>Managed emotions and thoughts (Gould et al, 1997b)</i></li> <li>▪ <i>Seek social support (Jackson et al, 1998)</i></li> <li>▪ <i>Find personal strength (Jackson et al, 1998)</i></li> <li>▪ <i>Psychological training (Park, 2000)</i></li> <li>▪ <i>Relaxation (Park, 2000)</i></li> <li>▪ <i>Social support (Park, 2000)</i></li> <li>▪ <i>Verbally express anger (Anshel &amp; Weinberg, 1999)</i></li> </ul>
<b>Appraisal / Re-appraisal</b> <i>(Cox and Ferguson, 1992)</i>	<b>Avoidance</b> <i>(Endler and Parker, 1990)</i>
<ul style="list-style-type: none"> <li>▪ <i>Have confidence in ones training (Dale, 2000)</i></li> <li>▪ <i>Cognitive re-structuring (Jackson et al, 1998)</i></li> <li>▪ <i>Remember where you came from and keep it all in perspective (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Enjoy it (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Know what is important and what isn't (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Know why you win, why you lose and work hard towards your goals (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Believe in yourself, think positively and stay on a track that has worked (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Avoid accepting the pressure of other people's expectations (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Create new challenges and let the politics of sport pass by (Kreimer-Phillips &amp; Orlick, 1993)</i></li> <li>▪ <i>Positive outlook coping attempts (Udry, 1997)</i></li> <li>▪ <i>Acceptance (Grove et al, 1997)</i></li> <li>▪ <i>Positive re-interpretation (Grove et al, 1997)</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Ignoring the stressor (Gould et al, 1993c)</i></li> <li>▪ <i>Distracted self (Gould et al, 1997b)</i></li> <li>▪ <i>Avoidance and isolation (Gould et al, 1997b)</i></li> <li>▪ <i>Ignore/block things out (Jackson et al, 1998)</i></li> <li>▪ <i>Maladaptive coping (Jackson et al, 1998)</i></li> <li>▪ <i>Hobby Activities (Park, 2000)</i></li> <li>▪ <i>Prayer (Park, 2000)</i></li> <li>▪ <i>Ignore/discount the coach (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Quickly continue play (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Ignore the player (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Stay in on task (Anshel &amp; Weinberg, 1999)</i></li> <li>▪ <i>Concentrate on the game (Anshel &amp; Weinberg, 1999)</i></li> </ul>

*'What we don't know' about coping strategies in sport (see table 3.20)*

Research to date on 'coping strategies' in sport has identified the coping strategies used by different types of sport participant (athletes and officials) in different sports. However, post 1984 no studies have investigated coping strategies of coaches or of athletes during coaching activity. Therefore, future research in this area will contribute to the existing knowledge base.

Research studies in 'coping strategies' post 1984 have investigated coping strategies separate from sources of stress. Consequently, possible links between sources of stress and coping strategies have not been investigated. Future research investigating possible linkages will provide a more holistic understanding of the stress-coping process.

Studies investigating coping strategies do not investigate coping effectiveness. Coping effectiveness can be measured internally in terms of a person's perception of the coping outcome or externally in terms of observable behaviours, depending upon the nature of the stressor. In order to provide a more comprehensive understanding of the stress-coping process in sport, future research should continue to identify coping strategies and develop some sort of coping effectiveness measure.

Studies to date identifying coping strategies do not investigate coping frequency. In order to provide a more comprehensive understanding of the stress-coping process there is a need in future to investigate the frequency of implementation of various coping strategies.

Research tends not to distinguish between general and specific coping strategies. General coping strategies are implemented in response to a wide range of stressors, for example, 'imagery and visualisation' might offer general strategies used to deal with different sources of stress experienced by different sports participants in different situations. However, specific coping strategies might be argued to be a more local response, implemented in an attempt to deal with one particular source of stress. For example, 'ask

for a let' may be a specific coping strategy used to deal with a particular situational demand of squash. Therefore, this strategy is sport and situation specific. Distinguishing between general and specific coping strategies may provide useful categories for conceptualising coping strategies in future research.

Table 3.20: 'What We Don't Know' about Coping Strategies in Sport

'What we don't know'	Implications for future research
<u>Coping strategies used by coaches</u>	<ul style="list-style-type: none"> <li>▪ Post 1984, no studies have investigated the coping strategies of coaches <i>Research is required in order to provide a fuller picture of coping strategies in sport.</i></li> </ul>
<u>Links between sources of stress and coping strategies</u>	<ul style="list-style-type: none"> <li>▪ Coping strategies and sources of stress have been investigated separately <i>Future research is required to investigate the links between stressors and coping strategies to provide a more holistic understanding of stress and coping in sport.</i></li> </ul>
<u>Effectiveness of coping strategies</u>	<ul style="list-style-type: none"> <li>▪ There is a lack of research investigating the effectiveness of coping strategies in sport <i>Understanding perceived effectiveness of coping strategies may be helpful to practitioners working with performers and may provide a richer understanding of the nature of the coping strategy.</i></li> </ul>
<u>Frequency of coping strategies</u>	<ul style="list-style-type: none"> <li>▪ There is a lack of research investigating the frequency of coping strategies in sport <i>Future research is required to investigate the frequency of coping strategies in order to distinguish between frequently used and occasionally used strategies. It may be interesting to investigate whether frequently used strategies are more or less effective</i></li> </ul>
<u>General versus specific coping strategies</u>	<ul style="list-style-type: none"> <li>▪ There has been a lack of research investigating the generality and specificity of coping strategies in sport <i>Some strategies may be used to deal with specific stressors whereas others may be more generally used to deal with a myriad of stressors. Future research is required to identify general and specific coping strategies.</i></li> </ul>

### b) 'Coping styles'

Although Lazarus and Folkman (1984) argue that coping should be conceptualised as a process rather than a style, a significant proportion (12 out of 33) of the studies on coping in sport post 1984 have investigated coping style. Carver et al (1989) note that it is important to study coping styles as well as coping strategies, since coping styles are useful predictors of future coping behaviour. Anshel and his colleagues have contributed to 58% of the research on coping styles. According to Anshel and Weinberg,

*“The fundamental difference between coping strategies and coping style is the consistency or preferred manner, with which an individual responds to stressful events” (1999; 142).*

While coping strategies “involve a reaction to an immediate stressor, (coping style) reflects a consistent manner of dealing with stressors across time and situations” (Kohn, 1996; 185). Compass (1987; 394) explains “coping styles are methods of coping that characterise individuals’ reactions to stress either across different situations or over time with a given situation”. According to Krohne (1993; 23), the assumption that underlies coping style is that “individuals can be differentiated according to the way they habitually (dispositionally) react in threatening situations”.

Anshel and Weinberg (1999; 143) note “over the years, researchers and theorists have provided different labels and categories of coping styles”. For example, Miller (1992) dichotomised coping style into monitoring (the manner in which individuals prefer to take in information for improved coping effectiveness) and blunting (the manner in which individuals tend to avoid information to manage their stress). However, Anshel and his colleagues adopt earlier research (Krohne, 1993; Roth and Cohen, 1986; Suls and Fletcher, 1985) that categorised coping styles into ‘approach’ (also called sensitization, engagement, vigilance or attention) or ‘avoidance’ (also called repression, disengagement, inattention or rejection). According to Anshel and Weinberg (1999; 143, 144), an approach strategy consists of confronting the source of stress in an attempt to reduce its intensity and better understand it. Avoidance coping consists of turning away from threat-related cues. Anshel and Weinberg, (1999; 143) argue that this is the most common framework for categorising coping style and the one that is most compatible in sport.

***‘What we know’ about coping styles in sport (see table 3.21)***

Kaissidis-Rodafinos et al (1997) found that Australian basketball referees exhibited consistent avoidance but not approach coping styles. Conversely, Anshel and Wells



(2000) studied Australian basketball players and found that approach strategies were more prevalent than avoidance following three out of four events. Therefore it appears that Australian referees and players exhibit contrasting styles of coping. However, Kaissidis-Rodafinos and Anshel (2000) found that Greek referees were not consistent in using avoidance and approach coping responses across situations, indicating that no single coping style was prevalent. Therefore, research findings are mixed and more research is required in order to draw more precise conclusions.

In a study of competitive Australian basketball players, Anshel and Kaissidis-Rodafinos (1997) found that both personal and situational factors accounted for significant variation in coping style. Furthermore, they found that situational factors were better predictors of approach and avoidance coping than personal factors. In contrast, Giacobbi and Weinberg (2000) studied college student athletes and found coping to be more stable than situationally variable. They found that high trait anxious students responded differently to stressful situations than low trait anxious students. Crocker and Isaak (1997) studied Canadian age class swimmers during training and competition and found a lack of coping consistency during competition (high person x situation variance component) for most coping categories except active coping. In contrast training session data indicated that many of the coping scales showed relative stability (low person x situation variance). This study suggests that age class swimmers may exhibit different coping patterns across competition and training, providing support for notion that coping is situationally determined. These studies provide evidence to support the notion that coping is determined by both situational and personal factors, and hence provide support for the transactional model of coping advocated by Lazarus and Folkman (1984).

Anshel (1996) studied highly skilled Australian athletes from team sports and found that coping styles were a function of type of stressor, providing support for the transactional model. Furthermore, Johnson and McCabe (1993) conducted an experiment using Australian psychology undergraduates and found some evidence to support the classification of stressful transactions as requiring either an approach or an avoidance strategy. Anshel and Weinberg (1996) studied Australian and American basketball

officials and found significant differences between coping styles as a function of the type of stressor and between Australian and American referees in the use of approach and avoidance styles. These studies begin to identify links between sources of stress and coping styles, although further research is required in order to make precise inferences about the nature of the links.

Anshel and Wells (2000) studied Australian amateur basketball players and found partial correlations between cognitive appraisals (challenge/threat/harm) and coping style (approach/avoidance). More research is required in order to provide a more comprehensive understanding of the links between cognitive appraisal and coping style.

Table 3.21: 'What We Know' about Coping Style in Sport

'What we know'	Explanation
<b><u>Incidence of approach and avoidance coping</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Kaissidis-Rodafinos (1997)</b> <i>Basketball referees used predominantly avoidance rather than approach coping style.</i></li> <li>▪ <b>Anshel and Wells (2000)</b> <i>Basketball players used approach rather than avoidance coping style.</i></li> <li>▪ <b>Kaissidis-Rodafinos and Anshel (2000)</b> <i>Greek basketball referees were not consistent in using either.</i></li> <li>▪ <b>Conclusion – mixed findings</b></li> </ul>
<b><u>Coping style is determined by personal and situational factors</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Anshel and Kaissidis-Rodafinos (1997)</b> <i>Both personal and situational factors accounted for differences in coping style</i></li> <li>▪ <b>Giacobbi and Weinberg (2000)</b> <i>Found coping to be more stable than situationally determined</i></li> <li>▪ <b>Crocker and Isaak (1997)</b> <i>Found coping style to be situationally determined</i></li> <li>▪ <b>Conclusion – mixed findings</b></li> </ul>
<b><u>Links between sources of stress and coping style</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Coping style is a function of the stressor</b> <i>Anshel (1996), Anshel and Weinberg (1996), Johnson and McCabe (1993).</i></li> </ul>
<b><u>Cognitive appraisal and coping style</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Anshel and Wells (2000)</b> <i>Found partial correlations between cognitive appraisals (challenge/threat/harm-loss) and coping style (approach/avoidance).</i></li> </ul>

***'What we don't know' about coping styles in sport (see table 3.22)***

Currently, the coping styles literature fails to include studies on coping styles of coaches. Clearly this is an area that requires future research in order to provide a fuller understanding of the area.

Most of the coping style literature, especially the work of Anshel and colleagues, embraces the approach/avoidance classification as the theoretical frame of reference. By adopting these categories, the authors are prescribing the constructs of coping style. Further inductive research might confirm these categories or provide new categories and conceptualisations to enrich understanding.

**Table 3.22: 'What We Don't Know' about Coping Style in Sport**

<b>'What we don't know'</b>	<b>Implications for future research</b>
<b><u>Coping styles in coaching</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Currently no studies examine the coping styles used by coaches</b> <i>Future research is required to investigate coping style of coaches.</i></li> </ul>
<b><u>Other constructs of coping style</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The majority of studies measure coping style using the constructs approach and avoidance</b> <i>Future research is required to explore the appropriateness of measuring coping style using other constructs.</i></li> </ul>

**c) 'Models of coping'**

Stress management programs such as Meichenbaum's (1977, 1985) Stress Inoculation Training and Smith's (1980) Stress Management Training Programme, have been successfully used to regulate levels of chronic stress. However, according to Anshel, Gregory and Kackzmarek (1990; 195), "strategies to cope with acute stress in sport are virtually absent in the related literature". Consequently, Anshel (1990) developed a model, the COPE, for coping with acute stress in sport.

***'What we know' about models of coping in sport (table 3.23)***

According to Anshel (1990; 58), "Coping with acute stress is an inherent component of sport competition". Anshel et al (1990; 195) explain "acute sport related stress occurs when an athlete is suddenly confronted with input of an unpleasant nature". Anshel (1990) presents a model referred to as the acronym COPE, based on the serial use of selected cognitive and behavioural strategies for coping with acute stress in sport. COPE reflects controlling emotions, organising input, planning the subsequent response and executing the appropriate actions. He explains, "the primary objective of using the model, and in the coping process, is the athlete's appraisal of self-control over the stressful situations" (1990; 58). Anshel (1990) tested the model with inter-collegiate tennis players, exposing them to 10, 15 or 20 pre-treatment stress trials. Findings indicated that coping strategies significantly improved performance and affect for all treatments for pre- and post intervention comparisons. Furthermore, between group comparisons showed competitors who experienced 20 pre-intervention stress trials were significantly better on post-treatment scores in contrast to the other groups. Therefore, this study provided some support for the COPE model as an approach to handling acute stress in sport.

Anshel et al (1990) further tested the model using male baseball and female softball inter-collegiate athletes. They were trained to use cognitive strategies to cope with receiving unpleasant information feedback as opposed to placebo (watching sport related video tapes) and no treatment control groups. The effect of training using the COPE on selected measures of affect was measured. Anshel et al (1990) found that athletes who trained in a stress management programme decreased their fear of appearing incompetent, were less afraid of negative evaluations, maintained a sense of control over their baseball future, felt less upset by negative feedback concerning their athletic performance and tended to attribute their performance to internal as opposed to external factors. This evidence provides further support for the effectiveness of the COPE as a stress training programme.

Table 3.23: 'What We Know' about Models of Coping in Sport

'What we know'	Explanation
<p><b><u>Support for effectiveness of the COPE as an approach to handling acute stress in sport</u></b></p>	<ul style="list-style-type: none"> <li> <p>▪ <b>Anshel (1990)</b>  <i>Tested the model with inter-collegiate tennis players exposing them to 10, 15 or 20 pre-treatment stress trials. Found that coping strategies significantly improved performance and affect for all treatments for pre- and post intervention comparisons. Competitors who experienced 20 pre-intervention stress trials were significantly better on post treatment scores in contrast to other groups.</i></p> </li> <li> <p>▪ <b>Anshel et al (1990)</b>  <i>Tested the COPE using male baseball and female softball inter-collegiate athletes. Found that athletes who trained using the COPE decreased their fear of appearing incompetent, were less afraid of negative evaluations, maintained a sense of control over their baseball future, felt less upset by negative feedback concerning their athletic performance and tended to attribute their performance to internal as opposed to external factors.</i></p> </li> </ul>

***'What we don't know' about models of coping in sport (table 3.24)***

Anshel et al (1990) outline a number of limitations of research to date concerning models of coping. Firstly, they argue more research is needed to develop cognitive strategies to help the athlete cope with acute stress. Secondly, the content and length of the training procedures for mastery of acute stress inoculation, particularly for use in competitive sport, need to be refined. Anshel et al (1990) note that Lazarus (1974) warns against implementing an unlimited number of coping strategies on the performer due to 'paralysis by analysis'. Thirdly, Anshel et al note the importance of simulating real life situations in order to test the model. They state, "the use of stress inoculation techniques must be examined in additional field studies, especially in contest-like situations, in which negative feedback is provided by athletes' actual coach as opposed to an information source who might have less credibility" (1990; 195). Finally, they conclude "given the limited number of female athletes in this study, future studies might include the ability of coping with acute stress as a function of gender" (1990; 195).

Table 3.24: 'What We Don't Know' about Models of Coping in Sport

'What we don't know'	Implications for future research
<u>Developing cognitive strategies to cope with acute stress</u>	<i>More research is needed to develop cognitive strategies to help athletes/officials/coaches cope with acute stress</i>
<u>The optimal content and length of training programmes for mastery of acute stress inoculation</u>	<i>The content and length of training procedures for mastery of acute stress inoculation, particularly for use in competitive sport, need to be refined. Lazarus (1974) warns against implementing an unlimited number of coping strategies on the performer due to 'paralysis by analysis'.</i>
<u>The problem of simulating real life situations to test the model</u>	<ul style="list-style-type: none"> <li>▪ <i>Anshel et al (1990)</i>  <i>"the use of stress inoculation techniques must be examined in additional field studies, especially in contest like situations in which negative feedback is provided by athletes' actual coach as opposed to an information source who might have less credibility" (1990; 195).</i></li> </ul>
<u>The influence of gender</u>	<ul style="list-style-type: none"> <li>▪ <i>Anshel et al (1990)</i>  <i>"given the limited number of female athletes in this study, future studies might include the ability of coping with acute stress as a function of gender" (1990; 195).</i></li> </ul>

#### d) 'Categories of coping'

##### *'What we know' about categories of coping (see table 3.25)*

Crocker and Graham (1995) studied Canadian athletes from a variety of sports with varying levels of expertise and found that athletes primarily used problem-focused coping strategies. Many of these strategies were used in combination with each other.

Grove and Heard (1997) studied Australian athletes from a variety of sports. They used two personality measures, optimism and sport confidence and found that both personality measures were positively related to the use of problem-focused strategies and negatively related to the use of emotion-focused strategies. This data suggests that the more confident and optimistic a person, the more likely they are to address the problem causing the stress, and the less likely they are to deal with the symptoms.

Bouffard and Crocker (1992) studied Canadian athletes with physical disabilities and found that perceived challenge is characterised by high levels of problem-focused coping and positive affective states. This data suggests that cognitive appraisal of the stressor may be related to the type of coping. Future research is required to further explore this possibility.

**Table 3.25: 'What We Know' about Coping Categories in Sport**

<b>'What we know'</b>	<b>Explanation</b>
<b><u>Primarily athletes use problem-focused coping</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Crocker and Graham (1995)</b> <i>Studied Canadian athletes from a variety of sports and found they predominantly used problem-focused coping.</i></li> </ul>
<b><u>Relationships exist between personality characteristics and categories of coping</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Grove and Heard (1997)</b> <i>Found optimism and sports confidence was positively related to problem-focused coping and negatively related to emotion-focused coping.</i></li> </ul>
<b><u>Evidence of links between cognitive appraisals and coping categories</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Bouffard and Crocker (1992)</b> <i>Studied athletes with physical disabilities and found that perceived challenge was characterised by high levels of problem focused coping and positive affective states.</i></li> </ul>

***'What we don't know' about categories of coping (see table 3.26)***

So far, research studies have not investigated possible links between the level of sports participant and the predominant type of coping. For example, it would be interesting to investigate the coping of the club level participant in comparison with the intercollegiate and elite level participant.

In terms of the type of sport participant (athlete/official/coach) and coping strategies, research studies have not investigated possible links. For example, it would be interesting to investigate coping patterns of coaches in comparison to athletes and officials.

In terms of the effectiveness of various coping categories, research to date is

inconclusive. It would be interesting to investigate participants' perceptions of coping effectiveness. For example is problem focused coping perceived to be more effective than avoidance? Under what circumstances? For which sports?

Currently, research to date has failed to investigate possible links between cognitive appraisal of a stressor and the category of coping used in response to the stressor. Future research needs to investigate cognitive appraisal of a stressor in terms of perceived challenge, threat, harm/loss, control, severity and frequency, and the coping category used to deal with the stress. This data would provide a rich insight into relationships between characteristics of the stressor and categories of coping.

Table 3.26: 'What We Don't Know' about Categories of Coping in Sport

'What we don't know'	Implication for future research
<u>Level of sport participant and coping categories</u>	<ul style="list-style-type: none"> <li>▪ Does the level of sport participant (youth sport/club/intercollegiate/elite) affect the type of coping (problem/emotion focused)?</li> </ul> <p><i>Research is required.</i></p>
<u>Type of sport participant and coping categories</u>	<ul style="list-style-type: none"> <li>▪ Does the type of sport participant (athlete/official/coach) affect the type of coping (problem/emotion focused)?</li> </ul> <p><i>Research is required.</i></p>
<u>Effectiveness of types of coping</u>	<ul style="list-style-type: none"> <li>▪ Are coping strategies of a particular coping category perceived to be more effective than coping strategies of another coping category?</li> </ul> <p><i>For example, are problem-focused strategies perceived to be more effective than avoidance strategies? Further research is required to explore these issues.</i></p>
<u>Precise nature of the links between cognitive appraisal and categories of coping</u>	<ul style="list-style-type: none"> <li>▪ What is the exact nature of the links between the cognitive appraisal of the stressor (challenge/threat/harm-loss) and the category of the selected coping strategy?</li> </ul> <p><i>For example, what is the relationship between perceived challenge and problem-focused coping? Further research is required to enhance the existing knowledge base.</i></p>



### e) 'Cross cultural studies of coping'

#### 'What we know' about cross cultural studies of coping (see table 3.27)

Anshel and Weinberg (1996) studied American and Australian basketball referees and found that there were more similarities than differences in their manner of coping with acute stressors.

Anshel and Weinberg (1996) also found cultural differences between Australian and American basketball referees. For example, in response to an abusive coach, both groups were similarly punitive but Americans were more likely to speak calmly to the coach than were Australians. Anshel, Williams and Hodge (1997) studied Australian and American college student athletes and found differences in coping with certain stressors (a cheating opponent, experiencing pain, a bad call by the umpire/referee, and opponents performance). This confirms the notion that some cultural differences in coping are apparent.

**Table 3.27: 'What We Know' about Cross Cultural Studies of Coping in Sport**

'What we know'	Explanation
<b><u>There are more similarities than differences in coping cross-culturally</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Anshel and Weinberg (1996)</b> <i>Concluded that there were more similarities than differences in coping behaviour between Australian and American basketball officials.</i></li> </ul>
<b><u>Cultural differences do exist in coping</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Anshel, Williams and Hodge (1997)</b> <i>Found cross cultural differences in coping with 'a cheating opponent', 'experiencing pain', and 'a bad call by the referee'.</i></li> <li>▪ <b>Anshel and Weinberg (1996)</b> <i>Found that in response to an abusive coach, USA referees were more likely to speak calmly to the coach than Australians.</i></li> </ul>

***'What we don't know' about cross cultural studies of coping (see table 3.28)***

The cross-cultural coping studies to date provide mixed messages about the extent to which cultural differences in coping exist, and further research is required to provide more clarity. Future cross-cultural studies should investigate difference in coping patterns of coaches as well as athletes and officials.

**Table 3.28: 'What We Don't Know' about Cross Cultural Studies of Coping in Sport**

<b>'What we don't know'</b>	<b>Implications for future research</b>
<b><u>The precise extent to which cross-cultural differences in coping patterns exist</u></b>	<ul style="list-style-type: none"> <li>▪ Current research evidence provides mixed messages (see table 3.27)</li> </ul>
<b><u>Cross-cultural differences in coping patterns of coaches</u></b>	<ul style="list-style-type: none"> <li>▪ The current literature fails to investigate the cross cultural coping patterns of coaches <i>Future research is required to extend the knowledge base.</i></li> </ul>
<b><u>Cross-cultural differences in coping patterns of athletes</u></b>	<ul style="list-style-type: none"> <li>▪ The current literature fails to investigate the cross cultural coping patterns of athletes <i>Future research is required to extend the knowledge base.</i></li> </ul>

**f) 'Measurement of coping'**

***Existing measurement tools for coping in sport (see table 3.29)***

Anshel and Kaissidis-Rodafinos (1997) developed the CSIA (coping style inventory for athletes) to ascertain coping in sport. The rationale for the survey was "To date, there has been no conceptual framework for measuring coping in competitive sport. In addition, no research has been conducted in sport psychology measuring the consistency of individuals' appraisals and coping responses across situations" (Anshel & Kaissidis-Rodafinos, 1997; 266). Therefore, the aim of the survey was to ascertain coping strategies among competitive athletes in response to specific stressors. Four highly stressful situations were depicted, based on Madden, Summers and Brown's (1990) study of the sources of stress for Australian basketball players. These situations included 'having the ball stolen from me', 'receiving a bad call or penalty from a referee', 'missing a lay-up or an easy jump shot', and 'my team is losing and the opposition are

holding up play'. According to Madden et al, Australian basketball players rated these incidents as 4 of the top 5 sources of stress. The first scale of the CSIA measures the degree of perceived control and intensity of the selected situations. To measure perceived intensity, participants were asked to rate on a scale of 1 (not at all true) to 5 (very true) the degree to which 'I feel that typically I can do something about it'. They were asked to indicate the intensity of each of the four situations on a scale of 1(not stressful) to 5 (very stressful). The second scale of the CSIA was designed to ascertain the coping strategies that players used during the four game related stressful situations. Roth and Cohen's (1986) approach-avoidance construct served as the theoretical basis for the CSIA. The CSIA consisted of 8 items before the survey was pilot tested with a group of 22 university basketball players, and after modification, consisted of 5 items, reflecting 3 approach and 3 avoidance strategies. Participants were asked to recall each of 4 stressful situations and then indicate on a scale of 1 (not at all) to 5 (very true) the number that best described the extent to which each comment was true. Content validity was ensured by selecting items referring to coping responses that are actually used by athletes from the pilot study. Furthermore, 2 basketball coaches examined the appropriateness of the items and confirmed their relevance. Finally an English teacher checked the vocabulary and confirmed that it could be comprehended by persons with a minimum grade 10 reading level. Anshel and Kaissidis-Rodafinos (1997) used the CSIA to study coping style and situational appraisals as predictors of coping strategies following stressful events in sport.

Anshel and Wells (2000) developed the approach and avoidance coping strategies inventory. It measures coping style, stress intensity, cognitive appraisals and situational coping. They argue,

*"To date, there has been no validated inventory that identifies approach and avoidance coping strategies in sport, although sport psychologists have examined this construct by using inventories generated for their respective studies (Anshel, 1996; Anshel et al, 1997; Kaissidis-Rodafinos,1997; Anshel and Porter, 1997; Krohne, 1996)".*

The survey was compiled by selecting the most common sources of "highly stressful" game related acute stress from those previously identified in studies of basketball (Madden et al, 1990; Wells, 1995). The 4 situations designated as highly stressful were 'missing an easy basket', 'receiving physical abuse from an opponent', 'losing ball possession to an opponent', and 'receiving a bad call from the referee'. A list of coping items that reflected the approach and avoidance conceptual framework were compiled from 20 players indications of coping strategies they use in response to the 4 stressful situations. A list of 164 coping strategies were obtained and deductively content analysed into a priori approach and avoidance categories. Analysis by 3 independent researchers resulted in a reduced list of 23 different coping strategies, each designated approach or avoidance for each stressor. A number of basketball players (independent of the study) tested the content validity and minor adjustments were made. Coefficient alphas determined intra-item consistency at an acceptable level. Stress intensity was assessed with 4 items using a Likert scale (1=not at all, 5=very much). Cognitive appraisals were also measured using the same Likert scale. Participants were asked to what extent they felt threatened and challenged upon experiencing each stressful situation. Players' actual coping was measured by a survey developed specifically for Anshel and Well's (2000) study. Anshel and Wells (2000) used the inventory to investigate personal and situational variables that describe coping with acute stress in competitive sport.

Madden, Summers and Brown (1990) developed the Ways of Coping Checklist for Sport. It was modified from Lazarus and Folkman's (1985) Ways of Coping Checklist. The WOCS is a process checklist containing 66 sport relevant coping stratagems. The 8 scales of the WOCS comprise a total of 54 items loading above 0.40 showing a reliability (Cronbach's alpha) = 0.9069. Madden et al used it to investigate coping styles of competitive middle distance runners (1989) and to investigate the influence of perceived stress on coping with competitive basketball (1990). Crocker (1992) further modified the Ways of Coping Checklist for Sport concluding "This WOCS checklist is a contribution to knowledge because it allows an assessment of athletes coping strategies rather than inferring coping based on outcome measures".

Crocker and Graham (1995) adapted Carver et al's (1989) COPE to the context of sport, developing the MCOPE. This was made up of the COPE instrument (9 items) plus three other items. The 9 items were active coping, seeking social support for instrumental reasons, planning, seeking social support for emotional reasons, denial, humour, behavioural disengagement, venting of emotion, and suppression of competing activities. Each item was scored on a 5 point scale anchored at each end by 'used not at all/very little'=1, to 'used very much'=5. The other 3 items were performance incongruence, positive affect and negative affect, added as a result of the research of Crocker (1992) and Madden et al (1990). Performance goal incongruence was assessed by 3 items scored on a 5 point scale ranging from 'disagree'=1 to 'agree'=5. Positive and negative affect was assessed using the PANAS (Watson, Clark & Tellegen, 1988). The PANAS contains two scales, positive affect and negative affect, consisting of 10 items each, scored using a 5 point scale anchored on the ends by 'not at all'=1 and 'extremely'=5. The MCOPE was pilot tested for content validity and some items were slightly modified to provide greater sport relevance. Crocker and Graham (1995) used the MCOPE to investigate coping by competitive athletes with performance stress. Giacobbi and Weinberg (2000) also used the MCOPE to examine individual trait anxiety differences and situational consistency of coping in sport.

Smith, Schutz, Smoll and Ptacek (1995) developed and validated a multidimensional measure of sport specific psychological skills, the athletic coping inventory – 28. ASCI-28 consisted of an 87-item scale. It was developed and validated using 41 high school teams in 3 sports and 135 division one college football players. The scales can be summed to yield a personal coping resources score, which is assumed to reflect a multifaceted psychological skills construct. Confirmatory factor analysis demonstrated the factorial validity of the ASCI-28, as the 7 sub-scales conform well to the underlying factor structure for both male and female athletes.

In conclusion, it appears that existing measurement tools for coping in sport can be classified as either 'general' tools such as the WOCS and MCOPE, which can be used

with almost any sporting population, or 'specific' tools such as the ASCI-28, designed for use with intercollegiate athletes.

**Table 3.29: 'What We Know' about Coping Measurement in Sport**

'What we know'	Explanation
<b><u>The coping style inventory for athletes</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The CSI</b> <i>Designed and validated by Kaissidis-Rodafinos (1993). Anshel and Kaissidis-Rodafinos (1997) used the CSI to study coping styles and situational appraisals as predictors of coping strategies following stressful events.</i></li> </ul>
<b><u>The Approach and Avoidance Coping Strategies Inventory</u></b>	<ul style="list-style-type: none"> <li>▪ <b>Anshel and Wells (2000)</b> <i>Designed and validated by Anshel and Wells (2000). It measures coping style, stress intensity, cognitive appraisals and situational coping.</i></li> </ul>
<b><u>The Ways of Coping Checklist for Sport</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The WOCS</b> <i>Designed and validated by Madden, Summers and Brown (1987) and modified (1990). They used it to investigate perceived stress on coping of middle distance runners. Crocker (1992) further modified the WOCS.</i></li> </ul>
<b><u>The Sport version of the COPE</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The MCOPE</b> <i>Crocker and Graham (1995) modified Carver and Schier's COPE instrument for sport. The MCOPE consisted of the COPE instrument plus 3 other items. They used it to study competitive athletes with performance stress. Giacobbi and Weinberg (2000) used it to examine coping patterns of American high school athletes.</i></li> </ul>
<b><u>The Athletic Skills Coping Inventory - 28</u></b>	<ul style="list-style-type: none"> <li>▪ <b>The ASCI-28</b> <i>Designed and validated by Smith, Smoll, Schutz and Ptacek (1995). The ASCI-28 has an 87-item scale and provides a multidimensional measure of sport specific psychological skills.</i></li> </ul>

### ***Limitations to Coping Measurement Tools (see table 3.30)***

Currently, the only existing specific coping measure in sport is the ASCI-28. This measure is designed for specific use with inter-collegiate athletes. There is a need to develop other specific tools to measure coping in officiating and coaching.

Table 3.30: Limitations of measuring tools in coping in sport

Limitations	Implications for future research
<b><u>Lack of specific measurement tools for measuring coping in coaching</u></b>	<i>Current measuring tools are either general in nature (WOCS, MCOPE) or are specific for measuring athlete's coping patterns (ASCI-28). Specific measures of coaches' coping patterns are required.</i>
<b><u>No studies have adapted existing coping measures to study the coping patterns of coaches</u></b>	<i>For example, the WOCS and the MCOPE have not been adapted to measure the coping patterns of coaches.</i>

## g) 'Gender and coping'

*'What we know' about gender and coping (see table 3.31)*

Crocker and Graham (1995) studied Canadian athletes from a variety of different sports and found some evidence that males and females cope differently. Anshel et al (1997) studied American and Australian college student athletes and found gender differences in stressors involving a cheating opponent, experiencing pain and a bad call by the referee.

Anshel et al (1999) studied competitive athletes from 8 different sports in the Republic of Singapore and results supported evidence for predicting the use of coping strategies as a function of athlete's gender. Gender differences on selected items existed for each of seven sources of acute stress, with rates correctly predicting subjects sex ranging from 51% (making an error) to 60% (pain/injury) for males and from 61% (cheating opponent) to 65% (bad call from the referee) for females.

Table 3.31 'What We Know' about Gender and Coping in Sport

'What we know'	Explanation
<u>Some evidence that male and female athletes cope differently</u>	<ul style="list-style-type: none"> <li>▪ Anshel et al (1997) <i>Found gender differences in stressors involving 'a cheating opponent', 'experiencing pain', and 'a bad call by the referee'.</i></li> <li>▪ Crocker and Graham (1995) <i>Found some evidence that male and female athletes cope differently.</i></li> </ul>
<u>Gender can predict coping strategies</u>	<ul style="list-style-type: none"> <li>▪ Anshel et al (1999) <i>Found gender differences existed on selected items for each of 7 sources of acute stress.</i></li> </ul>

***'What we don't know' about gender and coping (see table 3.32)***

Only 3 studies post 1984 focus on gender and coping, therefore an increased volume of research in the area is necessary. The studies (cited above) provide little detail on gender and coping strategies, gender and coping style, or on gender and coping categories. These areas require future research.

Table 3.32: 'What We Don't Know' about Gender and Coping in Sport

'What we don't know'	Implications for future research
<u>Gender and coping strategies</u>	<ul style="list-style-type: none"> <li>▪ Limited research in this area <i>Research studies are required to enhance the existing knowledge base.</i></li> </ul>
<u>Gender and coping style</u>	<ul style="list-style-type: none"> <li>▪ No current research in this area <i>Research studies are required.</i></li> </ul>
<u>Gender and coping categories</u>	<ul style="list-style-type: none"> <li>▪ No current research in this area <i>Research studies are required.</i></li> </ul>



### **3.6 Conclusions and directions for future research**

This review has provided a precise evaluation of the current state of knowledge in stress and coping in sport. Studies were evaluated through analysis of both the study characteristics and the findings of all 52 studies. A summary table (table 3.5) was developed to monitor the trends in the study characteristics and it provided a basis for discussion (1.4 part A). The current state of knowledge was identified through a subjective review of study findings involving monitoring 'what we know' and 'what we don't know' (1.4 part B).

In summation, this systematic review has revealed the boundaries of research to date in stress and coping in sport. This thesis intends to extend this literature in a number of ways and consequently the above boundaries provide the point of departure.

Firstly, the review revealed that post 1984 there is no evidence of research into stress and coping in coaching. Studies to date investigate stress and coping experienced by athletes in a number of situations (injury rehabilitation, competition and training) or by officials (whilst officiating). Therefore, this research will investigate athletes and coaches' experiences of stress and coping during coaching.

Secondly, only a small number of studies (12 of 52) were identified in which the whole sample comprised elite level participants. Therefore, this research will focus on elite level participants in order to contribute knowledge and extend the relatively small existing knowledge base.

Thirdly, the review illustrates that only a few studies were based in the UK (2 of 52), the majority having been conducted in the U.S.A. (35 of 52 studies). Therefore, future U.K. based research is required to provide complementary studies.

Fourthly, a variety of methodologies have been used to develop the research to date in stress and coping in sport. However, there is no evidence of a variety of methodologies

being used within one study. Research using both qualitative and quantitative methods would provide a unique approach to research design.

Finally, the review revealed that there were no studies using participants from the sport of squash. Research into stress and coping in the specific context of squash would contribute to the existing literature.

## **PHASE ONE**

### **STRESS AND COPING IN HIGH PERFORMANCE SQUASH COACHING: COACHES' PERSPECTIVE**

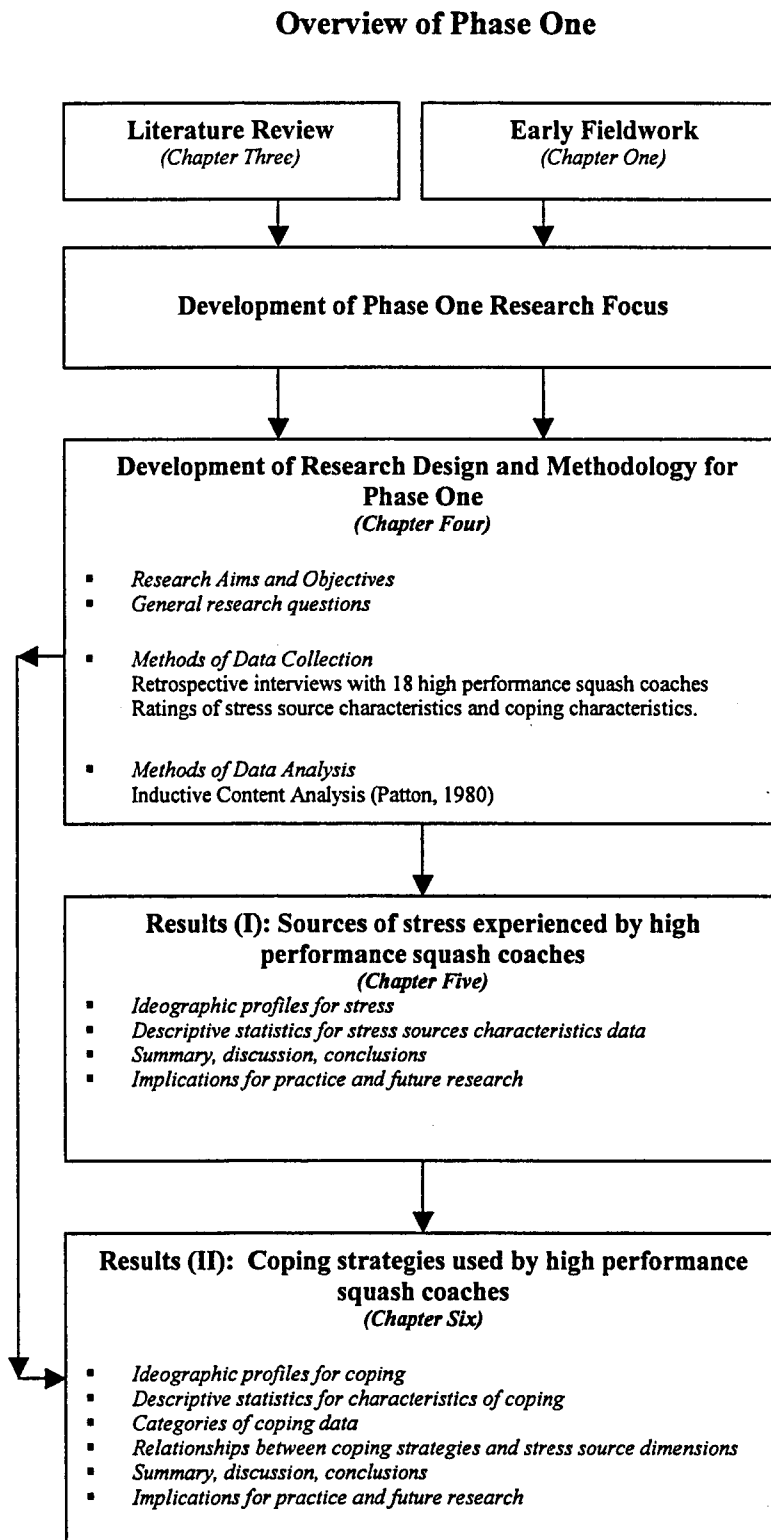
## Synopsis

Phase one of the research aimed to investigate and understand sources of stress and coping strategies in high performance squash coaching from the perspective of the coach. The study design of phase one is outlined and discussed in chapter four. Specifically, this chapter provides rationale for the study based on the systematic review of literature (chapter 3) and early fieldwork (documented in chapter one). Furthermore, it identifies the aims and objectives, it details the combined methodological approach, it provides definitions of key terms such as stress, coping and high performance coaching, and it documents the methods of data collection and data analysis. Finally, chapter four provides a summary of the ways in which phase one extends current knowledge in stress and coping in sport. The results of phase one are reported in chapters five and six.

Chapter five documents the 'sources of stress experienced by high performance squash coaches during coaching activities'. Specifically, 18 interview transcripts with high performance squash coaches were inductively content analysed (Patton, 1980). There were 12 ideographic profiles for stress that emerged from 223 raw data themes. These general dimensions are illustrated with additional quotes taken from the text to facilitate the readers understanding of the meaning of each dimension. Furthermore, the numbers and percentages of raw data themes falling into each general dimension are provided. The descriptive statistical data on stress source characteristics is reported, and the chapter concludes with a summary and discussion.

Chapter six reports the 'coping strategies used by high performance squash coaches during coaching activities'. Inductive content analyses (Patton, 1980) of the 18 interview transcripts revealed 415 raw data themes, and these collapsed into 13 general dimensions for coping. Each of the ideographic profiles is illustrated and quotes from the transcripts are provided to depict the meaning of each dimension. The numbers and percentages of raw data themes falling into general dimension are also revealed. Furthermore, a breakdown of the general dimensions falling into the major coping categories 'problem-focused', 'emotion-focused' (Lazarus & Folkman, 1984), 'appraisal re-appraisal' (Billings & Moos, 1984; Cox & Ferguson, 1991) and 'avoidance' (Endler & Parker, 1990) is presented. Relationships between coping strategies and stress source dimensions are identified and examined. The chapter concludes with an overall summary and discussion.

Figure 4.1: Overview of Phase One



## CHAPTER FOUR

### PHASE ONE RESEARCH DESIGN

#### 4.1 Structure of the chapter

This chapter reports the research design of phase one of the research process. The following two chapters report the results. This chapter has five main objectives. The first is to locate the research in terms of both current literature and practice. This is achieved in the introduction in part two and in the research rationale in part three. The second objective is to provide an understanding of the research aims. These are reported in part four. The third objective is to document the research methods. This is achieved in part five which discusses the methodological approach, part seven which reports the methods of data collection and part eight which outlines the methods of data analysis. The fourth objective is to provide conceptual clarity. Definitions of the key concepts 'stress', 'coping' and 'high performance squash coaching' are provided in part six. The final objective is to identify the ways in which this study extends current knowledge. Part nine provides a summary of the contribution.

#### 4.2 Introduction

During the 1980's, a number of studies in sports psychology (Burton, 1988; Gould, Petlichkoff, Simons & Vevera, 1987) found that the stress experienced by athletes could impede performance. These findings fuelled much of the research to date which has investigated stress and coping in elite athletes. Sports psychologists working with elite athletes urgently required a sound knowledge base to provide the scientific foundation and empirical basis necessary for effective intervention. Therefore, this explains why stress and coping researchers prioritised studying the elite athlete (Campbell, 1997; Gould, Jackson & Finch, 1993a; Gould, Udry & Bridges, 1997a; Gould, Eklund &

Jackson, 1993c; Gould, Finch & Jackson, 1993b; Gould, Udry, Bridges & Beck, 1997b, 1997c; Jackson, Mayocchi & Dover, 1998; James & Collins, 1997; Kreimer-Phillips & Orlick, 1993; Park, 2000; Udry, Gould, Bridges & Tuffey, 1997).

However, there has also been an abundance of research investigating the stress and coping experiences of sports officials (Anshel & Kaissidis, 1997; Anshel & Weinberg 1995; Anshel & Weinberg, 1996; Anshel & Weinberg, 1999; Goldsmith & Williams 1992; Kaissidis-Rodafinos & Porter, 1997; Kaissidis-Rodafinos & Anshel, 2000; Kaissidis-Rodafinos, Anshel & Sideridis 1998; Rainey 1995a, 1995b; Rainey & Winterich, 1995; Rainey & Hardy, 1997; Stewart & Ellery, 1996, 1998; Taylor, Daniel, Leith & Burke, 1990). The rationale for this amount of research investigating sports officials is less obvious.

Perhaps though, the most striking observation of the literature in this area is the total lack of research investigating the stress and coping experiences of high performance coaches. With the advent of lottery funding in the UK and the continuous development of sports from amateur to professional status worldwide, interventions from the high performance coach increasingly have become recognised as important to the performance of the athlete. In many contemporary sports, high performance coaches are often employed full time to work with elite athletes throughout their sporting careers. Therefore, the statement made by Scanlan, Stein and Ravizza in 1991 that justified investigating the stress and coping experiences of elite athletes, has potency in 2001 not only for the elite athlete but also the high performance coach.

*"With rare exception, elite athletes experience stress during their long and arduous pursuit of athletic excellence. It would be difficult for an athlete to invest so much time and energy into such a demanding endeavour without feeling some stress or pressure" (1991; 99).*

In 2001, both elite athlete and high performance coach invest considerable time and energy into the athlete's performance, and therefore using Scanlan Stein and Ravizza's

(1991) phrase, it would be difficult for the coach (and the athlete) to do so without feeling some stress or pressure.

Consequently, the purpose of this study was to undertake exploratory work of an empirical nature into the stress and coping experiences of high performance coaches. The sport of squash was chosen for a number of reasons. Firstly, the researcher was an international squash player herself and was therefore able to gain regular access to a large number of high performance squash coaches. Secondly, the researcher understood the language and terminology used by high performance squash coaches, which facilitated the ability of the researcher to understand the perspective of each high performance coach. Thirdly, squash is an individual sport and squash coaches tend to work on a one-to-one basis with players. In this respect, stress may be heightened because there is 'nowhere to hide' for the player or the coach. Finally, working within the World Class Performance Programme, squash players and coaches are accountable to Sport England (the funding body). The allocation of funds to players and coaches is directly related to results, and progress is reviewed on a half yearly basis. Consequently, such accountability and uncertainty around job security may increase the potential for stress.

An inductive approach to the study was deemed essential due both to the lack of stress and coping studies investigating high performance coaches in general, and a similar deficiency of research into squash coaching. In such practice-led fields, taking an inductive/empirical approach can be argued to be the most appropriate method for dimensionalising the area and producing knowledge enriching theory. Therefore, the overall objective in the first instance was to scope the area and to identify important themes that may emerge from the data.

### **4.3 Research Rationale**

The rationale for the research was based on the literature (or lack of it!) and initial fieldwork (documented in chapter 1). Firstly, in terms of the literature, the systematic review (chapter 3) provided an understanding of the boundaries of current knowledge. Secondly, in terms of application, observations of current practice, in addition to informal



interviews with high performance practitioners in squash, provided the basis for the research.

### ***Current Knowledge***

The systematic review (chapter 3) revealed a number of limitations to the current literature in stress and coping in sport. These limitations were used as the point of departure for phase one of the research process. Firstly, the review found that post 1984, no studies have researched stress and coping in coaching. Consequently, in order to develop the existing knowledge base, this focus became important for the study. Secondly, only a small number of studies (12 of 52) were identified in which the whole sample comprised elite level participants. Furthermore, of the 12 studies, elite level coaches failed to feature in any. Therefore, this study investigated stress and coping of high performance coaches. Thirdly, only a few studies were based in the UK (2 of 52), the majority having been conducted in the USA (35 of 52). As a result, a UK focus was important in order to complement existing USA based studies. Fourthly, the review found that a variety of methodologies have been used to develop the research to date, yet there is no evidence of a variety of methodologies being used within one study. Taking a methodologically catholic approach within this current study has facilitated a matching of research method with the purposes of the study. Finally, the review revealed that there were no studies using participants from the sport of squash. Therefore phase one is justified in all of these ways.

### ***Early Fieldwork***

A series of initial studies, including both observations and informal interviews with elite practitioners, were helpful in developing research questions.

The author observed high performance coaching activities during competition (the Women's World Open, Malaysia, 1996), and during training (3 national squads at Lilleshall National Sports Centre held during 1997), and noted the stressors experienced by coaches and players during coaching activities in these different situations. This early fieldwork is documented in detail in chapter one.

In conclusion, all of this fieldwork suggested that research into stress and coping in high performance squash coaching is a pertinent topic that may provide the scientific foundation and empirical basis necessary for interventions within sport in general and squash in particular.

#### **4.4 Research Aims and Objectives**

##### ***Aim***

To investigate and understand sources of stress and coping strategies in high performance squash coaching from the perspective of the coach.

##### ***Objectives***

- (i) To understand, identify and describe the sources of stress experienced by 18 high performance squash coaches.
- (ii) To understand, identify and describe the coping strategies used by 18 high performance squash coaches.
- (iii) To understand the nature and characteristics of the sources of stress identified.
- (iv) To examine links between sources of stress and coping strategies.
- (v) To assess the effectiveness of specific coping strategies in dealing with particular stressors and sub-stressors.
- (vi) To provide the scientific foundation and empirical basis necessary for interventions within squash.

## 4.5 Methodological Approach

According to Bryman (1988), the appropriate method of data collection should be determined by the research question to be answered. He states (1988;106),

*"...the decision over whether to use a quantitative or qualitative approach should be based on...the suitability of a particular method in relation to a particular research question."*

However, some authors believe that research methodology should be determined by the researcher's personal values and beliefs about the nature of social reality (ontology) and the way it should be investigated (epistemology). For example, Guba (1985; 80) stated,

*"We are dealing with an 'either-or' proposition, in which one must pledge allegiance to one paradigm or the other."*

This leads to what Bryman terms the 'partisan approach'. In contrast, Filstead (1979; 42) believes,

*"...great advantages can be obtained by creatively combining qualitative and quantitative methods",*

and Steckler et al (1992) suggest that it is appropriate to combine quantitative and qualitative methods if, for example, quantitative methods are used to give more specific detail on factors identified through a predominantly qualitative research design. Miles and Huberman (1984;20) note the recent trend towards this combination of methods,

*"In fact, it is getting harder to find any methodologists solidly encamped in one epistemology or the other...So, without our realizing it very clearly, the paradigms for conducting social research have shifted beneath our feet, and most people now see the world with more ecumenical eyes."*

Research in Sports Psychology predominantly has used quantitative methods involving the use of statistical analyses (Campbell, 1997). Certainly the findings of the systematic review of stress and coping in sport (chapter 3) support this notion. However, this current study intends integrating both quantitative and qualitative methods in an attempt to gain the advantages of both. Particularly, qualitative methods were used to gain a rich source of primary data, and emphasis was placed on understanding the participant's perspective. Patton, (1980;22) states,

*"...it allows people to be understood in their own terms and in their natural settings".*

The main advantage of using qualitative methods was the implementation of inductive analyses that allowed key variables and themes to emerge from the data. According to Scanlan et al (1989, 1991; 55),

*"The richness gained by the method is then captured by inductive analysis whereby relationships and theories are allowed to emerge from the data, rather than being imposed on them" (Glaser & Strauss, 1967; Patton, 1980).*

Quantitative methods were then used to gain more extent and scope on the characteristics of the sources of stress and the effectiveness and frequency of the coping strategies. Therefore, in this study, the research question dictated the methodology used. In Bryman's (1988) terms, the author "gave up epistemology for technique".

#### **4.6 Defining key terms**

In order to provide conceptual clarity, it was essential to develop definitions for a number of key terms associated with the research topic.

### ***High Performance coaching***

The researcher worked with the S.R.A's Performance Director Matt Hammond, to develop a loose definition of a 'high performance squash coach'. For the purpose of this study only, high performance coaches were identified as,

*'those coaches who currently work regularly (at least once per week) with one or more 'national', 'international' or 'elite' performers.'* (my definition)

In order to qualify this definition, 'national' players are those who hold an English ranking in their particular age group, 'international' players are world ranked, and 'elite' players have represented their country during the past two years. Since this was a study of stress and coping in high performance squash coaching, the most important criteria used when selecting the sample was that the participants had experiences of coaching at this level. Therefore, an assessment of their competence was deemed un-necessary for the purposes of this research. Tighter and more precise definitions that incorporate competence as a key determinant of a 'high performance coach', may be more useful to the sport, and may be developed at a later date.

### ***Stress and coping***

Lazarus and Folkman's (1984) transactional model of stress and coping (see chapter 2) was used as the theoretical frame of reference for the study. The transactional model is widely accepted in the stress-coping area, and has previously been used in studies of stress and coping in sport (Hardy et al., 1996). Therefore, for the purposes of this study, stress was defined as,

*"...a relationship between the person and the environment that the person appraises as taxing or exceeding his or her resources and possibly endangering his or her well-being" (Lazarus & Folkman, 1984;141),*

and coping,

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*"...involves making efforts in terms of our thoughts or behaviours to deal with/manage a specific external or internal demand that we have appraised as taxing or exceeding our resources:" (Lazarus & Folkman, 1984;141).*

## **4.7 Method of Data Collection**

### *The sample*

The sample consisted of 18 high performance squash coaches (3 female, 15 male) nominated by the Performance Director of English Squash. The sample was made up of 7 national coaches, 9 regional coaches and 2 private coaches. Private coaches were self-employed whereas various National Governing Bodies employed regional and national coaches. All regional and private coaches were based in England. The national coaches were English (n=3), Great Britain (n=1), Holland (n=1), New Zealand (n=1), Malaysia (n=1).

### *Structured Retrospective Interviews*

The qualitative work that has been conducted in sport psychology has usually involved the use of retrospective interviews (Cohn, 1990; Gould, Eklund & Jackson, 1993c; Gould, Finch & Jackson, 1993b; Gould, Jackson & Finch, 1993a; Gould, Udry, Bridges & Beck, 1997a, 1997b, 1997c, 1997d; Jackson, Mayocchi & Dover, 1998; James & Collins, 1997; Kreimer-Phillips & Orlick, 1993; Park, 2000; Scanlan, Ravizza & Stein, 1991; Udry, Gould, Bridges & Tuffey, 1997), although recently Dale (2000) introduced a unique interview method to sports psychology referred to as the 'phenomenological interview'.

However, retrospective interviews have a number of benefits when used to explore new topics in Sports Psychology (Orlick and Partington, 1989). Firstly, the response rate is usually high since interviews are arranged around the schedule of participants. Secondly, interviews are open-ended and findings may emerge that the researcher may not have thought to ask using other methods such as a questionnaire. Thirdly, numbers of study

participants are usually small in Sport Psychology research because large numbers of elite athletes or high performance coaches in this case, do not exist. Therefore, interviews provide a large amount of data from just a few participants.

A typical example was Scanlan, Stein and Ravizza's study (1991) which successfully used structured retrospective interviews to study stress experienced by elite figure skaters. They developed a number of techniques associated with this method. Firstly, they designed an interview guide which allowed pertinent issues to be covered in an unstructured manner (Patton, 1980). In other words, participants were asked the same questions in the same words, but the order of topics was free to develop with the flow of the interview (Campbell, 1997). Additionally, probes were used to ensure responses were consistent in depth and complexity across participants (Patton, 1980). Secondly, 'bounding' techniques were used to anchor participants into the exact time period to be discussed (Bloom, 1985; Moss, 1979).

Since Scanlan et al's study (1989), a number of researchers in the area have used the same structure as a template for their own qualitative research design (Campbell, 1997; Cohn, 1990; Gould, Eklund & Jackson, 1993c; Gould, Finch & Jackson, 1993b; Gould, Jackson & Finch, 1993a; Gould, Udry, Bridges & Beck, 1997a, 1997b; James & Collins, 1997; Jackson, Mayocchi & Dover, 1998; Kreimer-Phillips & Orlick, 1993; Park, 2000; Udry, Gould, Bridges & Tuffey, 1997). This study is also based on this widely acknowledged approach and standard template.

### ***Involvement Progression Questionnaire***

An adapted Involvement Progression Questionnaire was used as a 'bounding' technique to ensure that participants were 'bound' to the appropriate time phase for the interview. It facilitated participants to reflect upon experiences within that time frame rather than earlier. The idea of involvement progression originated from the work of Bloom (1985) who investigated the development of talented individuals in the areas of science, art and sport and his results showed an increase in commitment and dedication over a progression of three involvement phases (early, middle and later years). Scanlan, Stein

and Ravizza (1989a., b., c.) adapted Bloom's work to 'bound' figure skaters into the correct time frame for the interview. In Scanlan et al's (1991) study, the involvement progression was discussed during the pre-interview telephone call and was reviewed at the interview. Participants were asked to identify a number of characteristics of each time phase; the number of years they had spent in each phase, the number of days per week they trained and played, and the length of each training session.

In the current study, there were a number of difficulties associated with developing a phased involvement progression for the career of a high performance squash coach. The stages of career development for a squash coach are not clear-cut. High performance coaches achieve their status through different routes, some through professional accreditations and others through experience. Therefore, it is not possible to pre-determine the phases of development and to ask coaches about their experiences in each phase. Furthermore, definitions of high performance squash coaching are varied. For example, the definition used in this study is different from the competency-based definition adopted by Sport England. Therefore, using such terms to describe a phase in time in which the participant should remain for the duration of the interview may be misleading. In order to overcome these difficulties, Bloom's (1985) concept of involvement progression was incorporated in a slightly different way to the Scanlan et al.'s (1991) study. Instead of the phases being prescribed, the questionnaire was open-ended and asked participants to identify the stages of their coaching career, and to identify and explain the key characteristics of each stage. The final stage was prescribed as the high performance coaching phase and the definition used for this study was given. Therefore the aim of this modified questionnaire was to encourage participants to become more aware of their development as high performance coaches. The questionnaire was completed by all 18 participants before the interview and was discussed at the start of the interview to 'bound' them into the correct time phase. Additionally, the results were offered to the Performance Director for English Squash to develop a more formal definition of a high performance squash coach.



### ***Interview Guide***

The interview guide for the study was developed from the work of Scanlan, Stein and Ravizza (1989, 1991), Gould and his respective colleagues (1993a, 1993b, 1997a, 1997b) and Campbell (1997). The interview guide was constructed using Lazarus and Folkman's (1984) transactional model of stress and coping as a theoretical frame of reference. This model (see chapter 2) provided definitions of key terms (stress and coping) and an understanding of key concepts (cognitive appraisal, primary/secondary appraisal, problem-focused/emotion-focused coping). Dr Elizabeth Campbell offered her guidance and acted as an invaluable consultant in the modification of the interview guide for the purposes of this study. Additionally, assistance was given from researchers knowledgeable with qualitative methodologies, Dr. Chris Harwood and Professor Stuart Biddle.

Campbell's (1997) interview guide was a slightly modified version of the one used by Scanlan et al (1991) and Gould et al (1993a, 1993b, 1997a, 1997b), and she recommended using her template for the purposes of this study. In those studies, participants were required to identify and explain the sources of stress they experienced or the coping strategies they used. Campbell (1997) used previous empirical findings and suggestions from sport and general psychology to add to this guide, providing a rationale for developing a broader rating system that quantified specific characteristics of the themes emerging from the initial qualitative inquiry. Specifically, she required participants to rate sources of stress in terms of levels of challenge, threat, harm/loss, (Lazarus & Folkman, 1984; McCrae, 1992) and levels of control, severity and frequency (Bjork & Cohen, 1993). Furthermore, participants were asked to rate the effectiveness and frequency of coping strategies (Bar-Tal et al, 1994). The guide contained five areas: *Introduction; General information; Sources of stress; Coping with sources of stress; Summary.*

### *Procedure*

Pilot interviews took place in October 1997. Two coaches were approached and asked if they would take part in the pilot process. These coaches were not part of the main sample. Valuable feedback was reported and appropriate amendments were made. All main study participants were then initially contacted by the Performance Director for English Squash, Matt Hammond, and were requested to participate in the study. Twenty coaches were contacted in the first instance. The author then followed up the letters with telephone contact and eighteen agreed to participate. It was stressed to them during the telephone conversation that all information would be confidential, that only group data would be reported, and that they would receive feedback on the content of their interview. A time was arranged to meet the participants at a suitable venue of their choice and at a time that was convenient to them. Additionally, participants were sent details about two weeks prior to the interview. The adapted version of the involvement progression questionnaire was sent to the participants for them to complete prior to the interview. This was used as a basis for discussion in the early stages of the interview. Other details concerning the structure of the interview and definitions of key terms i.e., 'stress' and 'coping' were also sent.

### *Pilot Interviews*

In October 1997, two pilot interviews were carried out with high performance coaches at the Women's World Open, Sydney Australia. These coaches, one male and one female, were not part of the main sample. The pilot interviews served the vital function of enabling interviewing technique to be practiced and refined. There were a number of revisions required as a result of the pilots. Firstly, the interviews were taking too long due to the researcher's 'over probing' and encouraging the participant to elaborate and clarify when the point had been adequately explained. This became clear when the researcher listened to the tape after the interview. Secondly, it was difficult to record the necessary data, so data analysis sheets were developed to facilitate note taking.

### *The Interview*

A standardised interview guide was used for all 18 interviews. Each participant was taken through an identical set of questions that were asked in the same way. A priori-probing rule of two probes per response was established to ensure that responses obtained were as consistent as possible in terms of depth and complexity (Patton, 1980). The two types of probe were:-

#### *Clarification*

*"I am not sure I understand what you mean, would you please go over that again?"*

#### *Elaboration*

*"What made it a source of stress?, who or what did it involve?"*

The author conducted all the interviews and already knew most of the high performance coaches from past and present experiences as an international squash player. The benefit of this dual role was that the interviewer was familiar with experiences and terminology used by the participants. Additionally, the interviewer was familiar with the method of interviewing as outlined by Patton (1980), Taylor and Bogdan (1984), Lincoln and Guba (1985) and Bromley (1986).

The interview was divided into five sections and the participants informed as to what these were:

#### *Section 1 – Introduction*

This section included a general introduction to the project. It had two main purposes, to familiarise participants with the interview process and to establish a rapport as interviewer rather than squash player. A variety of issues were discussed with each participant including how the data would be used, reasons for taping the interview, confidentiality (establishing trust as a researcher was absolutely essential), issues to be

pursued during the interview. In addition, the researcher made it clear that she would make notes in the interview during Section 3a (Sources of Stress) to facilitate the smooth operation of Section 3b (Coping). During the introduction, the researcher answered any queries identified by the participants from the information they were sent or anything they had discussed. The interviewer used the introduction to re-emphasise that the interview was about their experiences as *high performance* squash coaches. Importantly, participants were informed that there were no right or wrong answers and were asked to be honest. Finally, the free will of participants was reinforced. They were told that they were free to decline to answer any question and that they should take as much time as they needed to enable them to reflect.

### *Section 2 – General Information*

The general information section was designed to aid retrospections, make participants feel comfortable, and facilitate them talking descriptively. Information was gained concerning their age and coaching situation (full time/part time, club, number of performance player etc.). The interviewer talked through the Involvement Progression Questionnaire that the participant had completed prior to the interview. This was a useful exercise in 'bounding' participants to the time frame of high performance squash coach for the remainder of the interview.

### *Section 3a – Sources of Stress*

It was important to ensure that participants had understood the definition of stress that had been detailed in the information they had received prior to the interview. The researcher emphasised to the participants that sources of stress may be perceived as positive (challenging) and negative (threatening, harmful), and that sources of stress may be general (e.g., finance, family, association hierarchy) or competition related (e.g., bad refereeing decisions, poor performance of a player etc.). Further, it was suggested that due to the dynamic nature of competition, sources of stress could occur at different time

points (pre, during or post competition). Once the interviewer was sure that the participants had understood what was required, she asked,

*“bearing in mind the definition of stress could you think back over the various aspects of your high performance coaching experiences and describe any sources of stress”*

Once participants had identified a source of stress, the interviewer used the clarification and elaboration probes to ensure the correct meaning had been understood. Participants were then asked to rate the stressor in terms of how challenging, threatening and harmful they perceived it to be, on a 7 point likert scale from 1 “not at all” to 7 “extremely”. In addition, participants were asked to rate each source of stress in terms of controllability (1 “no control” to 7 “total control”), severity (1 “not at all” to 7 “extremely severe”), and frequency (1 “never” to 7 “all of the time”). Participants repeated this identification and rating of sources of stress until they could identify no further sources of stress.

### *Section 3b – Coping with Stress*

Participants were asked if they understood or had any questions about the definition of coping detailed in the information that had been sent prior to the interview. To help clarify the type of activities that could be labeled as coping, all participants were given the same examples; talk to other coaches, try to solve the problem, ignore the stress. It was also highlighted to participants that they may use several strategies to deal with a particular source of stress. Specifically, participants were asked,

*“for (source of stress)...could you please tell me what you did, or currently do, to deal with it..”*

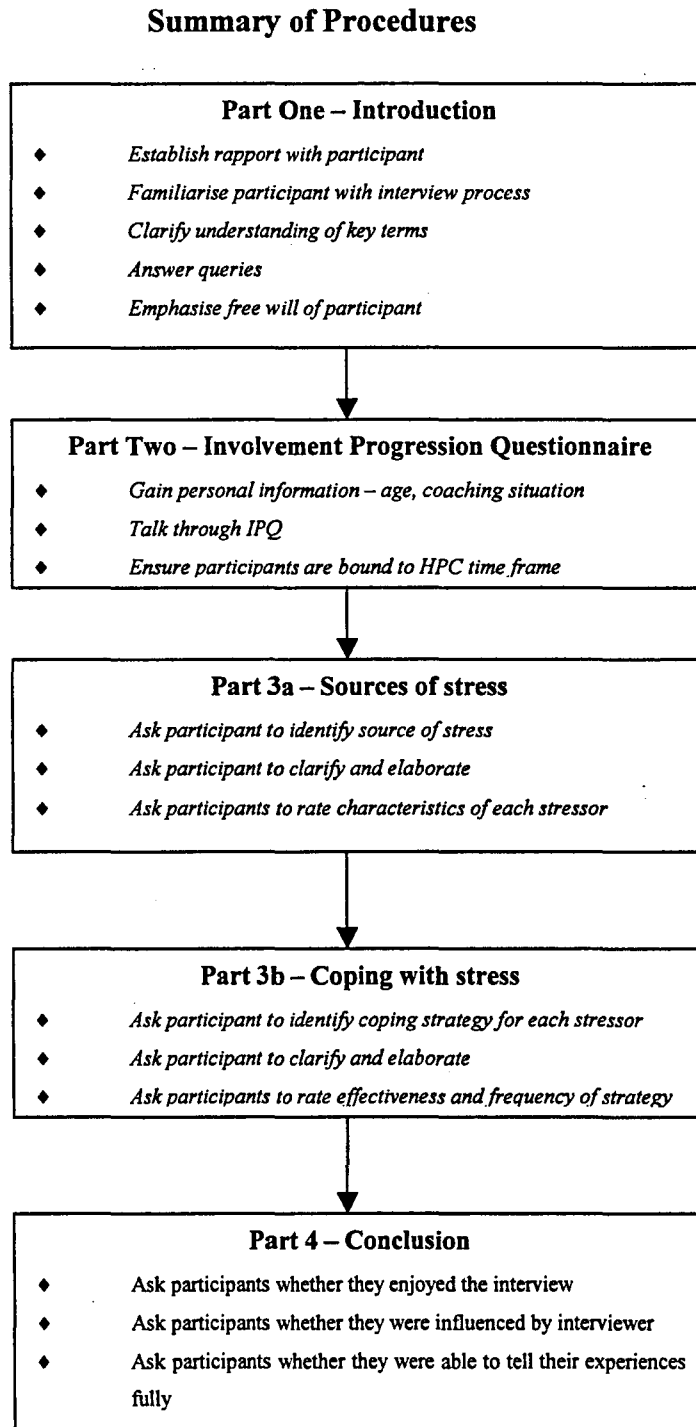
The same probing rules applied with coping as in section 3a with the sources of stress. Once participants had identified the coping strategies they would use to deal with a particular source of stress, they were asked to rate how effective they perceived the

strategy to be from 1 “not at all effective” to 7 “extremely effective”, and also how frequently they used the strategy from 1 “not at all” to 7 “all the time”. This section was completed when the participant could not identify any more coping strategies.

#### *Section 4 – Conclusion*

Participants were asked questions relating to their interview experience including; “Did you enjoy the interview?”; “Did you feel you had been led or influenced by the interviewer?”; “Did you feel you were able to tell your experiences fully?”. All participants said that they did not feel that they had been led and that they had been able to tell their experiences fully. Most participants said that they found the interviewer’s dual role helpful because they knew that she understood what they were talking about and they felt she could relate to the squash language and culture. All 18 participants reported enjoying the interview but the 2 pilot interview participants both said they didn’t really enjoy it because it was too long. This was one main reason for making alterations to the original interview guide as a result of the pilots. The interviews lasted between 70 and 140 minutes and when transcribed verbatim produced over 800 pages.

Figure 4.2 Summary of procedures



### ***Interviewer Bias***

Campbell (1997) identified 6 ways in which she addressed the potential for bias in her interviews. In order to avoid interviewer bias in this study, the same precautions were taken including:

1. Development of an interview guide to structure the session, thus ensuring that all interviews were carried out in the same order and depth.
2. Interviewer consistency - all the interviews were conducted by the same person who strove to adopt a neutral, impartial stance to avoid biasing or encouraging participants.
3. Implementation of pilot interviews in which the interviewees were encouraged to provide extensive feedback. The feedback concerned whether they had understood what had been asked of them and also whether they had felt they had been led or influenced at any point. All reported that they had understood and had not felt led at any point during the interview.
4. Encouragement to ask about misunderstandings - during the interviews themselves, participants were encouraged to ask if they did not understand anything. In addition, they were asked a series of questions in Section 4 to determine whether they had been led by the interviewer. As highlighted previously, none of the participants perceived they had been led.
5. Transcript validation - All participants were sent a copy of their transcript for verification that it was a true reflection of their experiences.
6. Implementation of a three-person consensus validation procedure during the data analysis. Specifically, this involved each investigator independently identifying raw



data themes (quotations or paraphrased quotations that captured the major ideas conveyed in the interview) characterising each coach's responses. The investigators discussed the raw data themes they identified until triangular consensus was reached for each of the 18 ideographic profiles; that is, the agreed raw data themes for each of the 18 coaches. When disagreements between investigators arose, the investigators would re-examine the transcripts and confer until points of dispute were clarified.

## 4.8 Method of Data Analysis

### *Qualitative Data Analysis*

Although there is no one correct way to handle qualitative data (Henwood & Pidgeon, 1995), most researchers in stress and coping in sport (Dale, 2000; Gould, Eklund & Jackson, 1993c; Gould, Finch & Jackson, 1993b; Gould, Jackson & Finch, 1993a; Gould, Udry, Bridges & Beck, 1997a, 1997b, 1997c; Jackson & Mayocchi, 1998; James & Collins, 1997; Kreimer-Phillips & Orlick, 1993; Park, 2000; Scanlan, Stein & Ravizza, 1991; Udry, Gould, Bridges & Tuffey, 1997) have used 'inductive content analysis' (Patton 1980) to analyse the rich qualitative data obtained from their interviews. There are two forms of content analysis, deductive and inductive analysis. Inductive analysis allows relationships and theories to emerge from the data, whereas deductive analysis organises quotes around pre-determined themes. Since the purpose of phase one of the empirical work was to investigate and explore stress and coping in high performance coaching, and in essence to discover the themes in the data, and since there was a lack of previous work in the area and therefore no existing clues, inductive rather than deductive analysis was more appropriate.

Inductive content analysis procedures recommended by Patton (1980), involve analysing interview transcripts that have been transcribed verbatim. The first step in this procedure involves organising raw data from interview transcripts into interpretable and meaningful themes and categories (Patton, 1980). Specifically, the process clusters quotes around underlying uniformities that then become emergent themes (Campbell, 1997). Each quote is contrasted with all other quotes. The themes then emerge to unite quotes of

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similar meaning and separate quotes of different meaning (Guba, 1978; Patton, 1980). The same procedure is then repeated, comparing and contrasting emergent themes. Eventually, the analysis develops until it is not possible to locate further underlying uniformity's to create a higher-level theme. All the themes in a given level of analysis are mutually exclusive, or distinct from each other (Patton, 1980). Campbell (1997) notes that quotes vary in their level of descriptiveness due to participants' ability to articulate themselves. Consensus validation procedures are advised (Scanlan, Ravizza & Stein, 1989a, 1989b, 1991), in which a number of researchers reach mutual agreement at all stages of the analysis.

### ***Data Analysis Procedures***

The data gained from the 18 interviews was analysed using inductive content analysis following the above procedures. Specifically, this involved eight steps and was carried out twice; first for the sources of stress and second for the coping strategies.

#### **Steps in the procedure (Campbell, 1997)**

1. 18 transcripts were read and re-read by the researcher and 2 other investigators until they were fully familiar with the content. The researcher also listened to the tapes of the interviews to aid a fuller understanding.
2. Raw data themes were identified. This was done in the form of quotations or paraphrased quotes that captured the major ideas conveyed from the transcripts. Transcripts were re-checked to ensure all raw data themes were captured.

3. The investigators discussed the identified raw data themes until triangular consensus was reached for each of the 18 participants. An ideographic profile was produced for each participant.
4. Raw data themes from the ideographic profiles were transferred to separate pieces of cards to aid further analysis. Each source of stress card was coded with the appropriate qualitative and quantitative rating data (challenging, threatening, harmful, controllability, severity, and frequency), and each coping strategy card had recorded the effectiveness and frequency of that particular coping strategy.
5. Inductive content analysis was conducted to identify common themes of greater generality from the list of raw data themes (identified from step 4). Higher-level themes were then labelled '1<sup>st</sup> Order Themes', '2<sup>nd</sup> Order Themes', or the highest level labelled as 'General Dimension' (those of greater abstraction).
6. Consensus was reached between 3 informed individuals on all identified themes.
7. The researcher checked the emergent patterns to ensure that the descriptors made intuitive sense and could be easily understood. Raw data themes comprising each higher order theme were re-read to ensure that they fit coherently into the broader category.
8. Deductive analysis was conducted to provide a validity check. Specifically, the researcher re-read the transcripts to verify that all themes and dimensions were represented.

### ***Manual versus technological data organisation***

In terms of the logistics of inductive content analysis, there are two ways of organising the data, either by hand or by using a software package such as QSR NUDIST. Advantages of using QSR NUDIST are increased speed of data analysis, increased search options at the push of a button, more effective data storage (i.e., no physical filing cabinets required) and easier over-viewing of the whole data set. However, one major disadvantage of using this method is the length of time it takes to type transcripts into the computer. For example, in this study there were 18 participants and over 800 pages of hand written transcripts, which mitigated against typing these into a computer in order to import each file into the QSR NUDIST software package. Further, the QSR NUDIST software was unavailable within the researchers institution at the time of this study. Consequently using this method was thought to be too costly. Therefore, for this study, the decision was taken to implement the manual methods of data organisation and analysis.

## **4.9 Contribution**

In summation, this study aimed to make theoretical and methodological contributions to existing knowledge in the following ways:

- (i) Adopting a transactional definition of stress (Lazarus & Folkman, 1984), this study enabled sources of stress to be appraised as both positive and negative. Previous research had adopted a definition of stress resulting in negative consequences.
- (ii) Based on mainstream stress and coping research findings, Campbell (1997) developed a rating system to measure stress source characteristics. Individuals were asked to rate stressors they identified in terms of challenge, threat, harm/loss, control, severity, and how frequently they occurred (Bjork & Cohen, 1993; Lazarus & Folkman, 1984; McCrae, 1992). The aim of this study was to implement Campbell's template with high performance coaches in the sport of squash. Therefore this study extends previous research by investigating the

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source of stress characteristics using Campbell's template with different sports participants in an individual sport.

- (iii) Only 5 studies in the sport domain have acknowledged the importance of studying stress and coping simultaneously (Campbell, 1997; Gould, Finch & Jackson 1993b; Gould, Jackson & Finch, 1993a; Gould, Udry, Bridges and Beck, 1997a, 1997b). The present study considered how high performance squash coaches cope with specific sources of stress.
- (iv) Campbell (1997) developed a further rating system to measure coping outcomes. Specifically, individuals were asked to rate the effectiveness and frequency of the coping strategies used (Bar-Tal et al., 1994). This study used Campbell's (1997) template to measure coping outcomes of high performance squash coaches. Therefore this study extends previous research by investigating the coping characteristics using Campbell's template with different sports participants in an individual sport.
- (v) Previous research in the sport domain has focused primarily on how *athletes* cope with stress. This study investigated how *coaches* cope with stress.
- (vi) Much research in the psychology of coaching has focused on interaction between coach and athlete. This study investigates the performance of the coach in isolation from the athlete i.e. an investigation of the intra-personal dynamics of the coach rather than a study of interpersonal dynamics between coach and player.

# CHAPTER FIVE

## PHASE ONE RESULTS (I)

### SOURCES OF STRESS EXPERIENCED BY HIGH PERFORMANCE SQUASH COACHES DURING COACHING ACTIVITIES

#### 5.1 Structure of the chapter

The previous chapter reported the research design of phase one of the empirical process. The purpose of this chapter is to present and discuss the results identifying sources of stress experienced by high performance squash coaches. The coping results are documented in the next chapter (chapter 6). This chapter is structured into five parts. The objective of part two, the introduction, is to outline a number of general expectations based on the findings of previous studies of stress in sport (outlined in chapter 3). Part three details the results of the inductive content analyses. Specifically, it illustrates 12 ideographic profiles emerging from 223 raw data themes, and it explains the meaning of each of the profiles by providing a number of quotes from the interview transcripts. The objective of part four is to present the stress source characteristics data. Part five outlines and discusses the relationships between the stress source characteristics. Part six provides a summary and discussion.

#### 5.2 Introduction

Based on the systematic review of literature (chapter 3), it was possible to make a number of general propositions about the results of this study. Firstly, one finding of the

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systematic review was that sources of stress identified by elite sportspeople in previous studies (see table 3.9, chapter 3) were both 'competition' and 'non-competition' in nature. Specifically, some sources of stress were directly related to a phase of the 'competition cycle' (i.e., pre, during or post competition) whereas others occurred outside of competition. Consequently, since this was a common finding amongst previous studies of this nature, it was also expected in this study.

A further trend emerging from the systematic review was that sources of stress identified in previous studies could be classified as either 'person' stressors i.e., manifest internally, or 'environment/situation' stressors i.e., manifest outside the person in the environment or in a particular situation (see figure 3.1, chapter 3). Consequently, it was expected that some of the sources of stress identified in this study would fit into the 'person' category and others would be classified as 'environment/situation' stressors.

A more detailed examination of the sources of stress identified in the 'person' category revealed that the majority of stressors were 'person-psychological' in nature. Furthermore, a closer analysis of the 'environment/situation' stressors revealed that the majority of stressors were 'environment/situation-social' in nature. Therefore, it was expected that similar trends may be found in this study.

Finally, one objective of this study was to investigate source of stress characteristics. However, the systematic review revealed a lack of published studies investigating the characteristics of sources of stress within the sport domain. As a result, there were no informed expectations about the results of this data in this study.

### **5.3 Inductive Content Analysis**

The 18 in depth interviews were analysed using inductive content analysis as outlined by Patton (1980), detailed in chapter 4. As a consequence of the analysis, 223 raw data themes were identified. These raw data themes coalesced into 12 distinct general dimensions of stress experienced by high performance squash coaches. The 12

dimensions were abstracted from 26 second-order sub-themes and these from 56 first-order sub-themes.

### ***Number and Percentages of Raw Data Themes Falling Into Major Categories (Table 5.1)***

Table 5.1 provides an overview of the content analysed findings in terms of the number and percentage of raw data themes falling into their respective source of stress categories. Specifically, the table details the number and percentage of raw data themes in each general dimension, the number of raw data themes in each of the second order themes, the number of raw data themes in each of the first order themes, and the number of participants reporting each particular stressor.

### ***Findings (table 5.1)***

The systematic review (chapter 3) revealed sources of stress identified by elite sports participants in a number of previous studies related to the whole competition cycle (pre, during and post competition). Interestingly, table 5.1 demonstrates that high performance squash coaches also identified stressors relating to the whole competition process, specifically, 'pre-event concerns', 'on-court concerns', 'post match concerns' and 'competition related organisational concerns'. Therefore, it appears that the competition process is also a stress for the coach (identified in this study) as well as the athlete (identified in previous studies).

Secondly, regarding the 'person' 'environment/situation' dichotomy, as expected, it is useful to classify the sources of stress identified in this study. Specifically, a number of 'person' stressors were identified such as 'pre-event psychological concerns' (emerging from the themes 'pressure to get results', and 'general pre-event anxiety') and 'self confidence' (emerging from the themes 'self doubt' and 'mismatch between perceived ability and coaching challenge'). Other 'person' stressors were 'psychological-behavioural' in nature such as 'organisational concerns' (emerging from themes such as



**Table 5.1 Number and Percentage of Raw Data Themes Falling Into Their Respective Source of Stress Categories**

General Dimension/ 2 <sup>nd</sup> Order Theme/ 1 <sup>st</sup> Order Theme	Raw Data Themes No.(%)	No.Subjects
<b>Political and Interpersonal Pressures</b>	<b><u>16 (7.17%)</u></b>	<b>9</b>
Politics of squash	9	
(a) Problems dealing with committees	(2)	
(b) Association/organisational deficiencies	(7)	
Relationships between coaches	7	
(a) Lack of communication between coaches	(2)	
(b) Players leaving for another coach	(3)	
(c) Competitiveness between coaches	(2)	
<b>Interpersonal Relationships</b>	<b><u>19 (8.52%)</u></b>	<b>9</b>
Relationships with significant others	3	
(a) Other people's opinions	(3)	
Working Relationships	16	
(a) Stress from parent/player r.ships	(2)	
(b) Stress from coach/parent r.ships	(14)	
<b>Medical Concerns</b>	<b><u>4 (1.79%)</u></b>	<b>4</b>
Injuries	4	
(a) Worry about players potential injuries	(2)	
(b) Worry about an injured player	(2)	
<b>On Court Concerns</b>	<b><u>34 (15.25%)</u></b>	<b>16</b>
Between Games Encounters	12	
(a) Mentoring a player during a match	(2)	
(b) Advice between games	(8)	
(c) Dealing with a players emotions between games	(2)	
Players under-performing	7	
(a) A player under-performing in a match	(4)	
(b) A player under-performing in practice	(3)	
Refereeing Decisions	3	
(a) Biased Refereeing	(1)	
(b) Inexperienced Refereeing	(2)	
General performance concerns	6	
Specific performance concerns	6	

<b>Pre-event concerns</b>	<b><u>27 (12.11%)</u></b>	<b>14</b>
Pre-event psychological concerns	14	
(a) Pressure to get results	(10)	
(b) General pre-event anxiety	(4)	
Pre-event preparation	13	
(a) Preparing a player mentally	(9)	
(b) Physical preparation	(1)	
(c) General Preparation	(3)	
<b>Coaching Constraints and Barriers</b>	<b><u>14 (6.3%)</u></b>	<b>9</b>
Financial constraints	8	
(a) Indirect financial constraints	(2)	
(b) Direct financial constraints	(6)	
Coaching barriers	6	
(a) Inability to travel to events with players	(6)	
<b>Lifestyle Concerns/Issues</b>	<b><u>16 (7.17%)</u></b>	<b>9</b>
General overload	5	
(a) Concern for physical well being	(2)	
(b) Overwork	(3)	
Temporal devotion to squash	11	
(a) Boredom	(1)	
(b) Squash affecting family life	(4)	
(c) Lack of time off squash	(6)	
<b>Organisational concerns</b>	<b><u>38 (17.04%)</u></b>	<b>17</b>
Daily organisational concerns	15	
(a) Organisational/administrative difficulties	(4)	
(b) Bad Organisational skills	(1)	
(c) Administrative tasks	(3)	
(d) Organisational disruptions which affect coaching	(3)	
(e) Planning sessions on a daily basis	(4)	
Competition related organisational concerns	23	
(a) Peripherals during events	(4)	
(b) Pre-event peripherals	(2)	
(c) Planning tournament schedules	(2)	
(d) Planning training programmes for competitions	(2)	
(e) Bad organisation at tournaments	(3)	
(f) Competition related logistics	(4)	
(g) Competition related travel	(6)	

<b>Mentoring Responsibilities</b>	<b><u>25 (11.21%)</u></b>	<b>15</b>
Fine tuning	2	
(a) Attention to detail	(2)	
Players behaviour	10	
(a) Players misbehaving	(3)	
(b) Ensuring players perform professionally	(3)	
(c) Bad communication with a player	(1)	
(d) Players attitudes	(3)	
Emotionally connecting with a player	13	
(a) Being disappointed for a player	(4)	
(b) Having a problem with a player on a personal level	(1)	
(c) Getting emotionally over-involved with a player	(6)	
(d) Dealing with player's emotional development	(2)	
<b>Team Management</b>	<b><u>7 (3.14%)</u></b>	<b>5</b>
Team selection	4	
(a) Team order	(3)	
Team cohesion	3	
(a) Poor team cohesion	(3)	
<b>Post Match Concerns</b>	<b><u>16 (7.17%)</u></b>	<b>12</b>
Emotional concerns	12	
(a) Mentoring a player between matches	(2)	
(b) Dealing with a player when they've lost	(10)	
Analytical concerns	4	
(a) Post match analysis	(4)	
<b>Self confidence</b>	<b><u>7 (3.14%)</u></b>	<b>4</b>
Squash coaching self efficacy	7	
(a) Self doubt	(6)	
(b) Mismatch between perceived ability and coaching challenge	(1)	

'bad organisation at tournaments', 'planning sessions on a daily basis', 'planning tournament schedules' and others). On the other hand, many of the stressors identified in this study originated in the 'environment/situation'. A significant number of the source of stress dimensions were categorised as 'environment/situation-social' stressors. Specifically these were stressors originating in social environments and social situations and included 'political and interpersonal pressure' (emerging from themes such as 'problems in dealing with committees', and others), and 'on court concerns' (emerging from themes such as 'a player under-performing in a match' or 'biased refereeing'). The remaining sources of stress identified were 'environment/situation-economic' including 'coaching constraints and barriers', and 'environment/situation-lifestyle' including 'lifestyle concerns'.

However, there were some sources of stress identified in this study that failed to fit into the classification system emerging from chapter 3. It was necessary to develop a further category 'person-psychological-social'. This category was required to describe those stressors originating in social interactions. Examples included 'interpersonal relationships' (emerging from themes such as 'stress from parent/coach relationship' and others), 'mentoring responsibilities' (emerging from the themes 'having a problem with a player on a personal level', 'player's attitudes' and others), and 'post match concerns' (emerging from the themes 'mentoring a player between matches' or 'dealing with a player when they've lost'). Therefore, it appears that high performance coaches experience more stress as a result of social environments, social interactions and social situations than do elite athletes.

Table 5.1 also illustrates the most commonly cited sources of stress by high performance squash coaches, measured by the number of raw data themes (RDT) in each general dimension. Therefore it appears that in rank order the most cited sources of stress were 'organisational concerns' (RDT=38, rank=1), 'on court concerns' (RDT=34, rank=2), 'pre-event concerns' (RDT=27, rank=3) and 'mentoring responsibilities' (RDT=25, rank=4). It is noticeable that apart from 'organisational concerns' that were essentially 'person-behavioural' in nature, the other three most cited sources of stress, were all

manifest in 'social' environments, situations or interactions. In contrast, the least cited sources of stress in rank order were 'medical concerns' (RDT=4, rank=1), 'team management' (RDT=7, rank=2-) and 'self confidence' (RDT=7, rank=2-). Although these sources of stress were least cited, table 5.1 provides no evidence of the characteristics of these stressors, and therefore, it may be, for example, that they were least cited, but were rated as most threatening, most severe and least controllable by those participants who did cite them. Therefore, the data from this table must be compared with the sources of stress characteristics data in table 5.2 (later) in order to gain a fuller picture.

### *Ideographic Profiles for Stress*

As a result of the inductive content analyses (Patton, 1980), 12 general dimensions of stress experienced by high performance squash coaches emerged. The ideographic profiles for each general dimension are inserted below and each of the dimensions is explained.

**Political and Interpersonal Pressures:-** There were 16 raw data themes included in this general dimension, a percentage of 7.17% of the total of raw data themes mentioned for sources of stress. 'Political and interpersonal pressures' were mentioned as a source of stress by half of the subjects (9 out of 18). Specifically, this dimension refers to stress experienced by coaches having to deal with the political agendas of squash committees, squash associations, and other coaches. The second-order sub themes were 'politics of squash', and 'relationships between coaches'. 'Politics of squash' was made up of 2 first order sub themes 'problems dealing with committees' and 'associational/organisational deficiencies'. The other second-order theme, 'relationships between coaches' emerged from 3 first-order themes; 'lack of communication between coaches', 'players leaving for another coach', and 'competitiveness between coaches'. The following quotes highlight these areas of concern:

### Political and Interpersonal Pressures

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Politics of county squash – frustration of dealing with committees</i></li> <li>◆ <i>Politics – political side of the game is detached from the playing side, people are making decisions who shouldn't be.</i></li> </ul>	Problems in dealing with committees	Politics of squash	<b>Political and interpersonal pressures</b>
<ul style="list-style-type: none"> <li>◆ <i>SRA administration, lack of assistance</i></li> <li>◆ <i>Lack of cooperation from association when you're trying to plan programmes for players</i></li> <li>◆ <i>Association hierarchy</i></li> <li>◆ <i>Players wasting time at regional squads – no aims or objectives at this level</i></li> <li>◆ <i>Selection procedures – lack of explanation to player or coach</i></li> <li>◆ <i>Lack of organisation from association</i></li> <li>◆ <i>Competition format at junior level – bad seeding</i></li> </ul>	Association/organisation deficiencies		
<ul style="list-style-type: none"> <li>◆ <i>Destructive coaches who let bad technique go</i></li> <li>◆ <i>Lack of communication between national coaches and personal coach of players</i></li> </ul>	Lack of communication between coaches	Relationships between coaches	
<ul style="list-style-type: none"> <li>◆ <i>Losing players to other coaches</i></li> <li>◆ <i>Players leaving for another coach</i></li> <li>◆ <i>Players leaving for another coach</i></li> </ul>	Players leaving for another coach		
<ul style="list-style-type: none"> <li>◆ <i>Competitiveness between coaches</i></li> <li>◆ <i>Extreme competitiveness of other coaches</i></li> </ul>	Competitiveness between coaches		

**'Politics of Squash'**

*"There are lots of frustrations at county level because you're dealing with committees...most of the people who are devoting their time and effort in their spare time are parents of players and that creates pressures on kids, coaches and relationships as parents favour their child."*

*"It's about sending you ranking lists, sending you lists of tournaments and keeping you informed of changes that are taking place in the SRA...it's the lack of assistance from the SRA."*

**'Relationships between coaches'**

*"I've never had a call from a national coach explaining why a player must go to national squad, nor any feedback when he's been to the squad"*

*"Losing players to other coaches is inevitable, I take a broad minded approach, I leave the door open and very often they come back, which is nice, but it would be dishonest to say it doesn't hurt a bit, that's an area of stress."*

*"...a lot of the coaches you come across, and when you all meet each other, it's a very competitive situation...you do worry about how people judge you. There does seem to be a hierarchy in coaching throughout the country and if you want to progress you have to be careful on the way up."*

**Interpersonal Relationships:-** There were 19 raw data themes included in this general dimension, 8.52% of the total number of raw data themes for sources of stress. Specifically, this dimension related to managing relationships with significant others, parents, and players. The second-order themes included 'relationships with significant others' and 'working relationships'. 'Relationships with significant others' emerged from the first order theme 'other people's opinions'. 'Working relationships' emerged from the first-order themes 'stress from parent-player relationship' and 'stress from coach-

parent relationship'. 'Interpersonal relationships' were mentioned as a source of stress by half of the participants (9 out of 18). The following quotes illustrate these areas of concern:

*'Relationships with significant others'*

*"When you get chucked out of the system, it's very difficult to get back in so you're always looking over your shoulder ...you don't want to make too many errors and you want to impress the right people at the right time"*

*'Working Relationships'*

*"It might be an issue that they (parents) either take up with you or they try to get you to direct at someone else"*

*"The pressure parents put on you to select their child rather than anybody elses."*

*"Some parents have their own views and whatever you say or do, you can't educate them. Some parents interfere and it can be quite damaging"*

*"Sometimes they are living their squash life through their offspring...I was coaching a girl the other day and her mother started telling me what to do from the balcony! I said hang on a minute, you are paying me to do this because you don't want to do it yourself!!"*



## Interpersonal Relationships

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Other people's attitude to you or your players off the court</i></li> <li>◆ <i>Professional appearance</i></li> <li>◆ <i>Being professional and living up to your reputation</i></li> </ul>	Other people's opinions	Relationships with significant others	<b>Interpersonal Relationships</b>
<ul style="list-style-type: none"> <li>◆ <i>Parents – handling them</i></li> <li>◆ <i>Parents – pressure from them if their child has a bad loss</i></li> <li>◆ <i>Parental appraisal</i></li> <li>◆ <i>Parents – issues they take up with you</i></li> <li>◆ <i>Dealing with parental expectation</i></li> <li>◆ <i>Dealing with the family</i></li> <li>◆ <i>Demanding parents</i></li> <li>◆ <i>Parents – interference during matches</i></li> <li>◆ <i>Dealing with parents views</i></li> <li>◆ <i>Dealing with parents reactions if their child has performed badly</i></li> <li>◆ <i>Parental expectations to produce results</i></li> <li>◆ <i>Ranking players into a team – parents objections</i></li> <li>◆ <i>Parental pressure – dealing with parents reactions to team selection</i></li> <li>◆ <i>Parental pressure to pick their child</i></li> </ul>	Coach/parent relationship	Working relationships	
<ul style="list-style-type: none"> <li>◆ <i>Interfering parents</i></li> <li>◆ <i>Parents affecting a child's performance</i></li> </ul>	Parent/player relationship		

**Medical Concerns:-** This was mentioned by 4 subjects and was comprised of 4 raw data themes, 1.79% of the total number of raw data themes for sources of stress. This source of stress refers to worry about players current or potential injuries. There was one second-order sub theme, 'injuries', that emerged from 2 first-order sub themes, 'worry about player's potential injuries', and 'worry about an injured player'. The following comments illustrate these worries:

***'Worry about a player's potential injuries'***

*"I've always been concerned about the long term physical effects of juniors playing squash. No-one really knew the long-term effect of youngsters starting to play at 8 or 9 right through to becoming pro so we've watched the present crop of professional players with interest."*

*"If they get an injury before they get to the court, you've spent all those months and puff! Frustration!!"*

***'Worry about a player's current injuries'***

*"There's a big worry about injuries, fitness, state of health generally. That can be quite a worry. If you see someone who is injured and is not quite ready, and you're running out of time..."*

**Medical Concerns**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Physical stress on juniors</i></li> <li>◆ <i>Well being of players</i></li> </ul>	Worry about players' potential injuries	Injuries	Medical Concerns
<ul style="list-style-type: none"> <li>◆ <i>Injuries of players</i></li> <li>◆ <i>Injuries</i></li> </ul>	Worry about an injured player		

**On Court Concerns:-** This was the second most cited general dimension including 34 raw data themes, 15.25% of the total number of raw data themes for sources of stress. Of the 18 study participants, this source of stress was mentioned by 16. Generally, it relates to a number of stressors experienced by the coach during a match. There were 5 second-order sub themes including 'between game encounters', 'players under-performing', 'referees decisions', 'general performance concerns', and 'specific performance concerns'. 'Between games encounters' (which had the largest number of raw data themes of 12 out of the 34), emerged from the first-orders of 'mentoring a player during a match', 'advice between games', and 'dealing with a player's emotions between games'. 'Players under-performing' emerged from the first orders 'under-performing in a match' and 'under-performing in practice'. 'Refereeing decisions' emerged from the first-orders 'biased' and 'inexperienced' refereeing. 'General performance concerns' and 'specific performance concerns' had no first order themes. The following quotes highlight these on court concerns.

***'Players under-performing'***

*"When you can't get somebody to perform as you know they can in practice...you know they're capable of doing so much more and they just don't do it."*

*"You can work out a game plan between you and the player but if either the game plan's not working or your player's not sticking to it, there's nothing you can do when they're actually playing...that's quite stressful".*

***'Refereeing decisions'***

*"Referees decisions do get to me sometimes because there's nothing you can do...and you've got to act as if it's irrelevant, and yet it can be crucial"*

***'Between games encounters'***

*"...if you are going to communicate something that you feel is significant, you must communicate it in the right way. Again there are so many different ways of communicating it and so many different minds that you have to communicate it to"*

## On Court Concerns

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>A player not performing well – their best</i></li> <li>◆ <i>The player's actual performance</i></li> </ul>	Mentoring a player during a match	Between Games Encounters	On Court Concerns
<ul style="list-style-type: none"> <li>◆ <i>Between games advice</i></li> <li>◆ <i>Advice between games</i></li> <li>◆ <i>Communicating a message in the right way between games</i></li> <li>◆ <i>Advice between games</i></li> <li>◆ <i>Advice between games if they're playing badly</i></li> <li>◆ <i>Between games advice</i></li> <li>◆ <i>Giving advice between games</i></li> <li>◆ <i>Giving the right advice before and during matches</i></li> </ul>	Advice between games		
<ul style="list-style-type: none"> <li>◆ <i>Building a player up between games.</i></li> <li>◆ <i>Players being over-aroused, inability to respond to you or calm down between games</i></li> </ul>	Dealing with a player's emotions between games		
<ul style="list-style-type: none"> <li>◆ <i>Your player under-performing</i></li> <li>◆ <i>Responding to bad body language of a player</i></li> <li>◆ <i>If a player is not performing to their best</i></li> <li>◆ <i>Your player losing a match which could have been won</i></li> </ul>	A player under-performing in a match	Players under-performing	
<ul style="list-style-type: none"> <li>◆ <i>Inability to get the best out of a player during practice</i></li> <li>◆ <i>Performance indicators in practice .</i></li> <li>◆ <i>Players performing badly in practice</i></li> </ul>	A player under-performing in practice		
<ul style="list-style-type: none"> <li>◆ <i>Biased refereeing</i></li> </ul>	—————→	Refereeing Decisions	
<ul style="list-style-type: none"> <li>◆ <i>Refereeing decisions, sometimes the wrong decision is crucial and you have to hide your reaction</i></li> <li>◆ <i>Referees creating the incorrect outcome</i></li> </ul>	Inexperienced refereeing		
<ul style="list-style-type: none"> <li>◆ <i>Monitoring players' performances</i></li> <li>◆ <i>The challenge of reading what's going on during a match</i></li> <li>◆ <i>Anxious for a player to perform to their best</i></li> <li>◆ <i>Watching players perform</i></li> <li>◆ <i>The match itself – watching a player perform</i></li> </ul>	—————→	General Performance Concerns	
<ul style="list-style-type: none"> <li>◆ <i>Nerves just before a match</i></li> <li>◆ <i>Crowd and opposition may interfere with you or your player</i></li> <li>◆ <i>Keeping perspective as a coach during matches</i></li> <li>◆ <i>If a match is close</i></li> <li>◆ <i>Shot selection of your player</i></li> </ul>	—————→	Specific performance concerns	

*"...there's always that question of whether it's actually going to be the right thing to say...because watching a game from the outside is always different from playing it. There's always a fear that it might be the wrong thing to say"*

**'General performance concerns'**

*"It's frustrating when you can see what the player needs to do and the difficulties they are having doing it, and the stress of the occasion, hostile crowds, referees, there's quite a lot of stress in the match thing"*

**'Specific performance concerns'**

*"I like to gauge moods of the other players, try to pick up on that, which can in the early rounds cause a bit of stress...you may think to yourself that player is playing well, and you know that your player has had a problem with that type of player"*

**Pre-event concerns:-** Again this was another well cited general dimension of stress incorporating 27 raw data themes, and comprising 12.11% of the total raw data themes for stress. Of the 18 participants, 14 mentioned 'pre-event concerns' as a source of stress. 'Pre-event concerns' refer to concerns experienced by the coach prior to the player going to an important competition. This general dimension included 2 second-order sub themes, 'pre-event psychological concerns' (emerging from the first order themes 'pressure to get results' and 'general pre-event anxiety') and 'pre-event preparation' (emerging from the first order themes 'preparing a player mentally', 'physical preparation', and 'general preparation'). The following quotes depict some of these worries:

**'Pre-event psychological concerns'**

*"Squads can be stressful if the time limit is getting on a bit and the squad is not getting together as you would wish"*

## Pre-event Concerns

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Getting paid by results</i></li> <li>◆ <i>Pressure of performing as a coach</i></li> <li>◆ <i>Dealing with criticism; media, SRA, parents, husband</i></li> <li>◆ <i>Lack of sleep during major competitions</i></li> <li>◆ <i>Threat of unemployment</i></li> <li>◆ <i>Expectations</i></li> <li>◆ <i>Expectations of players you're coaching</i></li> <li>◆ <i>Value for money</i></li> <li>◆ <i>Expectations of what you can achieve</i></li> <li>◆ <i>Appraisal (self, SRA)</i></li> </ul>	Pressure to get results	Pre-event psychological concerns	Pre-event Concerns
<ul style="list-style-type: none"> <li>◆ <i>Anxious to get there and get on with it</i></li> <li>◆ <i>Gauging the mood of an opponent</i></li> <li>◆ <i>Degree of importance of a competition</i></li> <li>◆ <i>Limited time to work with championship squads</i></li> </ul>	General pre-event anxiety		
<ul style="list-style-type: none"> <li>◆ <i>Mental preparation, getting a player ready for an event</i></li> <li>◆ <i>Getting a player confident to travel alone</i></li> <li>◆ <i>Mentally preparing a player for competition</i></li> <li>◆ <i>Seeing a player's reaction to a draw – if it's a tight draw</i></li> <li>◆ <i>Empowering players to make decisions</i></li> <li>◆ <i>Ensuring a player is mentally ready for a match</i></li> <li>◆ <i>Mental preparation of players</i></li> <li>◆ <i>Getting the player into the right frame of mind for a match</i></li> <li>◆ <i>Preparing a player mentally for a match</i></li> </ul>	Preparing a player mentally	Pre-event preparation	
<ul style="list-style-type: none"> <li>◆ <i>Physical preparation/condition</i></li> </ul>	→		
<ul style="list-style-type: none"> <li>◆ <i>Preparing players for a match</i></li> <li>◆ <i>Preparing an individual for an event</i></li> <li>◆ <i>Preparing a player for an event</i></li> </ul>	General preparation		

*"Players at this stage (before a world championships) are quite edgy...I would just prefer to get on with it."*

**'Pre-event preparation'**

*"...psyche people up, get in touch with their actual preparation, talking through who they're going to play, what style of game they're going to play, trying to prepare them for a situation that's going to happen on court."*

*"It's certainly a challenge trying to get somebody motivated...trying to get them up for it."*

*"Feeling that you've got limited time to actually get them calmed down and into the right frame of mind...it's quite demanding"*

*"It's challenging to motivate players, get them focused on the importance of competition, get them to train and practice well."*

**Coaching Constraints and Barriers:-** There were 14 raw data themes in this general dimension, comprising 6.3% of the total number of raw data themes for stress. Of the 18 participants, 9 (half) mentioned 'coaching constraints and barriers' as a source of stress. Specifically, this general dimension refers to missed coaching opportunities. This dimension included 2 second-order themes, 'financial constraints' (the first orders of which were 'indirect financial constraints' and 'direct financial constraints'), and 'coaching barriers' (the first order of which was 'inability to travel to events with players'). Coaching constraints and barriers are expressed in the comments below:

**'Financial constraints'**

*"As a high performance squash coach, you are self employed...that's a factor that would cause you stress...it has done!!"*

### Coaching constraints and Barriers

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Financial problems – being self employed is a stress</i></li> <li>◆ <i>Financial problems – fighting to keep your salary</i></li> <li>◆ <i>Financial security</i></li> <li>◆ <i>Financial – struggling to make ends meet</i></li> <li>◆ <i>Financial – business investments that didn't work out secondary to squash</i></li> </ul>	Direct financial constraints on coaching	Financial constraints	<b>Coaching Constraints and Barriers</b>
<ul style="list-style-type: none"> <li>◆ <i>Financial pressure because you can't charge what you're worth</i></li> <li>◆ <i>Financial – if I wasn't successful it would be hard to make a living</i></li> <li>◆ <i>Financial – how can you make a living from coaching?</i></li> </ul>	Indirect financial constraints on coaching		
<ul style="list-style-type: none"> <li>◆ <i>Not being able to attend events with players due to money</i></li> <li>◆ <i>Not being able to go to a competition with a player</i></li> <li>◆ <i>Not getting to watch players in matches</i></li> <li>◆ <i>Not being at an event and having to rely on players for feedback</i></li> <li>◆ <i>Not being able to travel with a player to an important event</i></li> <li>◆ <i>Not being able to see players perform due to financial and time restrictions</i></li> </ul>	Inability to travel to events with players	Coaching barriers	



*“Working as a free lance professional there’s a stress because there’s a constant pressure to make ends meet”*

*“Wondering how you could make a full time living out of coaching professional players because they obviously need full time coaching but how do they actually pay for it? How can they afford to employ you full time and therefore how can you make a sufficiently good living out of it?”*

**‘Coaching barriers’**

*“I do get very concerned when I’m coaching people and then never seeing them play. I can’t afford to take a week-end out to go and watch when I have to cover loss of earnings, travel and accommodation”*

**Lifestyle Concerns/Issues:-** This general dimension incorporated 16 raw data themes comprising 7.17% of the total number of raw data themes for stress. Of the 18 participants, 9 (half) mentioned ‘lifestyle concern/issues’ as a source of stress. The general dimension consisted of two second-order sub-themes; ‘general overload’ (emerging from the first order themes of ‘concern for physical well being’ and ‘overwork’), and ‘temporal devotion to squash’ (emerging from the first order themes of ‘boredom’, ‘squash affecting family life’, and ‘lack of time off squash’). The following quotes depict the concerns of the coaches:

**‘Temporal devotion to squash’**

*“I’ve had 4 days off since term started here at the beginning of January. Minimum 15 hours in a car, minimum 30 hours on court, sometimes like last week, 43 hours...I’ve got a day off on Sunday but I’m doing my accounts and organising lots of other stuff. I never get away from it.”*

*“It’s hard on your personal and social life, having to fit that in...my girlfriend travels more with me now otherwise we wouldn’t see each other at times”*

“...the time away, the anti-social aspect of the work is a cause of stress particularly if one has family commitments. I don't have any children but my wife is on her own.”

**'General Overload'**

“Being over-worked, physically being down”

**Lifestyle Concerns**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Health – Injuries, illness, fitness</i></li> <li>◆ <i>Fear of injury</i></li> </ul>	Concern for physical well being	General overload	<b>Lifestyle Concerns</b>
<ul style="list-style-type: none"> <li>◆ <i>Overwork, physical fatigue</i></li> <li>◆ <i>Job Overload</i></li> <li>◆ <i>Tiredness</i></li> </ul>	Overwork		
<ul style="list-style-type: none"> <li>◆ <i>Boredom</i></li> </ul>	→	Temporal devotion to squash	
<ul style="list-style-type: none"> <li>◆ <i>Missing home</i></li> <li>◆ <i>Anti-social hours, wife's on her own</i></li> <li>◆ <i>Lack of time spent with family</i></li> <li>◆ <i>Emotional commitment involved in performance coaching can be detrimental to personal life because it takes a lot of time and energy</i></li> </ul>	Squash affecting family life		
<ul style="list-style-type: none"> <li>◆ <i>Finding time to do everything</i></li> <li>◆ <i>Lack of time</i></li> <li>◆ <i>Travel to events with players</i></li> <li>◆ <i>Lack of time off squash</i></li> <li>◆ <i>Squash consuming life</i></li> <li>◆ <i>Finding free time</i></li> </ul>	Lack of time off squash		

**Organisational Concerns:-** This was the most cited general dimension in terms of the numbers of raw data themes involved. There were 38 raw data themes comprising 17.04% of the total number of raw data themes for stress. Of the 18 participants, 17 mentioned 'organisational concerns' as a source of stress. This general dimension was split into 'daily' and 'competition related' organisational concerns, as second order sub themes. 'Daily organisational concerns' emerged from the first order sub themes 'organisational/administrative difficulties', 'bad organisational skills', 'administrative tasks', 'organisational disruptions affecting coaching', and 'planning sessions on a daily basis'. 'Competition related organisational concerns' emerged from the first order sub themes 'peripherals during events', 'pre-event peripherals', 'planning tournament schedules', 'planning training programmes for competitions', 'bad organisation at tournaments', 'competition related logistics', and 'competition related travel'. Of the 38 raw data themes, 23 were competition related and 15 were daily organisational concerns. The nature of stress resulting from 'organisational concerns' is depicted in the following comments:

*'Competition related organisational concerns'*

*"Making sure that a player has entered an event and is not having second thoughts about it. I need to be 100% certain in my own mind about that decision and that's got easier as I've got more successful at coaching"*

*"Making sure we've got enough rackets, the stringing is done, the shoes are worn in. There's often panic, last minute panic to try to get hold of a pair of shoes, the player has suddenly realised that the ones they've got are about to go, and it's my job to make sure these things are done."*

*"Making sure everything is okay, transport, access to physio, access to stringing, court bookings..."*

## Organisational Concerns

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Lack of transport, lack of independence</i></li> <li>◆ <i>School pressures</i></li> <li>◆ <i>Group size</i></li> <li>◆ <i>Development of the club</i></li> </ul>	Organisation/administration difficulties	Daily organisational concerns	Organisational Concerns
◆ <i>Organisational skills</i>	→		
<ul style="list-style-type: none"> <li>◆ <i>Administration tasks</i></li> <li>◆ <i>Administration and arrangements</i></li> <li>◆ <i>Availability of facilities when you want them</i></li> </ul>	Administration tasks		
<ul style="list-style-type: none"> <li>◆ <i>Organisational hiccups that interfere with coaching</i></li> <li>◆ <i>Daily working environment</i></li> <li>◆ <i>Colleagues you rely on letting you down</i></li> </ul>	Organisational disruptions that affect coaching		
<ul style="list-style-type: none"> <li>◆ <i>Daily programme</i></li> <li>◆ <i>Session evaluation, re-focusing and re-planning</i></li> <li>◆ <i>Day to day momentum – being creative with repetition</i></li> <li>◆ <i>Planning sessions on a daily basis</i></li> </ul>	Planning session son a daily basis		
<ul style="list-style-type: none"> <li>◆ <i>Peripherals at events – nowhere to warm up etc.</i></li> <li>◆ <i>Preparation at events – transport, access to physio, massage, stringing, courts</i></li> <li>◆ <i>Peripherals during an event – rackets, strings, shoes, food, physio, travel, practice courts</i></li> <li>◆ <i>Dealing with the media</i></li> </ul>	Peripherals issues during events	Competition related organisational concerns	
<ul style="list-style-type: none"> <li>◆ <i>Peripherals – tournament entry</i></li> <li>◆ <i>Peripherals before the event</i></li> </ul>	Pre-event peripheral issues		
<ul style="list-style-type: none"> <li>◆ <i>Planning the tournament schedule</i></li> <li>◆ <i>Choosing the correct tournament</i></li> </ul>	Planning tournament schedules		
<ul style="list-style-type: none"> <li>◆ <i>Long term planning for competition</i></li> <li>◆ <i>Planning programmes for performers</i></li> </ul>	Planning training programmes for competition		
<ul style="list-style-type: none"> <li>◆ <i>Preparing a player for competition affected by bad event organisation</i></li> <li>◆ <i>Organisational problems – no courts, no re-stringing, faulty rackets etc.</i></li> <li>◆ <i>Bad organisation at overseas events, no courts, no transport, and your player needs to practice</i></li> </ul>	Bad organisation at tournaments		
<ul style="list-style-type: none"> <li>◆ <i>Planning – logistics at an event</i></li> <li>◆ <i>Unable to find junior players for a match</i></li> <li>◆ <i>Logistics – team members at right place at right time</i></li> <li>◆ <i>General logistics of whole event</i></li> </ul>	Competition related logistics		

*“There’s always a different edge to the challenge and to the stress as you approach the event...it is essential for the coach to appear unstressed, but the coach should be just as challenged as the pupil at that period.”*

**‘Daily organisational concerns’**

*“...distance from a target of the day to day momentum, that’s a major challenge, how you plan your day, how that day fits into the week, whether that plan is working, whether you should change the pattern to training.”*

*“Planning sessions in terms of making them innovative, interesting and fun if possible. Keep it changing, not doing the same routines with players”*

**Mentoring Responsibilities:-** This general dimension was the third largest in terms of number of raw data themes. It incorporated 25 raw data themes, 11.21% of the total number of raw data themes for stress. Of the 18 participants, 15 mentioned ‘mentoring responsibilities’ as a source of stress. Specifically, ‘mentoring responsibilities’ are responsibilities held by the coach to guide the player in a positive direction both on and off the court. Sources of stress may emerge as a result of these responsibilities. This general dimension emerged from 3 second-order sub themes, ‘fine tuning’, ‘player’s behaviour’, and ‘emotionally connecting with a player’. ‘Fine tuning’ emerged from one first order theme, ‘attention to detail’. ‘Player’s behaviour’ emerged from and four first order themes, ‘players misbehaving’, ‘ensuring players perform professionally’, ‘bad communication with a player’ and ‘players attitudes’. ‘Emotionally connecting with a player’, emerged from four first order themes, ‘being disappointed for a player’, ‘having a problem with a player on a personal level’, ‘getting emotionally over-involved with a player’, and ‘dealing with player’s emotional development’. Interestingly, ‘emotionally connecting with a player’ had the most raw data themes (13 out of 25). Sources of stress resulting from ‘mentoring responsibilities’ are expressed below:

## Mentoring Responsibilities

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Could have corrected something a player is doing badly</i></li> <li>◆ <i>Attention to detail when working with elite players, being microscopic</i></li> </ul>	Attention to detail	Fine tuning	<b>Mentoring Responsibilities</b>
<ul style="list-style-type: none"> <li>◆ <i>Misbehaviour on court</i></li> <li>◆ <i>Bad behaviour on court</i></li> <li>◆ <i>Abuse between games, after match</i></li> </ul>	Players misbehaving	Players behaviour	
<ul style="list-style-type: none"> <li>◆ <i>Getting players to perform professionally</i></li> <li>◆ <i>Development of an individual for the circuit and professional squash</i></li> <li>◆ <i>Ensuring player commitment</i></li> </ul>	Ensuring players perform professionally		
<ul style="list-style-type: none"> <li>◆ <i>Bad communication with a player</i></li> </ul>	→		
<ul style="list-style-type: none"> <li>◆ <i>Players having a bad attitude</i></li> <li>◆ <i>Players with negative attitudes</i></li> <li>◆ <i>Pupils attitude</i></li> </ul>	Players' attitudes	Emotionally connecting with a player	
<ul style="list-style-type: none"> <li>◆ <i>Consoling players</i></li> <li>◆ <i>Being disappointed for a player</i></li> <li>◆ <i>Being disappointed for players</i></li> <li>◆ <i>Being upset for your player</i></li> </ul>	Being disappointed for a player		
<ul style="list-style-type: none"> <li>◆ <i>Having a problem with a player on a personal level</i></li> </ul>	→		
<ul style="list-style-type: none"> <li>◆ <i>Taking a player's bad loss too personally</i></li> <li>◆ <i>Taking a player's bad loss too personally</i></li> <li>◆ <i>Playing every point with a player</i></li> <li>◆ <i>Dealing with losses</i></li> <li>◆ <i>Taking the brunt of a bad loss, feeling responsible if a player has a bad match</i></li> <li>◆ <i>Getting caught up emotionally rather than analytically</i></li> </ul>	Getting over-involved emotionally with a player		
<ul style="list-style-type: none"> <li>◆ <i>Working with young girls, dealing with emotional development, moods</i></li> <li>◆ <i>Players themselves, hormones, home pressures, social lives, relationships</i></li> </ul>	Dealing with players' emotional development		

**'Player's behaviour'**

*"It's just a negative attitude, they don't believe they can do it, even though you tell them till you are blue in the face that they can...in fact you actually get them to do it as well and prove it to them and they still don't believe it".*

*"I get stressed when I'm not communicating as well with players as I would like to and I tend to take that on board myself"*

**'Fine tuning'**

*"Attention to detail is a formidable challenge! Anybody above a certain playing standard can feed a ball, but to take on an elite player and feed a ball, you have to have more in your mind of what you are trying to get out of it"*

**'Emotionally connecting with a player'**

*"If I have a problem with a player on a personal level, that's the most stressful of all"*

*"I've had to deal with her moods on court since she was 9 years old and I've only once had a bust up on court with her. In fact it's happened with 2 girls I've coached ...I think I've got the best out of them though but it's frustrating!"*

**Team Management:-** There were 7 raw data themes in this general dimension and they comprised 3.14% of the total number of raw data themes for stress. Of the 18 participants, 5 mentioned 'team management' as a source of stress. There were 2 second-order sub themes; 'team selection', and 'team cohesion'. The first-order sub theme of 'team selection' was 'team order', and the first-order sub theme of 'team cohesion' was 'poor team cohesion'. The following comments exemplify sources of stress associated with 'team management':

**'Team selection'**

*"Knowing you made the wrong decision in picking a team can be very stressful"*

*“Team selection is always tricky because very rarely do you select a team that’s going to please everybody, so you know you’re going to upset somebody and that’s not something I enjoy doing... then you’ve got to deal with the parents of the child or person that’s been de-selected... then the media start stirring.”*

*“The stress is making sure you make the right choice”*

**‘Team cohesion’**

*“If players in the same team are not getting on well, I find that stressful”*

*“Making sure you have harmony within the team that causes stress, especially with our ladies because they just don’t get on with each other and if you favour one you lose favour with another”*

### Team Management

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Selecting the right team to beat the opposition</i></li> <li>◆ <i>Team selection</i></li> <li>◆ <i>Team selection</i></li> <li>◆ <i>Team selection</i></li> </ul>	Team order	Team Selection	Team Management
<ul style="list-style-type: none"> <li>◆ <i>Team animosity</i></li> <li>◆ <i>Poor team cohesion</i></li> <li>◆ <i>Maintaining team harmony</i></li> </ul>	Poor team cohesion	Team Cohesion	



**Post Match Concerns:-** There were 16 raw data themes in this general dimension, comprising 7.17% of the total number of raw data themes for stress. 'Post match concerns' were mentioned by 12 of the 18 participants. Second-order sub themes included 'emotional concerns', (emerging from the first-order sub themes 'mentoring a player between matches' and 'dealing with a player when they've lost'), and 'analytical concerns' (emerging from the first-order sub theme 'post match analysis'). Interestingly, 'emotional concerns' made up 12 out of the 16 raw data themes. The following comments depict the concerns associated with 'post match analysis'.

**'Emotional concerns'**

*"You think you've done all that work and what have you achieved? What have they achieved? Why has that happened? It's like yesterday, with this girl, I've done quite a lot of work with her, then she just freezes up...It's trying to find something positive to say to her, then trying to build her up."*

*"It's finding space for yourself, sometimes you need to share that loss with them, sometimes you need to get away, moon around, have a cry or whatever, break a racket!"*

*"I think you feel responsible for a player who is not doing well. I feel a great responsibility for my players definitely."*

*"Knowing what to say that will be helpful...if they've just lost a British final, there's nothing much you can say that's going to be of any consolation and you're pretty stressed out yourself for your own reasons let alone your players reasons!"*

**'Analytical concerns'**

*"After a poor result, I do seem to analyse my performance. Did I do things right? Was it my fault? Did I say something wrong? Was there something that could have been done to alter it? Perhaps I should have seen how they warmed up, or perhaps I should have said something positive rather than negative. I look at myself quite a lot afterwards".*

*“When the match has been won, do you walk away and everything’s fine? But there’s another match coming up and it’s just as important again because the player may go into a ‘comfort zone’ or false sense of security, they may walk into the next match and get caught short because the focus hasn’t been there.”*

### Post Match Concerns

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Preparing a player who has won for the next match</i></li> <li>◆ <i>Mentoring a player between matches in an event</i></li> </ul>	Mentoring a player between matches	Emotional Concerns	Post Match Concerns
<ul style="list-style-type: none"> <li>◆ <i>Picking up a player who has lost a match</i></li> <li>◆ <i>Motivating players</i></li> <li>◆ <i>Getting a player up for the next match after losing</i></li> <li>◆ <i>Bad performances</i></li> <li>◆ <i>Gauging your reaction to a player’s bad loss</i></li> <li>◆ <i>Dealing with a player who has lost</i></li> <li>◆ <i>Building up a player who has lost for the next match</i></li> <li>◆ <i>Getting players to learn from a game debrief</i></li> <li>◆ <i>Building up a player who has lost for the next match</i></li> <li>◆ <i>Getting a player up for the next match after a bad loss</i></li> </ul>	Dealing with a player when they’ve lost		
<ul style="list-style-type: none"> <li>◆ <i>Evaluating a performance after losing</i></li> <li>◆ <i>Post mortems – learning from matches</i></li> <li>◆ <i>Analysing matches with players</i></li> <li>◆ <i>Appraisal and analysis of how the match went</i></li> </ul>	Post match analysis	Analytical concerns	

**Self Confidence:-** This general dimension was made up of 7 raw data themes, and comprised 3.14% of the total amount of general dimensions for stress. 'Self confidence' was mentioned as a source of stress by 4 of the 18 participants. There was only one second-order sub-theme 'squash coaching self efficacy', which emerged from two first-order sub themes, 'self doubt' and 'mismatch between perceived ability and coaching challenge'. The following excerpts delineate the stress experienced by the coaches:

**'Self doubt'**

*"Periodically I do look at my methods and approach and think I hope to God I'm doing something right. It usually comes about when someone has a bad performance and you start re-appraising"*

*"You have doubts in your mind, even when you have success...is it because of you or is it just circumstance?"*

**'Mismatch between perceived ability and coaching challenge'**

*"The information I have, the experience I have, I find the children that come to me, especially at U12 level, are not a high enough standard to put all this expertise across. They can't actually do what you want them to do. I find that a very frustrating experience with the youngsters"*

**Self Confidence**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Self doubts – reputation. Competency as a coach having not competed for a number of years – self doubt</i></li> <li>◆ <i>Re-appraisal – self doubt, insecurity</i></li> <li>◆ <i>Demonstrations – having never been a top player</i></li> <li>◆ <i>Whether I really understand the pressure of playing having not competed for a number of years</i></li> <li>◆ <i>Concern about not writing programmes</i></li> </ul>	Self Doubt	Squash coaching self efficacy	Self Confidence
<ul style="list-style-type: none"> <li>◆ <i>Over-qualified for working with under 12's</i></li> </ul>	Mismatch between perceived ability and coaching challenge		

## 5.4 Source of Stress Characteristics

Table 5.2 provides an overview of the ratings of the twelve stress source dimensions in terms of the degree to which they were perceived to be challenging, threatening and caused harm/loss, and also their controllability, severity, and frequency. Figures 5.1 and 5.2 also provide graphical illustrations of the trends. Table 5.2 includes the mean, range and rank scores for each source of stress dimension on each characteristic. A number of trends emerged from the overview (table 5.2) and are outlined in section 5.5 below. The aim of this section is to outline and discuss the source of stress characteristics for each general dimension.

### *Stress source characteristics for each general dimension*

#### *Political and Interpersonal Pressures*

'Political and interpersonal pressures' were perceived to be slightly more threatening (M=4.31) than challenging (M=4.12) and very harmful (M=4.25, rank=1). Interestingly, 'political and interpersonal pressures' were also perceived to be the second least controllable (M=2.75, rank=2) the third most severe (M=4.25, rank=3) and of all the stressors, were experienced the most frequently (M=5.81, rank=1). Therefore, 'political and interpersonal pressures' appear to be very acute sources of stress.

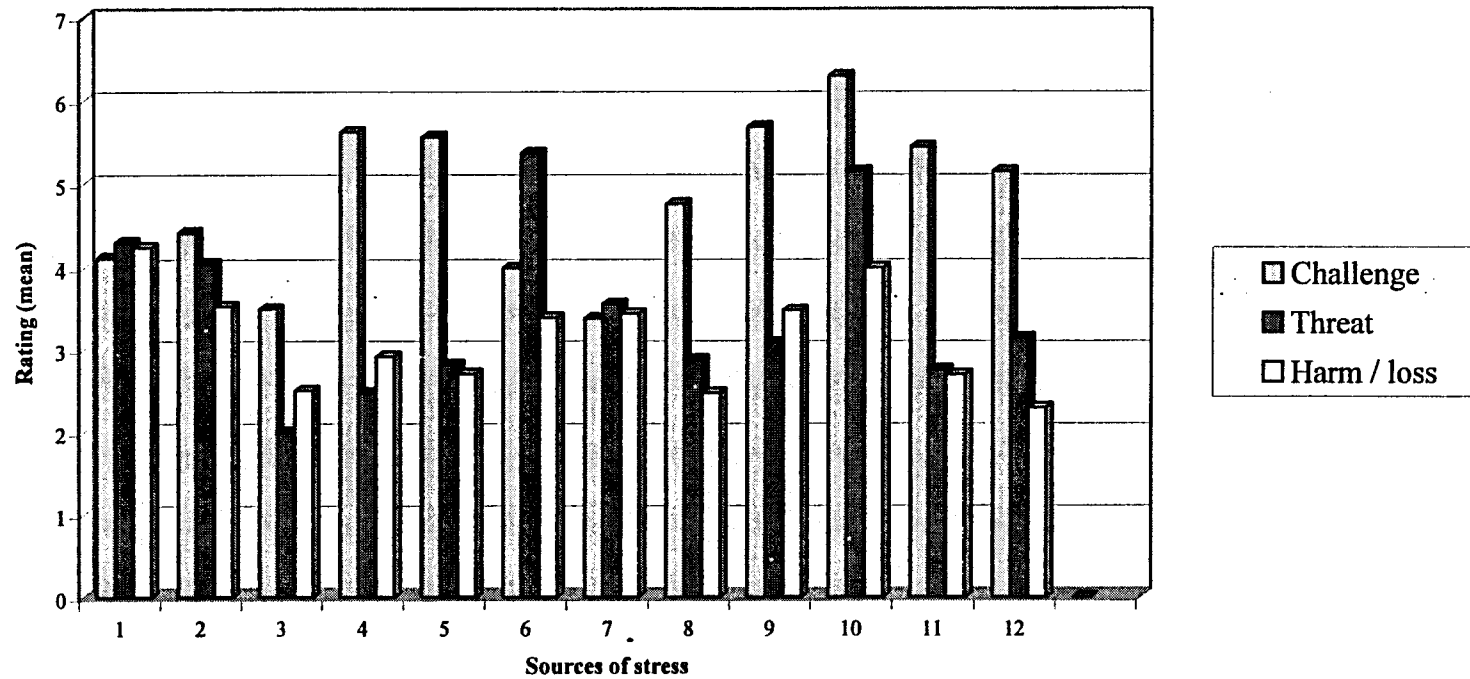
#### *Interpersonal Relationships*

'Interpersonal relationships' were rated similarly to 'political and interpersonal pressures' in terms of challenge (M=4.42), threat (M=4.05) and harm/loss (M=3.53). Participants perceived 'interpersonal relationships' to be quite severe (mean=3.84), yet fairly controllable (M=5.32). Participants experienced this stressor quite regularly (M=4.47). Therefore, it appears that 'interpersonal relationships' regularly create fairly high levels of both positive and negative stress, which although severe, is perceived to be controllable.

**Table 5.2: Mean, Range and Rank Number for the Stress Source Characteristics for Each of the Stress Source Dimensions**

	<b>CHALLENGE</b> Mean Range Rank	<b>THREAT</b> Mean Range Rank	<b>HARM/LOSS</b> Mean Range Rank	<b>CONTROL</b> Mean Range Rank	<b>SEVERITY</b> Mean Range Rank	<b>FREQUENCY</b> Mean Range
Political and Interpersonal Pressures	4.12 1-7 9	4.31 1-7 3	4.25 1-7 1	2.75 1-7 11	4.25 1-7 3	5.81 1-7 1
Interpersonal Relationships	4.42 1-7 8	4.05 1-7 4	3.53 1-7 4	5.32 1-7 5	3.84 1-7 4	4.47 1-7 9
Medical Concerns	3.50 2-7 11	2.00 2-2 12	2.50 1-5 10	6.00 5-7 1	3.50 2-6 6_	3.25 1-7
On Court Concerns	5.62 1-7 3	2.47 1-7 11	2.91 1-7 7	5.47 1-7 4	3.71 1-7 5	4.88 1-7 5
Pre-event Concerns	5.56 1-7 4	2.81 1-7 9	2.70 1-7 8	5.04 1-7 6	3.11 1-7 10_	5.19 1-7 3
Constraints and Barriers	4.00 1-7 10	5.36 1-7 1	3.93 1-7 3	3.36 1-7 10	4.64 1-7 2	4.64 2-7 8
Life-style Concerns	3.38 1-7 12	3.56 1-7 5	3.44 1-7 6	4.50 2-7 9	3.50 1-7 6_	4.13 1-7
Organisational Concerns	4.76 1-7 7	2.87 1-7 8	2.47 1-7 11	2.74 1-7 12	3.11 1-7 10_	4.87 1-7 6
Mentoring Responsibilities	5.68 1-7 2	3.08 1-7 7	3.48 1-7 5	4.88 1-7 7	3.28 1-7 9	4.84 1-7 7
Team Management	6.29 5-7 1	5.14 1-7 2	4.00 2-6 2	4.71 1-7 8	5.14 2-7 1	5.14 1-7 4
Post Match Concerns	5.44 1-7 5	2.75 1-7 10	2.69 1-7 9	5.94 2-7 2	3.38 1-7 8	5.38 1-7 2
Confidence	5.14 3-7 6	3.14 1-6 6	2.29 1-5 12	5.71 5-7 3	2.43 2-5 12	3.57 2-7

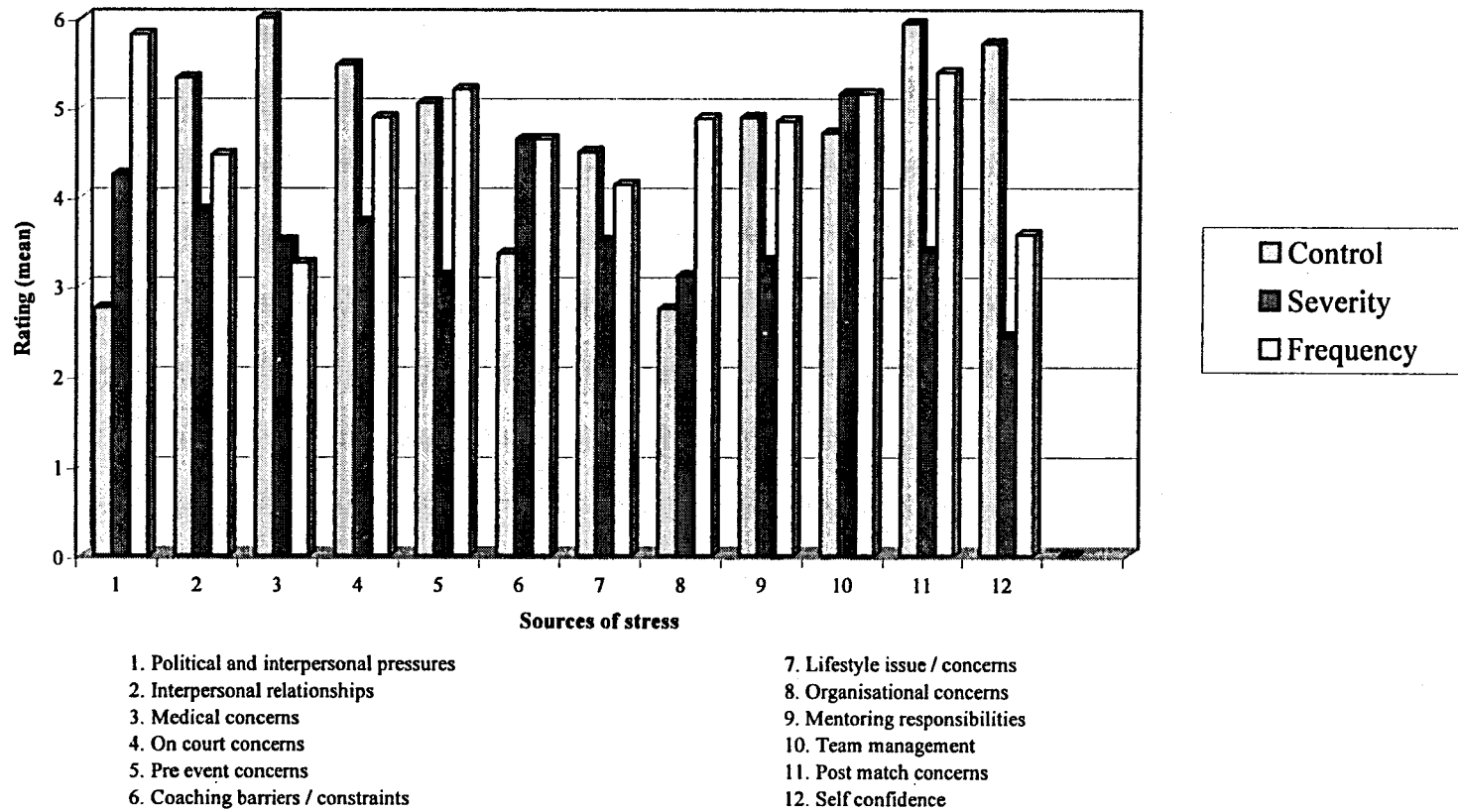
Mean challenge, threat and harm / loss rating scores for the 12 stress source dimensions



- 1. Political and interpersonal pressures
- 2. Interpersonal relationships
- 3. Medical concerns
- 4. On court concerns
- 5. Pre event concerns
- 6. Constraints

- 7. Lifestyle issue / concerns
- 8. Organisational concerns
- 9. Mentoring responsibilities
- 10. Team management
- 11. Post match concerns
- 12. Confidence

Mean control, severity and frequency rating scores for the 12 stress source dimensions



### *Medical Concerns*

'Medical concerns' were perceived to be low in terms both of challenge (M=3.50, rank=11), threat (M=2.00, rank=12), and harm/loss (M=2.50, rank=10). They were rated high in terms of controllability (M=6.00, rank=1), average in terms of severity (M=3.50, rank=6) and low in terms of frequency (M=3.25, rank=12). Therefore, these concerns appear to be sporadic creating average levels of positive and negative stress. The high rating for control can be explained from information given during the interview. Participants reported being able to control their stress by seeking expert guidance from the medical profession in whom they invested much faith.

### *On Court Concerns*

This general dimension was rated high in challenge (mean=5.62, rank=3), low in threat (mean=2.47, rank=11), and relatively low in harm/loss (mean=2.91, rank=7). Control ratings for 'on court concerns' were relatively high (mean=5.47, rank=4), while severity ratings were average (M=3.71, rank=5). Participants reported experiencing 'on court concerns' quite frequently (M=4.88, rank=5). Therefore, 'on court concerns' appear to be a 'regular challenge'.

### *Pre-event Concerns*

The ratings for 'pre-event concerns' were similar to those of 'on court concerns'. Challenge ratings were fairly high (mean=5.56, rank=4) and threat and harm/loss ratings were relatively low (mean=2.81, rank=9, mean=2.70, rank=8 respectively). Control scores were high (mean=5.04, rank=6) and severity low (M=3.11, rank=10-). Participants reported experiencing 'pre-event concerns' very frequently (mean=5.19, rank=3). Therefore, similar to 'on court concerns', 'pre-event concerns' appear to be 'regular challenges'.

### *Coaching Barriers and Constraints*

'Coaching constraints and barriers' were perceived to be extremely threatening sources of stress (M=5.36, rank=1). Furthermore they were quite challenging (M=4.00, rank=10) and harmful (M=3.93, rank=3). Interestingly, control was rated low (M=3.36, rank=10), and severity was high (mean 4.64, rank=2). Frequency was also rated quite highly

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( $M=4.64$ , rank=8). Therefore, 'coaching barriers and constraints' appear to be a very acute regularly occurring source of stress that are out of control and that threaten coaches.

#### *Lifestyle Concerns*

'Lifestyle concerns' were rated as the lowest in terms of challenge ( $M=3.38$ , rank=12), fairly low in terms of threat ( $M=3.56$ , rank=5) and quite low in terms of harm/loss (mean=3.44, rank=6). Furthermore, these concerns were also rated average in terms of control ( $M=4.50$ , rank=6-) and were experienced relatively infrequently ( $M=4.13$ , rank=10). Therefore, 'lifestyle concerns' appear to create relatively low levels of stress from time to time. They appear to be chronic in nature.

#### *Organisational Concerns*

'Organisational concerns' were rated fairly highly in terms of challenge ( $M=4.76$ , rank=7) and frequency ( $M=4.87$ , rank=6). However, this stressor was perceived to be average in terms of most of the other characteristics. For example, threat ( $M=2.87$ , rank=8), harm/loss ( $M=2.47$ , rank=11), control ( $M=2.74$ , rank=12), and severity ( $M=3.11$ , rank=10-). Therefore, 'organisational concerns' appear to create 'frequent challenges' for high performance squash coaches.

#### *Mentoring Responsibilities*

Like 'organisational concerns', 'mentoring responsibilities' shared similar characteristics. 'Mentoring responsibilities' were highly challenging sources of stress (mean=5.68, rank=2), and were frequently occurring ( $M=4.84$ , rank=7). Additionally, this dimension was rated quite highly in terms of control ( $M=4.88$ , rank=7). All other ratings were average; threat ( $M=3.08$ , rank=7), harm/loss ( $M=3.48$ , rank=5), and severity ( $M=3.28$ , rank, 9). Therefore, 'mentoring responsibilities' appear to create frequent challenges.

#### *Team Management*

'Team management' was perceived to be highly stressful in terms of all the ratings. For example, this stressor was ranked as the most challenging ( $M=6.29$ , rank=1), the second most threatening ( $M=5.14$ , rank=2), the second most harmful ( $M=4.00$ , rank=2), the most

severe ( $M=5.14$ , rank=1) and the second most frequently experienced ( $M=5.14$ , rank=4). Additionally, control had a medium rating, ( $M=4.71$ , rank=8). Therefore, this source of stress appears to be very acute.

#### *Post Match Concerns*

'Post match concerns' were rated quite high in challenge ( $M=5.44$ , rank=5), high in controllability ( $M=5.94$ , rank=2), and high in frequency ( $M=5.38$ , rank=2). All other measures were low scores, threat ( $M=2.75$ , rank=10), harm/loss ( $M=2.69$ , rank=9), and severity ( $M=3.38$ , rank=8). Therefore, 'post match concerns' also appear to present frequent challenges to high performance coaches.

#### *Self Confidence*

'Self confidence' was perceived to be highly challenging, (mean=5.14, rank=6), but lower in threat ( $M=3.14$ , rank=6) and harm/loss ( $M=2.29$ , rank=12). Control ranks were high (mean=5.71, rank=3), yet severity ( $M=2.43$ , rank=12) and frequency ranks ( $M=3.57$ , rank=11) were also low. Therefore, 'self confidence' was perceived to be an infrequent highly controllable challenge.

## **5.5 Relationships Between The Stress Source Characteristics**

Careful analysis of table 5.2 resulted in a number of general trends being identified in the stress source characteristic data. These trends result from descriptive statistical analyses, and are outlined and discussed below:

#### *The most mentioned sources of stress appear to be the 'regular challenges of performance coaching'*

The most mentioned sources of stress in terms of number of raw data themes in each general dimension were 'organisational concerns' (rank=1), 'on court concerns' (rank=2), 'pre-event concerns' (rank=3) and 'mentoring responsibilities' (rank=4). The stress appraisals for each of these sources of stress were relatively high in terms of challenge scores ( $M=4.76$ ,  $M=5.68$ ,  $M=5.62$ ,  $M=5.56$ ) and mid to low in terms of threat scores ( $M=2.87$ ,  $M=3.08$ ,  $M=2.47$ ,  $M=2.81$ ) and harm/loss scores ( $M=2.47$ ,  $M=3.48$ ,  $M=2.91$ ,  $M=2.70$ ). Furthermore, with the exception of 'organisational concerns', they were

perceived to be high in terms of control ( $M=2.74$ ,  $M=5.47$ ,  $M=5.04$ ,  $M=4.88$ ), and they were all perceived to be quite severe ( $M=3.11$ ,  $M=3.71$ ,  $M=3.11$ ,  $M=3.28$ ). In addition to being the most mentioned, they were experienced highly frequently ( $M=4.87$ ,  $M=4.88$ ,  $M=5.19$ ,  $M=4.84$ ). Therefore, these sources of stress appear to be the 'regular challenges' of high performance coaching.

*The least mentioned sources of stress appear to be either 'acute' or 'chronic' in nature*

The least mentioned sources of stress in terms of the numbers of raw data themes in each general dimension were 'medical concerns' (rank=1), 'team management' (rank=2-), and 'self confidence' (rank=2-). Although only a few participants mentioned 'team management', it was perceived to be the most challenging source of stress ( $M=6.29$ , rank=1), highly threatening ( $M=5.14$ , rank=2), very harmful ( $M=4.00$ , rank=2), exceptionally severe ( $M=5.14$ , rank=1) and it was experienced fairly frequently by those few coaches ( $M=5.14$ , rank=4). The reason that it was only mentioned by 5 participants was probably due to the fact that it is a relevant issue only to the 7 national coaches in the sample, 5 of whom mentioned it. These source of stress characteristics demonstrate that 'team management' is an 'acute' stressor.

The other least mentioned sources of stress, 'self confidence' and 'medical concerns' were rated fairly high in terms of challenge ( $M=5.14$ ,  $M=3.50$ ) but fairly low in terms of threat ( $M=3.14$ ,  $M=2.00$ ), harm/loss ( $M=2.29$ ,  $M=2.50$ ), and severity ( $M=2.43$ ,  $M=3.50$ ). However, both sources of stress were perceived to be high in control ( $M=5.71$ ,  $M=6.00$ ) and experienced fairly regularly, ( $M=3.57$ ,  $M=3.25$ ). Therefore, 'medical concerns' and 'self confidence' appear to be low threat, low severity, nagging stressors that can be challenging and occur on a daily/weekly basis. These sources of stress appear to be 'chronic' in nature.

*Most source of stress were perceived to be more challenging than threatening*

Table 5.2 demonstrates that most sources of stress were perceived to be more challenging than threatening. For example, 'interpersonal relationships', 'medical concerns', 'on court concerns', 'pre event concerns', 'organisational concerns', 'mentoring

responsibilities', 'team management', 'post match concerns', and 'self confidence' were all perceived to be more challenging than threatening.

*Certain sources of stress were perceived to be more threatening than challenging*

Only 'lifestyle concerns', 'coaching constraints and barriers', and 'political and interpersonal pressures' were more threatening than challenging.

*A number of sources of stress showed little disparity between appraisals of challenge, threat and harm/loss*

A number of stressors showed little disparity between appraisals of challenge, threat and harm/loss. For example, 'lifestyle concerns' were rated averagely on all 3 dimensions, challenge (M=3.38), threat (M=3.56) and harm/loss (M=3.44). 'Team management' was rated consistently highly on all three dimensions (M=6.29, M=5.14, M=4.00). 'Medical concerns' were perceived to be low in terms of challenge (M=3.50), threat (M=2.00) and harm/loss (M=2.50). Finally, 'interpersonal relationships' were rated similarly in terms of challenge (M=4.42), threat (M=4.05) and harm/loss (M=3.53).

*The top 3 challenging sources of stress*

Table 5.2 demonstrates that the most challenging sources of stress were 'team management' (M=6.29, rank=1), 'mentoring responsibilities' (M=5.68, rank=2) and 'on court concerns' (M=5.62, rank=3). Interestingly, all these sources of stress emerge as a result of dealing with emotion.

*The top 3 threatening sources of stress*

Table 5.2 illustrates that the most threatening sources of stress were 'coaching constraints and barriers' (Mean=5.36, rank=1), 'team management' (M=5.14, rank=2), and 'political and interpersonal pressures' (M=4.31, rank=3). Interestingly, these are also perceived to be fairly low in control (M= 3.36, M=4.71, M=2.75).

*The top 3 harmful sources of stress*

Strikingly, the top 3 ratings of harm/loss are exactly the same as the top 3 ratings for threat, 'political and interpersonal pressures' (M=4.25, rank=1), 'team management'

( $M=4.00$ , rank=2), and 'coaching constraints and barriers' ( $M=3.93$ , rank=3). Therefore, this indicates the possibility that either a positive relationship exists between appraisal of threat and harm/loss, or participants are not able to distinguish between the two constructs, regarding both of them as the same thing i.e., 'negative stress'. Future research is required to investigate this further.

*The sources of stress perceived to be most severe were also perceived to be lower in control*

Table 5.2 demonstrates that 'team management' and 'coaching barriers and constraints' were the most severe ( $M=5.14$ ,  $M=4.64$ ) sources of stress, and these were perceived to be quite low in control ( $M=4.71$  rank=8;  $M=3.36$  rank=10).

*The sources of stress perceived to have the most control tended to have low severity ratings*

Table 5.2 illustrates that 'self confidence', 'medical concerns' and 'post match concerns' were rated high in controllability, yet tended to have a lower severity rating. For example, 'self confidence' has a fairly high control rating ( $M=5.71$ , rank=3) and a very low severity rating ( $M=2.43$ , rank=12). 'Post match concerns' also had a high control rating ( $M=5.94$ , rank=2) and a fairly low severity rating ( $M=3.38$ , rank=8). Finally, 'medical concerns' were rated very high on control ( $M=6.00$ , rank=1), yet quite low on severity ratings ( $M=3.5$ , rank=6-). These findings suggest that a negative relationship may exist between appraisal of severity and control. Future research is required to explore this further.

## 5.6 Summary and Discussion

The purpose of this chapter was to identify the sources of stress experienced by high performance squash coaches. This was achieved through the use of retrospective interview techniques and inductive content analysis procedures. This study made a number of theoretical and methodological contributions. Firstly, it investigated stress experienced by high performance coaches. Previous studies investigated stress experienced by elite athletes and officials (detailed in chapter 3). Secondly, based on Campbell's (1997) template, the research design incorporated both qualitative and quantitative methods (detailed in chapter 4). Previous studies have either been qualitative

or quantitative in nature. In combining approaches, this study provides a fuller picture of sources of stress and their characteristics. Finally, this is the first study to investigate sources of stress in the sport of squash. The following discussion is structured in three sections; sources of stress experienced by high performance squash coaches; stress source characteristics; summary and implications for practitioners and future research.

### *Sources of stress of high performance squash coaches*

The sources of stress experienced by high performance squash coaches can be classified in a number of ways. Firstly, they are both 'competition' and 'non competition' in nature, secondly they are manifest in the 'person' and the 'environment', and finally some appear to be specific to high performance coaches, and others appear to be general sources of stress experienced by most elite sports participants (athletes, officials and coaches).

#### *High performance squash coaches experience both competition and non-competition sources of stress*

The classification 'competition' and 'non-competition' can be used to describe the nature of the sources of stress identified in this study. Specifically, the inductive content analyses revealed the following sources of stress that were directly related to competition; 'on court concerns', 'pre-event concerns', 'competition related organisational concerns', 'team management', and 'post match concerns'. Other 'non-competition' sources of stress were also identified including; 'interpersonal relationships', 'political and interpersonal pressures', 'medical concerns', 'coaching constraints and barriers', 'lifestyle concerns/issues', 'mentoring responsibilities', 'daily organisational concerns' and 'self confidence'. These findings are similar to the findings of other studies of elite athletes identified in the systematic review chapter 3, illustrated in table 3.9. Therefore, it appears that high performance coaches as well as elite athletes experience both 'competition' and 'non-competition' sources of stress.

The 'competition' sources of stress identified in this study demonstrate the dynamic nature of the competition process. Specifically, the 'competition' stressors identified can be categorised into three distinct time periods, 'pre-event', 'on-court' and 'post match'.

These findings support the importance of examining stress as a process that unfolds over time (Lazarus, 1990, 1993).

'Pre-event concerns' included 'pre-event' psychological concerns' and 'pre-event preparation' of the coach. The 'pre-event psychological concerns' reported by coaches appear to be similar to those reported in earlier studies of athletes. For example, coaches in this study reported experiencing 'pressure to get results' and 'general pre-event anxiety', elite skaters in Gould et al's (1993a) study reported 'expectations and pressure to perform', and competitive athletes in James and Collin's (1997) study reported 'competitive anxiety and doubt'. Furthermore, concerns about 'pre-event preparation' also appear to be similar in coaches as in athletes. For example, this study reported 'preparing a player mentally' and 'physical preparation' and similarly competitive athletes in James and Collin's (1997) study reported 'perceived readiness issues'.

'On court concerns' in this study included 'between games encounters' 'players under-performing', 'refereeing decisions' and 'general/specific performance concerns'. 'Between games encounters' were specific squash coaching stressors. They included 'mentoring a player during a match', 'advice between games' and 'dealing with a player's emotions between games'. However, it appears that performance concerns such as 'players under-performing' are not specific to squash coaching because athletes in earlier studies reported similar worries. For example, 'not performing to required standard' was reported by athletes in James and Collin's (1997) study.

'Post match concerns' identified in this study included 'emotional concerns' and 'analytical concerns'. Specifically, 'emotional concerns' included 'mentoring a player between matches' and 'dealing with a player when they've lost'. 'Analytical concerns' included 'post match analysis'. All these 'post match' stressors appear to be specific to the high performance squash coach, since there is no evidence of similar concerns reported in previous studies of athletes or officials.

It appears that the 'non-competition' sources of stress reported in this study are all associated with the 'management' requirements of the role of the high performance coach. For example, the sources of stress 'interpersonal relationships' and 'political and interpersonal pressures' are essentially about managing relationships and managing off-court situations. Furthermore, the essence of 'mentoring responsibilities' is the management of interactions. It appears that 'medical concerns' are about managing a player's illness or injury and recovery programme, whereas 'coaching constraints and barriers' are essentially about managing resources such as time and money. Finally, 'lifestyle concerns' appear to be about lifestyle management, 'daily organisational concerns' are about managing the day and 'self confidence' is about the coach managing negative thoughts and self doubts. Therefore, this observation is potentially useful for intervention within the sport. If 'non-competition' sources of stress result from the management requirements of the role of the high performance squash coach, this has implications for the agenda of professional squash coaching awards. Currently, management training is not included in the SRA's professional coaching award. Perhaps this is an area in which to focus resource in order to better prepare high performance coaches to cope with 'non-competition' stressors.

*Sources of stress experienced by high performance coaches are manifest in both the 'person' and the 'environment'*

The systematic review revealed that sources of stress identified in previous studies could be categorised by origin into 'person' and 'environment/situation' stressors. As expected, it was possible to adopt this classification to understand the results of this study (see section 5.3 for more detail). To summarise, a number of 'person' stressors were identified such as 'pre-event psychological concerns' and 'self-confidence'. Other 'person' stressors were 'psychological-behavioural' in nature such as 'organisational concerns'. Interestingly, many of the stressors identified in this study originated in the 'environment/situation'. A significant number of the source of stress dimensions were categorised as 'environment/situation-social' stressors. Specifically these were stressors originating in social environments and social situations and included 'political and interpersonal pressure' and 'on-court concerns'. The remaining sources of stress



identified were 'environment/situation-economic' including 'coaching constraints and barriers', and 'environment/situation-lifestyle' including 'lifestyle concerns'. However, there were some sources of stress identified in this study that failed to fit into this classification system which was developed in chapter 3. Therefore, it was necessary to develop a further category 'person-psychological-social'. This category was required to describe those stressors originating in social interactions. Examples included 'interpersonal relationships', 'mentoring responsibilities' and 'post match concerns'. Therefore, it appears that high performance coaches experience a significant amount of stress in social environments, social interactions and social situations.

*Some stressors appear to be specific to high performance coaches*

The findings from this study also indicate that certain sources of stress are specific to high performance coaches. For example, 'team management', 'political and interpersonal pressures', 'coaching constraints and barriers', 'mentoring responsibilities' and 'post match concerns' are all sources of stress specific to the high performance coach.

*Some sources of stress appear to be general sources of stress experienced by most elite sports participants (athletes, officials and coaches)*

In comparing the findings from this study with the findings from previous studies identified in the systematic review (chapter 3), a number of general sources of stress were identified. For example, 'on court concerns' were identified by coaches in this study, by officials in various studies (Anshel & Weinberg, 1995; Kaissidis-Rodafinos, Anshel & Sideridis, 1998; Rainey, 1995a; Stewart & Ellery, 1998) and by golfers in Cohn's (1990) study. However, although these different elite sport participants all experience 'on court concerns', the nature of the concern is specific to the type of sport and the type of participant. For example, officials report 'making a wrong call' whereas athletes report 'competitive' stressors and coaches in this study report 'a player under-performing' as stressful. Therefore, although they all generally experience 'on court concerns', the type of 'on court concern' is quite different. Additionally, 'interpersonal relationships' were experienced as sources of stress by all types of elite sport participant. For example, elite figure skaters in Scanlan, Stein and Ravizza's (1991) study reported 'negative significant other relationships', basketball officials in Kaissidis-Rodafinos and Sideridis' (1998)

study reported 'working with my partner' as a stressor and in this study coaches reported 'relationships with significant others' as stressful. Other sources of stress general to all types of elite sport participant were 'pre-event concerns', 'lifestyle concerns', and concerns with 'self-confidence'.

#### *Multiple Role Expectation*

Further analysis of the results of this study revealed that the high performance coach is expected to be 'manager' (to a team and to individual players), 'mentor' (to a player), 'accountant' (for both his/her player and him/her self), and 'scientist' (to analyse performance). Since all these different roles were reportedly stressful, it may be that a major source of stress for the high performance coach is the 'multiple role expectation'. Perhaps these multiple roles demand incompatible actions or behaviours, resulting in role conflict, or maybe coaches are unclear on the requirements of each of these roles, leading to role ambiguity. Future research in this area is necessary to further investigate these potential explanations.

#### *Stress source characteristics*

Another objective of this study was to investigate stress appraisals of the 18 high performance coaches. Specifically, the coaches were asked to rate each source of stress in terms of the degree to which they perceived it to be challenging, threatening, harmful, controllable, severe and the frequency with which it occurred. Evidence of the importance of studying stress source characteristics exists in both the sport and general psychology literature (Bjork & Cohen, 1993; Bouffard & Crocker, 1992; Hardy et al, 1996; McCrae, 1984). The rationale for obtaining information about the characteristics of sources of stress was discussed in chapter two.

Currently, conflicting theories exist about the nature of stress source characteristics. A number of authors (Bjork & Cohen, 1993; Folkman & Lazarus, 1985; McCrae, 1984) have suggested that due to the dynamic nature of stress, it is very difficult to label stressors as being purely challenging, threatening or causing harm/loss. However, a number of studies in sports psychology (Bouffard & Crocker, 1992; Crocker & Bouffard,

1990) have categorised stressors in terms of their characteristics (challenge, threat, harm/loss) and investigated links between stress appraisals and particular types of coping. In doing so, they argued that it is possible to view particular stressors as purely challenging or threatening. Therefore, they failed to acknowledge the dynamic nature of stress and the consequent diverse appraisal patterns.

The findings from this study partially support both of the above assertions. By combining the use of qualitative and quantitative methods, this study provided data on individual appraisals and group appraisals. The individual data demonstrated the diverse appraisal patterns of each of the 18 high performance coaches. Specifically, a mixture of appraisals (challenge, threat, harm/loss) was reported for each stress source dimension. In contrast, the group data showed that over-all, certain stressors tended to be appraised as higher in challenge and others higher in threat and/or harm/loss. However, there was no evidence to support the assertion that particular stressors were *purely* challenging/threatening/harmful. Therefore, the combination of methods provided unique insights into the nature of stress appraisals.

Furthermore, in addition to measuring appraisals of challenge, threat and harm/loss, this study also investigated appraisals of control, severity and frequency. Therefore, it was possible to gain a fuller picture of the diversity of individual appraisals and the general trends emerging from the sample as a whole.

It may be beneficial for future research to consider investigating the appraisal patterns of sources of stress using a combination of methods and further developing the research design adopted in this study.

In summary, a number of group trends were identified in the source of stress characteristics data (see section 5.5). Generally, sources of stress were appraised as more challenging than threatening, only 3 sources of stress were more threatening than challenging. However, there was little disparity between a number of the sources of stress in terms of appraisals of challenge, threat and harm/loss. Previous research has

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demonstrated that a positive relationship may exist between controllability and challenge appraisals (Lazarus & Folkman, 1984; McCrae, 1984). However, this was not found in the results of this study. Instead, the results from this study indicated that a negative relationship between ratings of severity and control may exist. Future research is required to further investigate this finding. One interesting finding of this study was that the top three most challenging stressors, 'team management', 'mentoring responsibilities' and 'on court concerns' were all centred around dealing with players' emotions. This may have implications for coach education programmes. Perhaps it would be helpful to incorporate counselling skills into professional coaching qualifications. Another interesting finding was that the three most threatening stressors were also identified as the top three harm/loss stressors. Therefore this indicates the possibility that either a positive relationship exists between appraisal of threat and harm/loss, or participants are not able to distinguish between the two constructs, regarding both of them as the same thing i.e., 'negative stress'. Future research is required to investigate this further.

### *Summary*

In conclusion, it appears that high performance squash coaches experience a diverse range of sources of stress. This study has provided valuable insights into the nature and characteristics of those sources of stress, making a number of theoretical contributions. Firstly, sources of stress specific to high performance squash coaches were identified. Secondly, Campbell's (1997) 'competition'/ 'non competition' categorisation which was developed to understand the nature of the stressors identified, proved useful when applied to the sources of stress identified by squash coaches in this study. Thirdly, the classification of the aetiology of stressors (developed in chapter three) was further developed using the results of this study. Specifically, a number of the sub-categories to 'person' and 'environment/situation' were refined. Therefore the findings from this study further supported the usefulness of this classification system. Fourthly, Campbell's (1997) template for measuring stress source characteristics data was used and findings confirmed the usefulness of measuring the 6 dimensions of stress (challenge/threat/harm-loss/control/severity/frequency). Further, they confirmed Campbell's (1997) finding that

each source of stress generates a range of appraisals such that a stressor may be appraised as high in more than one dimension. Finally, a number of interesting trends emerged from the source of stress characteristics data. Sources of stress rated as high in severity tended to be rated lower in control and vice versa, suggesting that a negative relationship may exist between these two variables. Further, the top three most threatening stressors were identical to the top three harm-loss stressors, indicating that a positive relationship between these variables may exist. Due to the relatively small sample in this study, these findings must be viewed as tentative and used to highlight areas of interest on which to build future research of a quantitative and large-scale nature.

These findings are of applied value to sports psychologists and high performance squash coaches in a number of ways. Firstly, the findings can be disseminated to coaches through workshops in order to increase the coaches' awareness of potential stressors. Previous researchers have advocated that self-awareness of stress sources is a vital first step in effectively being able to deal with them (Folkman, 1992; Hardy et al, 1996). Secondly, since this study is the first in the area to investigate stress in high performance coaching, the findings are informative to sports psychologists who can assist coaches to deal more effectively with them. Thirdly, the findings suggest that within high performance coach education programmes, it is important to include management skills and counselling skills modules. The development of such skills may serve to reduce 'negative' stress appraisals of many of the sources of stress experienced by high performance coaches. Therefore, this would be a preventative measure used as a stress management tool rather than a coping mechanism. Finally, this study provides an excellent methodology for sport psychologists working with coaches to investigate both the sources of stress experienced by the coach and the way in which the coach appraises the stressor. Such information is required by sport psychologists in order to provide effective intervention strategies such as changing the stress appraisals of the coach. For example, if a coach perceived 'on-court concerns' to be highly threatening yet not very challenging, a sport psychologist may administer a cognitive re-structuring programme in order to encourage the coach to appraise the concerns in a positive manner. This would only be possible if the sport psychologist had the detailed information about the nature

and characteristics of the sources of stress. Therefore, this research design combining qualitative and quantitative methodologies is ideal for the purposes of research and intervention.

The various ways in which high performance squash coaches cope with sources of stress is reported in the next chapter.

# CHAPTER SIX

## PHASE ONE RESULTS (II)

### COPING STRATEGIES OF HIGH PERFORMANCE SQUASH COACHES DURING COACHING ACTIVITIES

#### 6.1 Structure of the chapter

The purpose of this chapter is to outline and discuss the results identifying the coping strategies used by high performance squash coaches. This chapter is structured into five parts. The objective of part two, the introduction, is to outline a number of general expectations based on the findings of previous studies of coping in sport (outlined in chapter 3). Part three details the results of the inductive content analyses. Specifically, it illustrates 13 general dimensions emerging from 415 raw data themes, and it explains the meaning of each of the dimensions by providing a number of quotes from the interview transcripts. The objective of part four is to examine relationships between coping strategies and stress source dimensions reported in chapter five. Part five offers a summary and discussion.

#### 6.2 Introduction

The general 'coping' literature is reviewed in chapter two and 'coping in sport' is systematically reviewed in chapter three. The model of coping adopted in the present thesis is that advocated by Lazarus and Folkman (1984). It views coping from a transactional-process perspective, emphasising coping as a process rather than a simple reaction to a stressor. Specifically, Lazarus and Folkman (1984) define coping as,

*"...constantly changing cognitive and behavioural efforts to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984;p.141).*

This definition is based on a transactional model of stress and coping that emphasises the perception of a source of stress as threatening, challenging and/or harmful. The individual then has to decide how to cope with it. Coping encompasses a range of purposeful responses to a stressor, from appraisal of the situation to stress management via effortful response (Campbell, 1997;80). Lazarus and Folkman's (1984) definition of coping does not mention coping outcome. Therefore, coping includes all efforts regardless of effectiveness.

The systematic review of coping in sport documented a number of studies investigating the ways in which athletes cope with sources of stress (see tables 3.3 and 3.4). Findings from the qualitative studies (Gould, Finch & Jackson, 1993b; Gould, Eklund & Jackson, 1993c; Gould, Udry, Bridges & Beck, 1997c; Park, 2000; Udry, Gould, Bridges & Beck, 1997) demonstrated that athletes employed a variety of coping strategies depending upon the source of stress experienced. Therefore, these results support Lazarus and Folkman's transactional model. Although the studies identified in the systematic review have contributed to understanding the stress-coping process in sport, the literature is limited. All the studies to date have investigated the ways in which elite athletes cope with stress. Therefore, this study aims to extend previous research' by investigating the coping strategies of high performance squash coaches.

Previous researchers have suggested that coping behaviours can be categorised into coping categories/taxonomies (Carpenter, 1992; Cox & Ferguson, 1991). Cox and Ferguson (1991) believe that the existence of coping categories helps researchers and practitioners to gain a better understanding of coping behaviours. The systematic review (chapter 3) attempted to categorise the findings of all the coping studies in sport post 1984 into four categories that Hardy et al (1996) highlighted as being useful in the study of sport. These were problem-focused, emotion focused, appraisal/re-appraisal and avoidance (Billings & Moos, 1984; Cox & Ferguson, 1991; Endler & Parker, 1990; Lazarus & Folkman, 1984). The findings from all the previous studies fitted into these



categories, providing support for the usefulness of the category-based framework. Therefore, it is expected that the findings from this study will fit into these categories.

One of the main objectives of study one was to investigate the relationships between the coping strategies and stress source dimensions identified by high performance coaches. Previous research in both the general and sport psychology literature has highlighted the importance of studying stress and coping in combination (Gould et al, 1993a, 1993b; Lazarus & Folkman, 1984). However, only a few studies in sport have reported links between sources of stress athletes face and coping strategies implemented to alleviate these stressors (Gould et al, 1993a, 1993b, 1997a, 1997c). Gould and his respective colleagues reported that coping of wrestlers, figure skaters and skiers was not limited to a particular strategy or a single approach when dealing with a particular stressor. The results supported the notion that coping is a dynamic complex process involving a number of strategies often in combination. Gould et al (1993b) suggest that more research is required to better understand links between sources of stress and coping and the effectiveness of those strategies. Furthermore, Bar-Tal et al (1994) suggest that examining the frequency of coping strategies may also be useful. Consequently, this study aimed to extend previous research by examining the nature of links between sources of stress and coping strategies, and by investigating the perceived effectiveness and frequency with which coping strategies were implemented. Specifically, in order to investigate links between stress sources dimensions and coping strategies, a number of steps were undertaken. Firstly, coping strategies associated with each stress source dimension were identified and secondly, the generality and specificity of each coping strategy dimension was determined. It was expected that the results of this study would be similar to those reported by Gould et al. with wrestlers, skaters and skiers, that certain coping strategies would be unique to specific stressors and other coping strategies would be used across a range of stressors.

### **6.3 Inductive Content Analysis**

The 18 in depth interviews were analysed using inductive content analysis as outlined by Patton (1980) detailed in chapter 4. As a result of the analysis, 415 raw data themes were

identified. These raw data themes coalesced into 13 distinct general coping strategy dimensions used by high performance squash coaches. The 13 dimensions were abstracted from 41 second-order sub themes, and these from 104 first-order sub themes (see table 6.1). The 13 coping general dimensions were categorised into the framework problem-focused, emotion-focused, appraisal/re-appraisal, and avoidance. Some of the coping dimensions fitted into more than one of the coping categories (see table 6.2).

***Number and percentage of raw data themes falling into their respective general dimensions (table 6.1)***

Table 6.1 provides an overview of the content analysed findings in terms of the number and percentage of raw data themes falling into their respective source of stress categories. Specifically, the table details the number and percentage of raw data themes in each general dimension, the number of raw data themes in each of the first-order and second-order themes and the number of subjects reporting each particular stressor.

***General dimensions falling into major coping categories (table 6.2)***

Results demonstrated that high performance squash coaches use a diverse range of coping strategies. As expected, it appears that the coping dimensions identified in this study all fit into the category-based framework provided by previous authors, problem-focused, emotion-focused, appraisal/re-appraisal and avoidance. Table 6.2 demonstrates that over half (63.84%) of the coping strategies identified by high performance squash coaches were problem-focused in nature, and about a third (30.12%) were emotion-focused. Appraisal re-appraisal comprised 24.88% of total coping strategies and avoidance comprised a smaller proportion (17.16%). Some strategies featured in more than one category.

***Ideographic Profiles for Coping***

The profiles of the 13 dimensions are illustrated below. As a result of the inductive content analyses (Patton, 1980, 1990), 13 general dimensions of coping by high performance squash coaches emerged. The ideographic profiles for each general dimension are inserted below and each of the dimensions is explained.

**Table 6.1: Number and Percentage of Raw Data Themes Falling Into Their  
Respective Coping Categories**

General Dimension/ 2 <sup>nd</sup> Order Sub Theme/ 1 <sup>st</sup> Order Sub Theme.	Raw Data Themes No. (%)	No. Subjects
<b>Rationalisation and Action</b>	<b><u>29 (7.00%)</u></b>	<b>15</b>
React and regroup constructively	9	
(a) Get players back on court ASAP	(2)	
(b) Forget the past, look forward to the future	(4)	
(c) Face defeat it's inevitable	(2)	
(d) Lower expectations of the situation	(1)	
Rationalise thoughts	20	
(a) Put it in perspective	(6)	
(b) Accept it	(4)	
(c) Don't take it personally	(3)	
(d) Try to learn	(1)	
(e) Critically reflect	(4)	
(f) Resign yourself to it	(2)	
<b>Communication</b>	<b><u>76 (18.36%)</u></b>	<b>17</b>
Communication strategies for mentoring players	44	
(a) Discussions with players	(15)	
(b) Gain performance feedback from players during events	(7)	
(c) Between games communication routines	(22)	
Justify your actions	15	
(a) Employ strategies for dealing with family	(1)	
(b) Employ strategies for dealing with parents	(8)	
(c) Provide explanation	(6)	
Non-verbal communication	3	
Conveying ideas	14	
(a) Influence others	(8)	
(b) Communication with other authorities within squash	(6)	
<b>Person Management</b>	<b><u>26 (6.28%)</u></b>	<b>10</b>
Empathy and adaptability	10	
(a) Be diplomatic	(8)	
(b) Be flexible – able to adapt to situation	(2)	
Develop trust	13	
(a) Behave with integrity	(8)	
(b) Coach/parent relationships	(5)	
Person management	3	
(a) Good person management	(3)	

<b>Vent Thoughts and Emotions</b>	<b><u>9 (2.17%)</u></b>	<b>5</b>
Vent positive emotion	2	
(a) Laugh and joke to relieve stress	(1)	
(b) Smile to release stress	(1)	
Verbalise thoughts and emotions	4	
(a) Talk about it	(4)	
Vent negative emotion	3	
(a) Moan to other coaches	(3)	
<b>Lifestyle Management</b>	<b><u>13 (3.14%)</u></b>	<b>5</b>
Lifestyle strategies	2	
(a) Change of lifestyle	(1)	
(b) Regularly exercise	(1)	
Get away	11	
(a) Get away from the squash environment	(8)	
(b) Have a day off	(3)	
<b>Escapism</b>	<b><u>11 (2.66%)</u></b>	<b>7</b>
Avoidance	7	
(a) Pretend	(2)	
(b) Avoidance of people and situations	(5)	
Diversions	4	
(a) Take headache pills	(1)	
(b) Have an alcoholic drink	(3)	
<b>Provide Support</b>	<b><u>46 (11.11%)</u></b>	<b>16</b>
Problem solving	11	
(a) Problem solving	(6)	
(b) Use initiative	(5)	
Providing emotional support	23	
(a) Encourage players	(4)	
(b) Give the player morale support	(8)	
(c) Empathise with players	(6)	
(d) Build trust with players	(3)	
(e) Rapport building with players	(2)	
Reacting to player needs	12	
(a) React to player needs	(4)	
(b) Be patient with players	(2)	
(c) Be constructive	(2)	
(d) Be helpful	(4)	

<b>Organise Effectively</b>	<b><u>21 (5.07%)</u></b>	<b>10</b>
General organisation	5	
(a) <i>Develop organisation skills</i>	(1)	
(b) <i>Keep organised</i>	(4)	
Strategies for good organisation	9	
(a) <i>Double check</i>	(2)	
(b) <i>Prioritise</i>	(5)	
(c) <i>Do it earlier rather than later</i>	(2)	
Pre-event organisation	7	
(a) <i>Contact appropriate people</i>	(3)	
(b) <i>Make appropriate arrangements</i>	(4)	
<b>Planning and preparation</b>	<b><u>56 (13.53%)</u></b>	<b>15</b>
Pre-competition preparation	13	
(a) <i>Taper for an event</i>	(7)	
(b) <i>Planning the players preparation and mental outlook</i>	(6)	
Pre-competition mentoring	4	
(a) <i>Watch players whenever possible</i>	(2)	
(b) <i>Monitor players progress</i>	(2)	
Pre-competition planning	15	
(a) <i>Anticipate problems and prepare coping strategies</i>	(3)	
(b) <i>Have contingency plans prepared</i>	(5)	
(c) <i>Plan and prepare for all potential outcomes</i>	(3)	
(d) <i>Design a plan of attack</i>	(4)	
Develop planning skills	7	
(a) <i>Good financial planning</i>	(3)	
(b) <i>Develop planning skills</i>	(4)	
General planning	10	
(a) <i>Plan ahead</i>	(8)	
(b) <i>Be well planned</i>	(2)	
Long term planning and preparation	7	
(a) <i>Planning programmes and tournament schedules for players</i>	(7)	
<b>Draw on an excellent mentality</b>	<b><u>24 (5.80%)</u></b>	<b>12</b>
Strive for excellence	4	
(a) <i>Strive for excellence</i>	(1)	
(b) <i>Learn from a role model</i>	(3)	
Improvement	20	
(a) <i>Encourage match analytical/reflection skills</i>	(5)	
(b) <i>Aim to improve</i>	(1)	
(c) <i>Pay attention to details</i>	(2)	
(d) <i>Work hard/persevere</i>	(5)	
(e) <i>Face weaknesses and overcome them</i>	(2)	
(f) <i>Set goals</i>	(5)	

<b>Anxiety Management</b>	<b><u>44 (10.6%)</u></b>	<b>16</b>
Positive self belief	2	
(a) <i>Don't lose faith in yourself</i>	(2)	
Take a positive perspective	15	
(a) <i>Be confident</i>	(1)	
(b) <i>Focus on the positive</i>	(12)	
(c) <i>Find strength in my players</i>	(2)	
Positive self talk	8	
(a) <i>Re-assure yourself</i>	(2)	
(b) <i>Remind myself of past successes</i>	(2)	
(c) <i>Self talk</i>	(4)	
Association strategies	10	
(a) <i>Focus on competency</i>	(1)	
(b) <i>Focus on the game</i>	(4)	
(c) <i>Fall back on experience</i>	(5)	
Relaxation strategies	9	
(a) <i>Keep calm</i>	4	
(b) <i>Deep breathing</i>	4	
(c) <i>Relaxation</i>	1	
<b>Mental Disengagement</b>	<b><u>30 (7.25%)</u></b>	<b>14</b>
Block out stress	9	
(a) <i>Block out emotions, be objective</i>	(4)	
(b) <i>Forget it</i>	(2)	
(c) <i>Block it out</i>	(3)	
Ignore the situation	9	
(a) <i>Ignore bad refereeing decisions</i>	(4)	
(b) <i>Go into autopilot</i>	(2)	
(c) <i>Ignore it</i>	(3)	
Dissociation strategies	12	
(a) <i>Bite nails</i>	(1)	
(b) <i>Listen to music</i>	(1)	
(c) <i>Eat and drink</i>	(3)	
(d) <i>Read</i>	(2)	
(e) <i>Sleep</i>	(3)	
(f) <i>Hide anxiety from player</i>	(2)	
<b>Acceptance and Perseverance</b>	<b><u>29 (7.00%)</u></b>	<b>12</b>
Do nothing	11	
(a) <i>Stew on it</i>	(1)	
(b) <i>No coping</i>	(10)	
Just hope	3	
Carry on regardless	16	
(a) <i>Work through it</i>	(3)	
(b) <i>Do what has to be done</i>	(4)	
(c) <i>Get on with it</i>	(8)	

Table 6.2: General Dimensions Falling into Major Coping Categories

Coping Category	General Dimension	% of Total Raw Data Themes
<b>Problem - focused</b>	Communication	18.31%
	Planning and Preparation	13.49%
	*Rationalisation and Action	6.99%
	Lifestyle Management	3.13%
	*Provide Support	11.08%
	Organise Effectively	5.06%
	Draw on an Excellent Mentality	5.78%
	<b>Total</b>	<b><u>63.84%</u></b>
<b>Emotion – focused</b>	Person Management	6.27%
	Vent Thoughts and Emotions	2.17%
	*Provide Support	11.08%
	*Anxiety Management	10.60%
	<b>Total</b>	<b><u>30.12%</u></b>
<b>Appraisal/Re-appraisal</b>	*Rationalisation and Action	6.99%
	*Anxiety Management	10.60%
	*Acceptance and perseverance	7.23%
	<b>Total</b>	<b><u>24.82%</u></b>
<b>Avoidance</b>	Escapism	2.70%
	Mental Disengagement	7.23%
	*Acceptance and perseverance	7.23%
	<b>Total</b>	<b><u>17.16%</u></b>

\*General dimensions appearing in more than one coping category.

**Rationalisation and Action:**-This general dimension was comprised of 29 raw data themes, making up 6.99% of the total number of raw data themes for coping. Of the 18 participants, 15 of them implemented it as a coping strategy. 'Rationalisation and action' emerged from 2 second-order sub themes, 'react and re-group constructively' and 'rationalise thoughts'. 'React and re-group constructively' emerged from the first order themes 'get players back on court ASAP', 'forget the past, look forward to the future', 'face defeat it's inevitable', and 'lower expectations of the situation'. 'Rationalise thoughts' emerged from the first order themes 'put it in perspective', 'accept it', 'don't take it personally', 'try to learn', 'critically reflect', and 'resign yourself to it'. The following quotes highlight these strategies:

*'React and re-group constructively'*

*"You've got to remind yourself and the player that losses are inevitable"*

*"After a bad loss, I try to get my player back on court as soon as possible rather than letting them just sit and stew on it for too long. I find that it's better to get them hitting balls to get it out of their system, and then when the emotion has dispersed, we can address the problem areas."*

*"Instead of letting myself get depressed about the uselessness of regional squads, it's better just to lower my expectation of what my players will gain from the squads, then it's less disappointing"*

*'Rationalise thoughts'*

*"Accept it, say to yourself 'that's life', 'that's the way it goes'".*

*"Put it in perspective, win, lose or draw, it's only a game of squash"*

*"Just resign yourself to the fact that there's nothing you can do about it"*



## Rationalisation and Action

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Get them back on court ASAP</i></li> <li>◆ <i>Get the player straight back on court</i></li> </ul>	Get players back on court ASAP	React and regroup constructively	<b>Rationalisation and Action</b>
<ul style="list-style-type: none"> <li>◆ <i>Put bad experiences behind</i></li> <li>◆ <i>Be honest, face what's in front of you</i></li> <li>◆ <i>Look forward to the next opportunity to compete</i></li> <li>◆ <i>Look forward almost immediately to next match</i></li> </ul>	Forget the past, look forward to the future		
<ul style="list-style-type: none"> <li>◆ <i>Know that losses are inevitable</i></li> <li>◆ <i>Give examples of top players having to face defeat</i></li> </ul>	Face defeat it's inevitable		
<ul style="list-style-type: none"> <li>◆ <i>Lower expectations of what players will gain from regional squads</i></li> </ul>	Lower expectations of the situation		
<ul style="list-style-type: none"> <li>◆ <i>Keep things in perspective</i></li> <li>◆ <i>Put it in perspective</i></li> <li>◆ <i>Put it in perspective</i></li> <li>◆ <i>Put it in perspective</i></li> <li>◆ <i>Put it in perspective</i></li> <li>◆ <i>Put it in perspective</i></li> </ul>	Put it in perspective	Rationalise thoughts	
<ul style="list-style-type: none"> <li>◆ <i>Accept it</i></li> <li>◆ <i>Accept their actual performances</i></li> <li>◆ <i>Accept what's thrown at you</i></li> <li>◆ <i>Accept it</i></li> </ul>	Accept it		
<ul style="list-style-type: none"> <li>◆ <i>Take it with a pinch of salt</i></li> <li>◆ <i>Don't take it personally</i></li> <li>◆ <i>Put on an armour coating in case they are abusive, don't take it personally</i></li> </ul>	Don't take it personally		
<ul style="list-style-type: none"> <li>◆ <i>Try to learn</i></li> </ul>	Try to learn		
<ul style="list-style-type: none"> <li>◆ <i>Critically reflect on events</i></li> <li>◆ <i>Pinpoint mistakes</i></li> <li>◆ <i>Reflect on what I've said and done</i></li> <li>◆ <i>Reflect on what I've said</i></li> </ul>	Critically reflect		
<ul style="list-style-type: none"> <li>◆ <i>Resign myself to the poor nature of squash</i></li> <li>◆ <i>Resign yourself to it</i></li> </ul>	Resign yourself to it		

*"Health is the number one to me...I put it in absolute perspective, if it's going to give me a heart attack or a mental breakdown, there's no point in it."*

*"I tend to critically reflect on events to try to pinpoint where we went wrong, whether it was my fault or outside influences."*

**Communication:**-This was the largest general dimension in terms of the number of raw data themes, 76, which comprised 18.31% of the total amount of coping raw data themes. Of the 18 participants, 17 mentioned communication as a coping strategy they used. There were 4 second-order sub themes and 8 first-order sub themes. The second-order sub themes were 'communication strategies for mentoring players', 'justify your actions', 'non-verbal communication' and 'conveying ideas'. 'Communication strategies for players' emerged from the first orders themes 'discussions with players', 'gaining performance feedback from players during events', and 'between games communication routines'. 'Justify your actions' emerged from the first orders themes 'employ strategies for dealing with family', 'employ strategies for dealing with parents', and 'provide explanation'. 'Non-verbal communication' emerged from the raw data themes, and 'conveying ideas' emerged from the first orders themes 'influence others' and 'communication with other authorities within squash'. The second-order theme of 'communication strategies for mentoring players' was the largest second-order sub-theme and included 44 of the 76 raw data themes for communication. The following quotes indicate the various coping strategies included in this general dimension:

**'Conveying Ideas'**

*"You have to have continuous conversations with members, committee members, and potential members in order to get them to buy into the plan."*

*"You've just got to keep speaking to whomever's in charge, keep asking for explanations and justifications and eventually they've got to come up with something cos they can't keep ignoring you."*

*'Communication strategies for mentoring players'*

*"What may seem a casual conversation with a player after an hour and a half on court, I might actually have on the back of a bit of paper"*

*"Make mental notes, 4 or 5 important things that a player needs to know, decide how much information a player can cope with and delete down to the vital information...you have to prioritise the information for the player."*

*"Staying in contact with the player during the event is important...I get them to phone before and after matches and to give feedback cos if you don't, by the time they come home, they've forgotten how they felt and the detail of the match and you've got nothing to work with."*

*'Non-verbal communication'*

*"I'm quite a tactile person, I always hug players. When I'm coaching players I have a secret handshake for all the players I coach!"*


*"I just put my arms around their shoulders and console them"*

*'Justify your actions'*

*"Sometimes you just have to take the parents to one side and give them a brief run down of the work you have done with the child, and tell them that if they want to discuss the matter further, they'll have to give me a ring because they are now cutting into someone else's time on court with me."*

*"You just have to explain that you're not being critical for the sake of it, but that you are just doing it for what you believe are the right reasons."*

Communication

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Communication within the family</i></li> </ul>	Employ strategies for dealing with parents	Justify your actions	Communication
<ul style="list-style-type: none"> <li>◆ <i>Talk things through with parents</i></li> <li>◆ <i>Talk to parents</i></li> <li>◆ <i>Talk to the parents</i></li> <li>◆ <i>Talk to the parents</i></li> <li>◆ <i>Discuss it with the parents, say 'chill out'</i></li> <li>◆ <i>Tell them to give you a ring if they want to chat about it</i></li> <li>◆ <i>Don't go into depth in discussion</i></li> <li>◆ <i>Go out of my way to talk to the parents</i></li> </ul>			
<ul style="list-style-type: none"> <li>◆ <i>Justify my reasons for having certain views</i></li> <li>◆ <i>Explain that we are working together for their child</i></li> <li>◆ <i>Explain what the problem is and why</i></li> <li>◆ <i>Explain your reasons for what you are doing</i></li> <li>◆ <i>Explain that I'm not being critical for the sake of it, I'm doing it for what I believe are the right reasons</i></li> <li>◆ <i>Provide reasoning</i></li> </ul>	Provide Explanation		
<ul style="list-style-type: none"> <li>◆ <i>Give the player lots of hugs</i></li> <li>◆ <i>Give the player a big hug</i></li> <li>◆ <i>Put my arms around their shoulders and console them</i></li> </ul>		Non-verbal communication	
<ul style="list-style-type: none"> <li>◆ <i>Talk it through with players</i></li> <li>◆ <i>Talk it through with players</i></li> <li>◆ <i>Talk to them individually</i></li> <li>◆ <i>Talk to them (players) about it</i></li> <li>◆ <i>Talk it through with players</i></li> <li>◆ <i>Talk with the player</i></li> <li>◆ <i>Communicate with the player</i></li> <li>◆ <i>Phone the player up, chat about progress</i></li> <li>◆ <i>Talk to the player</i></li> <li>◆ <i>Having sessions of talking to them</i></li> <li>◆ <i>Talk to the player about it</i></li> <li>◆ <i>Sit down and discuss it with player</i></li> <li>◆ <i>Think of ways to lead conversations to talk about tournament, opposition, tactics</i></li> </ul>	Discussions with players		
<ul style="list-style-type: none"> <li>◆ <i>Contact the player before and after matches for feedback</i></li> <li>◆ <i>Get feedback from the player</i></li> <li>◆ <i>Gain player feedback</i></li> <li>◆ <i>Contact her while she's away</i></li> <li>◆ <i>Maintain player contact pre and post match for feedback</i></li> <li>◆ <i>Ask the players for feedback</i></li> <li>◆ <i>Communicate - discuss and evaluate performance</i></li> </ul>	Maintain contact with players during an event	Communication strategies for mentoring players	
<ul style="list-style-type: none"> <li>◆ <i>Tell players to forget decisions</i></li> <li>◆ <i>Tell them to shut up and listen</i></li> <li>◆ <i>Find the right language</i></li> <li>◆ <i>Stick to 2-3 important points</i></li> <li>◆ <i>Get the point across quickly</i></li> <li>◆ <i>Be clear/consice, don't ramble</i></li> <li>◆ <i>Stay quiet, say nothing</i></li> <li>◆ <i>Think before speaking</i></li> <li>◆ <i>Act non-threateningly</i></li> <li>◆ <i>Be there for them, don't overpower</i></li> <li>◆ <i>Take notes to help between games</i></li> <li>◆ <i>Stay objective</i></li> <li>◆ <i>Give positive advice</i></li> <li>◆ <i>Find out what the player needs between games</i></li> <li>◆ <i>Mentally note 4-5 important points</i></li> <li>◆ <i>Prioritise information, 1-2 important points</i></li> <li>◆ <i>Structure your advice</i></li> <li>◆ <i>Think of player's reaction</i></li> <li>◆ <i>Simplify advice and keep calm</i></li> <li>◆ <i>Let the player speak first</i></li> <li>◆ <i>Psyche yourself up before speaking</i></li> <li>◆ <i>Concentrate on tactics</i></li> </ul>	Between Games Communication		

## Communication (cont'd.)

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Get them to work harder</i></li> <li>◆ <i>Be forceful</i></li> <li>◆ <i>Make irritations known strongly</i></li> <li>◆ <i>Keep trying to influence teachers to give the boys some lee way</i></li> <li>◆ <i>Use people you get to know, try to influence their decisions, educate them about the game</i></li> <li>◆ <i>Try to cajole them, don't get annoyed</i></li> <li>◆ <i>Argue well at committee meetings</i></li> <li>◆ <i>Put your point of view in, try to convince others</i></li> </ul>	Influence others	Conveying ideas	Communication
<ul style="list-style-type: none"> <li>◆ <i>Speak to whomever is in charge</i></li> <li>◆ <i>Keep asking for explanations, justifications</i></li> <li>◆ <i>Talk to colleagues prior to the meeting</i></li> <li>◆ <i>Continuous conversations with members, committee members and potential members</i></li> <li>◆ <i>Contact the association, last option</i></li> <li>◆ <i>Get them to understand the needs (squash authorities)</i></li> </ul>	Communication with other authorities within squash		

**Person Management:-** This strategy was mentioned by 10 participants and was comprised of 26 raw data themes, attributing to 6.27% of the total amount of raw data themes for coping. There were 3 second-order sub-themes, and 5 first-order sub-themes. The second-order themes were 'empathy and adaptability', 'develop trust' and 'person management'. 'Empathy and adaptability' emerged from the first-order themes 'be diplomatic', and 'be flexible, able to adapt to situation'. 'Develop trust' emerged from the first order themes 'behave with integrity' and 'coach/parent relationships'. 'Person management' emerged from the first-order theme 'good person management'.

**'Empathy and adaptability'**

*"One way to deal with it is to socialise with the other coaches in the bar, that usually breaks the ice!"*

*"I've found that taking a softly-softly approach usually works"*

## Person Management

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Keep the majority of people happy</i></li> <li>◆ <i>Deal with it firmly but friendly</i></li> <li>◆ <i>Be diplomatic</i></li> <li>◆ <i>Socialise with other coaches in the bar to break the ice</i></li> <li>◆ <i>Try to be diplomatic</i></li> <li>◆ <i>Be diplomatic</i></li> <li>◆ <i>Take a 'softly-softly' approach</i></li> <li>◆ <i>Ask regional coaches to be more cooperative</i></li> </ul>	Be diplomatic	Empathy and adaptability	<b>Person Management</b>
<ul style="list-style-type: none"> <li>◆ <i>Be flexible</i></li> <li>◆ <i>Adapt to the situation</i></li> </ul>	Be flexible		
<ul style="list-style-type: none"> <li>◆ <i>Man management</i></li> <li>◆ <i>Man management</i></li> <li>◆ <i>Manage them well</i></li> </ul>	Good person management	Person management	
<ul style="list-style-type: none"> <li>◆ <i>Emphasizing technical and tactical skills and backing off the physical</i></li> <li>◆ <i>Be fair, if you make a decision, don't confide in others first</i></li> <li>◆ <i>Know you're selecting for the right reasons</i></li> <li>◆ <i>Be above board, make sure the things you do cannot be construed as underhand</i></li> <li>◆ <i>Make sure I can justify selection</i></li> </ul>	Behave with integrity	Developing trust	
<ul style="list-style-type: none"> <li>◆ <i>Build a relationship with parents over time</i></li> <li>◆ <i>Listen to what the parent is saying to you</i></li> <li>◆ <i>Be extra nice to them</i></li> <li>◆ <i>Produce a report for the parent outlining their child's progress</i></li> <li>◆ <i>Be nice to parents and people</i></li> </ul>	Coach-parent relationships		

**'Person management'**

*"Well it comes down to man management skills...you have to be able to deal with people."*

**'Developing trust'**

*"Take the parents aside and explain that there's enough pressure as it is and that if they continue to put even more pressure as they are doing, the child will want to pack in."*

*"I've found that a good thing to do is to produce a report for the parent outlining their child's progress. This seems to provide a good basis for dialogue between us and the relationship builds as a result."*

*"You must make sure that you are selecting for the right reasons."*

*"Be fair, if you make a decision, don't confide in others first."*

*"Be above board, make sure that the things you do cannot be construed as underhand"*

**Vent Thoughts and Emotions:**-This was mentioned by 5 of the 18 participants and was comprised of 9 raw data themes, attributing to 2.17% of the total raw data themes for coping. It included 3 second-order themes and 4 first-order themes. The second-order theme 'vent positive emotion' emerged from the first order themes 'laugh and joke to relieve stress' and 'smile to release stress'. 'Verbalise thoughts and emotions' emerged from the first-order theme 'talk about it', and 'vent negative emotion' emerged from the first-order theme 'moan to other coaches'. The following quotes illustrate the meaning of these themes:

**'Vent positive emotion'**

*"It's amazing how much a smile releases your stress!"*

*"I try to have a laugh and a joke with the player to put them at ease"*

**'Verbalise thoughts and emotions'**

*"I talk it through with Derek (husband) cos I know he'll give me an honest opinion and some good advice on what to do about it."*

*"I find that if I sit around and chat before my players go on, it takes my mind off it so I don't get so nervous."*

**'Vent negative emotion'**

*"I tend to speak to other coaches from my country about it, have a good moan, that usually makes me feel a bit better when I've got it off my chest!"*

**Vent Thoughts and Emotions**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>▪ <i>Laugh and joke with the player to put them at ease</i></li> </ul>	Laugh and joke to relieve stress	Vent positive emotion	<b>Vent Thoughts and Emotions</b>
<ul style="list-style-type: none"> <li>▪ <i>Smile to release stress</i></li> </ul>	Smile to release stress		
<ul style="list-style-type: none"> <li>▪ <i>Talk about it to anyone who will listen</i></li> <li>▪ <i>Talk compulsively about it</i></li> <li>▪ <i>Sit around and chat before watching matches to take your mind off it</i></li> <li>▪ <i>Talk it through with husband</i></li> </ul>	Talk about it	Verbalise thoughts and emotions	
<ul style="list-style-type: none"> <li>▪ <i>Talk about it with other coaches</i></li> <li>▪ <i>Speak to other coaches in my country about it, have a moan</i></li> <li>▪ <i>Talk with coaches</i></li> </ul>	Moan to other coaches	Vent negative emotion	



**Lifestyle Management:-** Of the 18 coaches, 5 used 'lifestyle management' as a coping strategy. This general dimension was comprised of 13 raw data themes, 3.13% of the total general dimensions for coping. There were 2 second-order sub-themes, 'lifestyle strategies' (which emerged from the first order themes 'change of lifestyle' and 'regularly exercise'), and 'get away' (the first orders being 'get away from the squash environment' and 'have a day off'). The following quotes highlight the meaning of these strategies:

**'Get away'**

*"I normally try to get away from the squash environment for 10 minutes, go outside for a walk or something so that I can think about how to approach the situation."*

*"Sometimes I even go to the coast for a few days with my girlfriend and 'chill out'"*

*"Yea...well sometimes it just gets to the point when I think 'sod it!' and I cancel my coaching for the day and go home!"*

**'Lifestyle strategies'**

*"You just have to make sure that you regularly exercise."*

**Lifestyle Management**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ Take my girlfriend with me</li> <li>◆ Get away from the squash environment for 10 minutes to think about how to approach the situation</li> <li>◆ Spend some time alone</li> <li>◆ Get some fresh air</li> <li>◆ Get away to think about it</li> <li>◆ Get away from the environment for a bit</li> <li>◆ Having time off away from squash</li> <li>◆ Go to the coast for a few days with my girlfriend and chill out</li> <li>◆ Get right away from squash on days off</li> </ul>	Get away from the squash environment	Get away	<b>Lifestyle Management</b>
<ul style="list-style-type: none"> <li>◆ Have a day off</li> <li>◆ Make time for rest</li> <li>◆ Cancel coaching</li> </ul>	Have a day off		
◆ Change of lifestyle	→	Lifestyle Strategies	
◆ Regularly exercise	→		

**Escapism:-** This was mentioned by 7 of the 18 participants. ‘Escapism’ was comprised of 11 raw data themes and constituted 2.70% of the total raw data themes for coping. There were 2 second-order sub-themes and 4 first-order themes. The second-order theme ‘avoidance’ emerged from the first-order themes ‘pretend’ and ‘avoidance of people and situations’. The second-order theme ‘diversions’ emerged from the first-order themes ‘take headache pills’, and ‘have an alcoholic drink’.

**‘Avoidance’**

*“...you have to just pretend another player needs you and chat to them.”*

*“I usually just make sure that I sit away from people I know.”*

*“I try to stay away from the media and not get interviewed!”*

**‘Diversions’**

*“Having a brandy usually does the trick!”*

*“To be honest, I usually retreat to my room with a bottle of red wine and drink it!”*

*“Well you just have to take a few pain killers.”*

**Escapism**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Pretend another player needs you and chat to them</i></li> <li>◆ <i>Pretend I am more organised than I really am</i></li> </ul>	Pretend	Avoidance	<b>Escapism</b>
<ul style="list-style-type: none"> <li>◆ <i>Sulk, don't talk to anyone</i></li> <li>◆ <i>Avoid parents during matches</i></li> <li>◆ <i>Try to stay away from media and not get interviewed</i></li> <li>◆ <i>Try to find means of getting out of the situation</i></li> <li>◆ <i>Sit away from people I know</i></li> </ul>	Avoidance of people and situations		
<ul style="list-style-type: none"> <li>◆ <i>Take headache pills</i></li> </ul>	Take pills	Diversions	
<ul style="list-style-type: none"> <li>◆ <i>Have a brandy</i></li> <li>◆ <i>Have a few beers</i></li> <li>◆ <i>Have a bottle of wine</i></li> </ul>	Have an alcoholic drink		

**Provide Support:-** Of the 18 participants, 'provide support' was mentioned by 16 of them. This coping dimension was comprised of 46 raw data themes, accounting for 11.08% of all coping raw data themes. There were 3 second-order sub-themes emerging from 11 first-order sub-themes. The second-order themes were 'problem solving', 'providing emotional support' and 'reacting to player needs'. 'Problem solving' emerged from the first-order themes 'problem solving' and 'use initiative'. 'Providing emotional support' emerged from the first-orders 'encourage players', 'give the player morale support', 'empathise with players', 'build trust with players', and 'rapport building with players'. 'Reacting to player needs' emerged from the first-order themes 'react to player needs', 'be patient with players', 'be constructive', and 'be helpful'. These coping strategies are highlighted in the following comments:

**'Problem solving'**

*"I just try to think of all the things I could do to get the player to change their behaviour"*

*"You have to get to the root of the problem and find a way of tackling it"*

**'Provide emotional support'**


*"Remind them of what they did when they played well."*

*"Get them thinking the right thoughts, remind them of good performances."*

*"I look back on my own experiences and think about how I would feel as a player"*

*"Familiarity with players...you have to know the players and they have to know you. You need to build trust between you and the players, it's an education for everybody."*

Provide Support

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ Think of ways to get player to change behaviour</li> <li>◆ Positive problem-solving, you're just trying to find the answers</li> <li>◆ Problem solving</li> <li>◆ Problem solving, why they lost, what to do to rectify it</li> <li>◆ Get to the root of the problem</li> <li>◆ Formulate basic solutions to problems, give them something to work on</li> </ul>		Problem solving	Provide Support
<ul style="list-style-type: none"> <li>◆ Go out and find work</li> <li>◆ Get others to help maximise resources</li> <li>◆ Assess their ability and design something they can cope with</li> <li>◆ Find people to play</li> <li>◆ Expand the number of clubs I use</li> </ul>	Use initiative		
<ul style="list-style-type: none"> <li>◆ Encouragement</li> <li>◆ Shout encouragement</li> <li>◆ Give them gentle guidance</li> <li>◆ Give the player some guidelines</li> </ul>	Encourage players	Provide emotional support	
<ul style="list-style-type: none"> <li>◆ Talking to them and being positive</li> <li>◆ Reassure them</li> <li>◆ Reinforce the good things I said</li> <li>◆ Give the player moral support</li> <li>◆ Remind them of when they played well</li> <li>◆ Remind them of what they did when they played well</li> <li>◆ Re-assure them</li> <li>◆ Get them thinking the right thoughts, remind them of good performances</li> </ul>	Give the player moral support		
<ul style="list-style-type: none"> <li>◆ Play the odd match just to remind myself of the emotions you go through</li> <li>◆ Try to see it from the other side as well as from mine</li> <li>◆ Keep thinking back and trying to remember from when I was a player</li> <li>◆ Look back over my own experiences and think of how I would feel as a player</li> <li>◆ Understand their position</li> <li>◆ Put myself in the player's position and consider what's reasonable</li> </ul>	Empathise with players		
<ul style="list-style-type: none"> <li>◆ Make them responsible for the outcome</li> <li>◆ Promise players that if they listen and do what I say they will improve</li> <li>◆ Build trust with players</li> </ul>	Build trust with players		
<ul style="list-style-type: none"> <li>◆ Get to know your player</li> <li>◆ Familiarity with players, need to know them and they need to know you.</li> </ul>	Rapport building with player		
<ul style="list-style-type: none"> <li>◆ Focus on what I can do for the player</li> <li>◆ React to player's needs</li> <li>◆ Be aware of how the player is, you know the signs to look for if you know the player</li> <li>◆ Pick up on their feelings</li> </ul>	React to player needs	React to players needs	
<ul style="list-style-type: none"> <li>◆ Stay polite and patient with players</li> <li>◆ Be patient until players want to talk about it</li> </ul>	Be patient with players		
<ul style="list-style-type: none"> <li>◆ Be constructive</li> <li>◆ Be constructive</li> </ul>	Be constructive		
<ul style="list-style-type: none"> <li>◆ Be helpful</li> <li>◆ Help them</li> <li>◆ Take action to help players, medical advice and physio</li> <li>◆ Formulate ideas for your next player chat</li> </ul>	Be helpful		

**'React to player's needs'**

*"Take action to help players, get medical advice, find a physio, you generally do what you have to do to get the player some help."*

*"Be patient until player's want to talk about it. It's no good forcing the issue."*

**Organise Effectively:-** This dimension was mentioned by 10 participants and was comprised of 21 raw data themes, accounting for 5.06% of all coping raw data themes. The dimension 'organise effectively' emerged from 3 second-order sub-themes and 7 first-order sub-themes. The second-order themes were 'general organisation', 'strategies for good organisation' and 'pre-event organisation'. 'General organisation' emerged from the first-order themes 'develop organisational skills', and 'keep organised'. 'Strategies for good organisation' emerged from the first order themes 'double check', 'prioritise', and 'do it earlier rather than later'. 'Pre-event organisation' emerged from the first order themes 'contact appropriate people' and 'make appropriate arrangements'. The following quotes depict the meaning of this coping dimension:

**'General organisation'**

*"You just have to get organised to try to save yourself that extra time."*

**'Strategies for good organisation'**

*"The key is to prioritise the importance of everything I do."*

*"You have to do it earlier rather than later to give yourself enough time to sort out any problems that crop up."*

**'Pre-event organisation'**

*"Keep in constant contact with players and coaches and make sure you're up to date with all the recent results and the progress made by players in your team."*

*"I try to make sure that my player is travelling with someone else if she's playing in a dodgy country, cos the last thing you need is to encounter major problems"*

*getting to the event...and women travelling alone are often vulnerable, I've heard a number of stories of girls finding themselves in tricky situations."*

### Organise Effectively

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>Develop organisational skills</i>	→	General Organisation	Organise Effectively
♦ <i>Try to organise well</i> ♦ <i>Try to get organised</i> ♦ <i>Get organised</i> ♦ <i>Keep organised</i>	Keep organised		
♦ <i>Prioritise the importance of everything I have to do</i> ♦ <i>Put time aside to do it</i> ♦ <i>Estimate how much time I need for each job and plan it in my day</i> ♦ <i>Prioritise</i> ♦ <i>Remind myself to prioritise</i>	Prioritise	Strategies for good organisation	
♦ <i>Do it earlier rather than later</i> ♦ <i>Prepare early, give myself time to sort out problems</i>	Do it earlier rather than later		
♦ <i>Keep in constant contact with players and coaches, find out recent results, progress</i> ♦ <i>Make sure everyone is contacted</i> ♦ <i>Keep in frequent contact with reserves</i>	Contact appropriate people	Pre event organisation	
♦ <i>Planning arrangements in advance</i> ♦ <i>Find somewhere appropriate to warm up</i> ♦ <i>Arrange for your player to travel with another player</i> ♦ <i>Make sure everything is arranged</i>	Make appropriate arrangements		
♦ <i>Double checking</i> ♦ <i>Double checking</i>	Double check		

**Planning and Preparation:-** This coping dimension was mentioned by 15 of the 18 participants and was comprised of 56 raw data themes, accounting for 13.49% of the total number of coping raw data themes. The second-order themes were 'pre-competition preparation', 'pre-competition mentoring', 'pre-competition planning', 'develop planning skills', 'general planning skills' and 'long-term planning and preparation'. 'Pre-competition preparation' emerged from the first order themes 'taper for an event' and 'planning the players preparation and mental outlook'. 'Pre-competition mentoring' emerged from 'watch players whenever possible' and 'monitor players progress'. 'Pre-competition planning' emerged from 'anticipate problems and prepare coping strategies', 'have contingency plans prepared', 'plan and prepare for all potential outcomes' and 'design a plan of attack'. 'Develop planning skills' emerged from 'good financial planning' and 'develop planning skills'. 'General planning' emerged from 'plan ahead' and 'be well prepared'. 'Long-term planning and preparation' emerged from 'planning programmes and tournament schedules for players'. Below are some comments that highlight the types of strategies comprising this dimension:

***'Pre-competition preparation'***

*"Preparation time is vital to actual performance...I try to get my players physically sharp by focusing on fast hands and quick feet, technically reliable by focusing on the basics and mentally hungry to win."*

*"The key is finding the ways to get your player switched on at the right time before an event."*

***'Pre-competition mentoring'***

*"Before a competition, I constantly monitor results of my player and her potential opponents and if there's an opportunity to boost my player's confidence I do it."*

*"Prior to a major competition, I watch my players in matches and in practice with a much keener eye. If a player's not quite ready this is the time you have to pick up on it, cos there's still time to do something about it."*

## Planning and Preparation

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ Get the player to improve racket skill, physical skill, and mental skill</li> <li>◆ Prepare well</li> <li>◆ Plan and prepare, physically sharpening hands and feet, technically, mentally</li> <li>◆ Prepare them before they go</li> <li>◆ Prepare well</li> <li>◆ Be well prepared</li> <li>◆ Prepare physiologically, technically, mentally</li> </ul>	Taper for an event	Pre-competition preparation	<b>Planning and Preparation</b>
<ul style="list-style-type: none"> <li>◆ Try to get your players switched on</li> <li>◆ Plan the player's mental outlook</li> <li>◆ Provide good information about opposition</li> <li>◆ Ask them, "what's your plan?"</li> </ul>	Planning the player's preparation and mental outlook		
<ul style="list-style-type: none"> <li>◆ Watch players when they are playing nearby</li> <li>◆ Watch players</li> </ul>	Watch players whenever possible	Pre-competition mentoring	
<ul style="list-style-type: none"> <li>◆ Monitor performances, injuries and illnesses</li> <li>◆ Constantly monitor results</li> </ul>	Monitor player's progress		
<ul style="list-style-type: none"> <li>◆ Trying to anticipate potential problems</li> <li>◆ Trying to anticipate potential problems</li> <li>◆ Anticipate problems, have coping strategies</li> </ul>	Anticipate problems and prepare coping	Pre-competition planning	
<ul style="list-style-type: none"> <li>◆ Have contingency plans</li> <li>◆ Have money spare to take a cab if necessary</li> <li>◆ Have contact numbers and names with me</li> <li>◆ Cover all the questions that I know are going to be raised</li> <li>◆ Give players expectations of what may happen and what to do</li> </ul>	Have contingency plans		
<ul style="list-style-type: none"> <li>◆ Look for all potential downfalls</li> <li>◆ Plan for all potential outcomes</li> <li>◆ Explore every possibility around the situation and make the right decision</li> </ul>	Plan and prepare for all potential outcomes		
<ul style="list-style-type: none"> <li>◆ Plan towards an event</li> <li>◆ Design a plan of attack</li> <li>◆ Evaluate the draw</li> <li>◆ Make a plan of attack</li> </ul>	Design a plan of attack		
<ul style="list-style-type: none"> <li>◆ Don't live beyond my means</li> <li>◆ Financial management and planning budgets tightly</li> <li>◆ Good financial planning</li> </ul>	Good financial planning	Develop planning skills	
<ul style="list-style-type: none"> <li>◆ Write plans and diaries</li> <li>◆ Develop planning skills</li> <li>◆ Set agendas, scheduling</li> <li>◆ Make lists</li> </ul>	→		
<ul style="list-style-type: none"> <li>◆ Design a methodical plan</li> <li>◆ Practice in advance</li> <li>◆ Think in advance what they need to be doing</li> <li>◆ Planning your days</li> <li>◆ Make time to plan prior to the session</li> <li>◆ Planning sessions</li> <li>◆ Work out your calendar with your daily programme in advance</li> <li>◆ Plan for the future</li> </ul>	Plan ahead	General planning	
<ul style="list-style-type: none"> <li>◆ Be well planned</li> <li>◆ Be well planned</li> </ul>	Be well planned		
<ul style="list-style-type: none"> <li>◆ Experiment with programmes</li> <li>◆ Write notes for players</li> <li>◆ Write it down and plan it in the next session</li> <li>◆ Scheduling player's and my diary to fit it in</li> <li>◆ Sit down together and plan the programme</li> <li>◆ Good planning, schedule it into calendar</li> <li>◆ Plan tournament schedule with player</li> </ul>	Planning programmes and tournament schedules for players	Long term planning and preparation	



**'Pre-competition planning'**

*"Yea, one of the ways of dealing with it is to sit down with the player, present them with the draw and design a plan of attack for the opposition."*

*"I normally try to give the player expectations of what might happen and what to do. Sometimes I tell them to phone a senior player with more experience and to pick their brain about a particular place or event."*

**'Develop planning skills'**

*"Financial management and planning budgets...it's a weakness of mine"*

*"Careful financial planning in order to use money in the best possible way"*

**'General planning'**

*"Make sure that you schedule it into your calendar, good planning"*

*"It's vital to take the time out off the court to meet for a morning or an afternoon with your player to design a methodical plan for training and competition."*

**'Long term planning and preparation'**

*"You have to just pin your player down before the season and again at Christmas and sit there with them going through the tournament schedule and each others diaries, otherwise it becomes impossible to co-ordinate activities."*

**Draw on an Excellent Mentality:-** Of the 18 subjects, 12 mentioned coping strategies included in this general dimension. 'Draw on an excellent mentality' was comprised of 24 raw data themes, 5.80% of the total coping raw data themes. There were 2 second-order sub-themes and 8 first-order sub-themes. The second-order themes were 'strive for excellence' and 'improvement'. 'Strive for excellence' emerged from the first-order themes 'strive for excellence' and 'learn from a role model'. 'Improvement', emerged from the first order themes 'encourage match analytical/reflection skills', 'aim to improve', 'pay attention to details', 'work hard', 'face weaknesses and overcome them',

and 'set goals'. The following comments illustrate the meaning of some of the strategies included in this coping dimension:

*'Strive for excellence'*

*"Even as a coach, you must strive for excellence at all times... when something has been produced that's quality, there's no need to worry!"*

*"It's vital to make detailed observations of top players, and to notice exactly what it is that's excellent, and to use that information in an appropriate way with your player."*

*'Improvement'*

*"Plan ways to get a player to rationalise their performance. Get the player to interpret their performance into a context so that they can then start planning to avoid it happening again"*

*"Make videos and match analysis available so that if players want to use it they can."*

*"Attention to detail is absolutely essential to continued improvement."*

*"I am very aware that it's a potential weakness of mine, and I have to face it to overcome it."*

### Draw on an Excellent Mentality

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>Strive for excellence, when something has been produced that's quality, there's no need to worry</i>	Strive for excellence	Strive for excellence	<b>Draw on an Excellent Mentality</b>
♦ <i>Get them to learn from chatting to a senior player with experience</i> ♦ <i>Watch videos and speak with top players</i> ♦ <i>Make detailed observations of top players</i>	Learn from a role model		
♦ <i>Get players to be analytical</i> ♦ <i>Make match analysis available to players</i> ♦ <i>Make videos available</i> ♦ <i>Match analysis, where we went wrong</i> ♦ <i>Plan ways to get players to rationalise their performance so that they can plan to avoid it happening again</i>	Encourage match analytical/reflection skills	Improvement	
♦ <i>Always look for ways to improve, never be happy with the status quo</i>	Aim to improve		
♦ <i>Pay attention to details</i> ♦ <i>Pay attention to details</i>	Pay attention to details		
♦ <i>Persevere</i> ♦ <i>Work hard</i> ♦ <i>Keep trying hard with the players I've got and hope on the quiet they'll be more successful than the one's who've left</i> ♦ <i>Keep trying hard</i> ♦ <i>Work hard</i>	Work hard, persevere		
♦ <i>Remind myself of potential weaknesses and overcome them</i> ♦ <i>Be aware that it's a weakness</i>	Face weaknesses and overcome them		
♦ <i>Goal setting for yourself</i> ♦ <i>Goal setting</i> ♦ <i>Goal setting work</i> ♦ <i>Goal setting, revisit and re-evaluate them</i> ♦ <i>Get them to focus on process goals</i>	Set Goals		

**Anxiety Management:-** This dimension was mentioned by 16 of the 18 subjects and was made up of 44 raw data themes, comprising 10.60% of the total number of coping raw data themes. There were 5 second-order sub-themes, 'positive self belief' (emerging from 'don't lose faith in yourself'), 'take a positive perspective' (emerging from the first orders 'be confident', 'focus on the positive', 'find strength in my players'), 'positive self talk' (emerging from 're-assure yourself', 'remind yourself of past successes', 'self talk'), 'association strategies', (emerging from 'focus on competency', 'focus on the game', 'fall back on experience'), and 'relaxation strategies' (emerging from 'keep calm', 'deep breathing', 'relaxation'). The following quotes illustrate the use of these strategies:

**'Take a positive perspective'**

*"It's important to focus on the positives, make the positive dominate the scene, eradicate negative screams."*

*"Focus on the positives that you can go back to the player with to help them."*

**'Positive self belief'**

*"You just have to have faith in yourself, make yourself realise that you're good enough to attract other players."*

**'Positive self talk'**

*"Re-assure myself that they'll perform when it matters in competition."*

*"By focusing on my successes over the years, it's positive affirmation that it can't all have been bad."*

*"I just tell myself that it's not my problem"*

**'Association strategies'**

*"I just focus on what's happening inside the court, the game, and concentrate on analysing it."*

*"I suppose you just fall back on your experience, try everything that you know, all the tricks that have worked in the past."*

**'Relaxation strategies'**

*"The thing to do it take deep breaths and keep your cool"*

*"You just have to relax about it and take it as it comes"*

## Anxiety Management

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Faith, making myself realise that I'm good enough to attract other players</i></li> <li>◆ <i>Not losing faith in myself</i></li> </ul>	Don't lose faith	Positive self belief	<b>Anxiety Management</b>
<ul style="list-style-type: none"> <li>◆ <i>Have self confidence that you're doing a good job</i></li> </ul>	Be confident	Take a positive perspective	
<ul style="list-style-type: none"> <li>◆ <i>During matches, act positively</i></li> <li>◆ <i>Get rid of the negative feeling, think of the positives</i></li> <li>◆ <i>Turn the player around from negative to positive</i></li> <li>◆ <i>Try to keep the player positive</i></li> <li>◆ <i>Be positive</i></li> <li>◆ <i>Give the player positive feedback</i></li> <li>◆ <i>Look for positive things out of the game</i></li> <li>◆ <i>Focus on the positives</i></li> <li>◆ <i>Focus on positive aspects of the match</i></li> <li>◆ <i>Focus on the positive, make the positive dominate the scene, eradicate negative screams</i></li> <li>◆ <i>Focus on the positives that you can go back to the player with to help them</i></li> <li>◆ <i>Adopt a positive mental attitude</i></li> </ul>	Focus on the positive		
<ul style="list-style-type: none"> <li>◆ <i>Make sure the players themselves were achieving sufficient that would create interest</i></li> <li>◆ <i>Finding strength in my players because so long as I have good players around me, I have a good chance of earning money</i></li> </ul>	Find strength in my players	Positive self talk	
<ul style="list-style-type: none"> <li>◆ <i>Re-assure myself that they'll perform when it matters in competition</i></li> <li>◆ <i>Reassure myself</i></li> </ul>	Reassure oneself		
<ul style="list-style-type: none"> <li>◆ <i>By focusing on my successes over the years, it's positive affirmation that it can't all have been bad</i></li> <li>◆ <i>Run over past successes</i></li> </ul>	Remind oneself of past successes		
<ul style="list-style-type: none"> <li>◆ <i>Rationalise it to myself, convince myself that it's useful</i></li> <li>◆ <i>Tell myself it's not my problem</i></li> <li>◆ <i>Self talk to keep calm</i></li> <li>◆ <i>Positive self talk</i></li> </ul>	Self talk		
<ul style="list-style-type: none"> <li>◆ <i>Focus on squash coaching, the thing I do best</i></li> </ul>	Focus on competency	Association Strategies	
<ul style="list-style-type: none"> <li>◆ <i>Look at the game, analyse it</i></li> <li>◆ <i>Focus on the game</i></li> <li>◆ <i>Focus on what is happening inside the court; the game and analysis</i></li> <li>◆ <i>Focus on the game</i></li> </ul>	Focus on the game		
<ul style="list-style-type: none"> <li>◆ <i>Fall back on experience</i></li> <li>◆ <i>Experience of knowing /dealing with each player</i></li> <li>◆ <i>Trying everything you know, all the tricks that have worked in the past</i></li> <li>◆ <i>Experience, knowing what's required</i></li> <li>◆ <i>The familiarity of doing it regularly</i></li> </ul>	Fall back on experience		
<ul style="list-style-type: none"> <li>◆ <i>Calm down</i></li> <li>◆ <i>Stay calm even if angry</i></li> <li>◆ <i>Calm them down</i></li> <li>◆ <i>Calm things down</i></li> </ul>	Keep calm	Relaxation Strategies	
<ul style="list-style-type: none"> <li>◆ <i>Take deep breaths and keep my cool</i></li> <li>◆ <i>Deep breathing</i></li> <li>◆ <i>Deep breathing, trying to relax</i></li> </ul>	Deep breathing		
<ul style="list-style-type: none"> <li>◆ <i>Relax and take it as it comes</i></li> </ul>	Relaxation		

**Mental Disengagement:**-This coping dimension was mentioned by 14 of the 18 participants. There were 30 raw data themes, making up 7.23% of the total coping raw data themes. This coping dimension included 3 second-order themes and 12 first-order themes. The 3 second-order sub themes were 'block out stress', 'ignore the situation' and 'dissociation strategies'. 'Block out stress' emerged from the first-order themes 'block out emotions, be objective', 'forget it', and 'block it out'. 'Ignore the situation' emerged from the first-order themes 'ignore bad refereeing decisions', 'go into autopilot' and 'ignore it'. 'Dissociation strategies' emerged from the first-order themes 'bite nails', 'listen to music', 'eat and drink', 'read', 'sleep', and 'hide anxiety from player'. The following quotes highlight the meaning of these strategies:

**'Block out stress'**

*"I just try to shut off all feelings and emotions, and remind myself to be objective rather than personal."*

*"You must try not to get emotionally involved in the game."*

*"Well I just block it out, don't think about it at all."*

**'Ignore the situation'**

*"I just have to ignore bad refereeing decisions, even if I'm boiling inside"*

*"I put it to the back of my mind and try to be fairly dismissive of it."*

**'Dissociation strategies'**

*"I just go to bed early, listen to my country and western music and read my book."*

### Mental Disengagement

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Remind myself to be objective not personal</i></li> <li>◆ <i>Mental skills must be implemented that are gained from experience, emotional control</i></li> <li>◆ <i>Try to shut off all feelings and emotions</i></li> <li>◆ <i>Try not to get emotionally involved in the game</i></li> </ul>	Block out emotions Be objective	Block out stress	<b>Mental Disengagement</b>
<ul style="list-style-type: none"> <li>◆ <i>Blank it out</i></li> <li>◆ <i>Blank it, forget it</i></li> </ul>	Forget it		
<ul style="list-style-type: none"> <li>◆ <i>Block it! Don't think about it</i></li> <li>◆ <i>Block it out, don't think about it</i></li> <li>◆ <i>Don't think about it</i></li> </ul>	Block it out		
<ul style="list-style-type: none"> <li>◆ <i>During matches stay calm, even if you're boiling inside</i></li> <li>◆ <i>Forget about decisions ASAP</i></li> <li>◆ <i>Ignore decisions</i></li> <li>◆ <i>Expect bad decisions</i></li> </ul>	Ignore bad refereeing decisions	Ignore the situation	
<ul style="list-style-type: none"> <li>◆ <i>Go into auto pilot</i></li> <li>◆ <i>Go on to auto pilot</i></li> </ul>	Go into autopilot		
<ul style="list-style-type: none"> <li>◆ <i>Ignore it</i></li> <li>◆ <i>Put it to the back of my mind, be fairly dismissive of it</i></li> <li>◆ <i>If they don't want to know, ignore them</i></li> </ul>	Ignore it		
<ul style="list-style-type: none"> <li>◆ <i>Bite nails</i></li> </ul>	Bite nails	Dissociation strategies	
<ul style="list-style-type: none"> <li>◆ <i>Listen to country and western music</i></li> </ul>	Listen to music		
<ul style="list-style-type: none"> <li>◆ <i>Drink frequently to avoid headache</i></li> <li>◆ <i>Drink lots of water</i></li> <li>◆ <i>Eat meals</i></li> </ul>	Eat and Drink		
<ul style="list-style-type: none"> <li>◆ <i>Read</i></li> <li>◆ <i>Read</i></li> </ul>	Read		
<ul style="list-style-type: none"> <li>◆ <i>Go to bed early</i></li> <li>◆ <i>Try to sleep during the day</i></li> <li>◆ <i>Sleep</i></li> </ul>	Sleep		

**Acceptance and Perseverance:-** This dimension was mentioned by 12 of the 18 participants. It consisted of 29 raw data themes comprising 7% of the total number of coping raw data themes. There were 3 second-order sub-themes, 'do nothing', 'just hope' and 'carry on regardless'. 'Do nothing' emerged from the first-order themes 'stew on it', and 'no coping'. 'Just hope' emerged from the raw data themes and had no first order theme. 'Carry on regardless' emerged from the first order themes, 'work through it', 'do what has to be done', and 'get on with it'. The following quotes illustrate these coping strategies:

**'Do nothing'**

*"There's no coping strategy, I don't know how to deal with that!"*

**'Just hope'**

*"I just hope that they respect me as a coach."*

*"Pray I think is the only thing you can do...think of a God who seems to be doing fairly well and start praying!!"*

**'Carry on regardless'**

*"I think you just have to get on with it and make the best of a bad job"*

*"Basically, I just switch on to a mode of 'right it's got to be done' and work through it, bomb ahead."*



## Acceptance and Perseverance

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
◆ <i>Stew on it</i>	Stew on it	Do nothing	Acceptance and Perseverance
◆ <i>No coping strategy</i> ◆ <i>No coping strategy</i> ◆ <i>No coping strategy</i> ◆ <i>No coping strategy</i> ◆ <i>No coping</i> ◆ <i>No coping, can't cope</i> ◆ <i>No coping</i> ◆ <i>No coping, have done nothing about it</i> ◆ <i>Nothing, can't cope</i> ◆ <i>No coping</i>	No Coping		
◆ <i>Hope they respect me as a coach</i> ◆ <i>Pray, think of a God who seems to be doing fairly well and start praying</i> ◆ <i>Hope that the money keeps rolling in</i>	→	Just hope	
◆ <i>Work through it</i> ◆ <i>Work through it, bomb ahead</i> ◆ <i>Work through it – don't just take off to bed</i>	Work through it	Carry on regardless	
◆ <i>Do what has to be done</i> ◆ <i>Get on with the hassles</i> ◆ <i>Switch into a mode of 'right it's got to be done'</i> ◆ <i>If faced with the media, say the first thing in my head</i>	Do what has to be done		
◆ <i>Just get on with it</i> ◆ <i>Get on with it</i> ◆ <i>Just get on with it</i> ◆ <i>Get on with it</i> ◆ <i>Get on with it, make the best of a bad job</i> ◆ <i>Get on with my job</i> ◆ <i>Just get on with it</i> ◆ <i>Just get on with it</i>	Get on with it		

In summary, this section has identified 13 distinct coping dimensions used by high performance squash coaches. Generally, the findings showed that participants used a range of coping strategies that fall into the categories of coping provided by previous researchers, problem-focused, emotion focused, appraisal/reappraisal and avoidance. The next section examines the relationship between the thirteen coping strategy dimensions and the twelve stress source dimensions identified in chapter 5.

## 6.4 Relationship Between Coping Strategies and Stress Source Dimensions

In order to examine the relationship between coping and sources of stress, the following section is sub-divided into two parts. The first section aims to identify and discuss the coping strategies used to deal with each of the 12 sources of stress identified in chapter five. Specifically, these stress source dimensions were 'political and interpersonal pressures', 'interpersonal relationships', 'medical concerns', 'on-court concerns', 'pre-event concerns', 'coaching constraints and barriers', 'lifestyle concerns/issues', 'organisational concerns', 'mentoring responsibilities', 'team management', 'post match concerns', and 'self confidence'. The second section aims to determine the range of stress sources with which each of the 13 coping strategy dimensions is associated.

In order to examine links between stress source dimensions and coping strategy dimensions, this study used the procedure previously documented by Gould, Finch and Jackson (1993b) in their study of national champion figure skaters. Campbell (1997) also followed this procedure to examine links between stress and coping dimensions of elite wheelchair basketball players. The same linking procedure was used in this study. Dr Campbell acted as a consultant to the process and provided expert guidance. The procedure included the following steps:

1. During the retrospective interviews (documented in chapter four), high performance squash coaches were asked about particular coping strategies they used to deal with each stressor they experienced. This enabled determination of the coping strategy dimensions employed to deal with each source of stress dimension.
2. Coping strategy dimensions were linked to stress source dimensions by analysing the number of times they were cited as a coping strategy for each stress source dimension.
3. Two separate calculations took place:

- (i) Raw data themes in each stress dimension were linked to particular coping strategies. These raw data themes were expressed as a percentage of the total number of raw data themes within their stress source dimension. Consequently, the proportion of each stress source dimension linked to each coping dimension was calculated.
  - (ii) The number of coping raw data themes were linked to particular sources of stress and were then expressed as a percentage of the total number of raw data themes within their particular coping dimension. Consequently, the proportion of each coping dimension used to deal with each stress source dimension was calculated.
4. In order to examine specific links between stress and coping dimensions, Gould, Finch and Jackson (1993b) chose to report only those coping dimensions that comprised at least 9% of the coping strategies linked to a particular stressor. Campbell (1997) reported coping strategies that comprised at least 10% of the total number of coping strategies linked to a stress source dimension. The calculations in this study are slightly different to those in previous research (see tables 6.3 & 6.4). Only those coping dimensions that are linked to at least 10% of any particular stress source dimension are reported. However, all the analyses of each coping dimension in terms of the percentages used with the various stress source dimensions are reported.
  5. The mean perceived effectiveness and frequency of each coping strategy dimension was also calculated. This was possible because during the retrospective interview, subjects rated effectiveness on a likert scale of 1-7 (1= 'not at all' and 7= 'extremely') and frequency on a similar scale (1= 'not at all' and 7= 'all of the time').

***Range of coping strategies used with specific sources of stress (table 6.3)***

The findings detailed below illustrate the nature of coping in terms of the range of strategies used with each stress source dimension. The mean effectiveness and frequency

scores for each coping strategy in each stress source dimension are discussed (see table 6.3 for details). Links between stress source and coping dimensions were only cited if the coping dimension was used in response to at least 10% of the stressor (see point 4 above for details).

**Political and Interpersonal Pressures:-** In response to this stress source dimension, a number of coping strategies were used. Those strategies that used at least 10% of the stressor included, 'acceptance and perseverance', 'person management', 'rationalisation and action', 'communication' and 'mental disengagement'. The effectiveness scores were reasonably good (mean scores above 4.00) for all the coping dimensions except 'acceptance and perseverance', which had a very low effectiveness mean ( $M=1.60$ ). This can be explained by the nature of the stressor, 'do nothing' and 'just hope' imply very little cognitive or behavioural response. This lack of 'active' coping may impact upon the perceived effectiveness of the strategy. The frequency means for all the coping strategies were high (all values above 6.25) suggesting that they are regularly implemented in response to 'political and interpersonal pressures'. About a fifth (19.23%) of the raw data themes in 'political and interpersonal pressures' were linked to 'acceptance and perseverance' and nearly a quarter (23.07%) were linked to 'communication'.

**Interpersonal Relationships:-** In response to this stress source dimension, a number of coping strategies were used. Those strategies that were used with at least 10% of the stressor included 'person management' and 'communication'. Both strategies were perceived to be effective (means above 4.75) and were used very frequently (means above 6.25). Just over a fifth (22.86%) of the raw data themes in 'interpersonal relationships' were linked to 'person management' and more than a third (37.14%) were linked to 'communication'.

**Table 6.3: Percentage of Stress Source Dimension Linked to Coping Dimension**

<b>Stress Source\Coping General Dimension</b>	<b>% of Stress Dimension Linked to Coping Dimension</b>	<b>Effectiveness Mean</b>	<b>Effectiveness Range</b>	<b>Frequency Mean</b>	<b>Frequency Range</b>
<b>INTERPERSONAL RELATIONSHIPS</b>					
Person management	22.86%	4.75	2 – 6	6.25	4 – 7
Communication	37.14%	5.69	2 – 7	6.69	6 – 7
<b>TEAM MANAGEMENT</b>					
Person management	25%	6.50	6 – 7	7.00	7 – 7
Planning and preparation	18.75%	6.00	4 – 7	7.00	7 – 7
Rationalisation and action	12.50%	5.50	4 – 7	7.00	7 – 7
<b>POST MATCH CONCERNS</b>					
Provide support	11.63%	7.00	7 – 7	7.00	7 – 7
Communication	25.58%	6.81	6 – 7	7.00	7 – 7
Anxiety management	16.23%	6.71	5 – 7	7.00	7 – 7
Planning and preparation	11.63%	6.60	6 – 7	7.00	7 – 7
Rationalisation and action	12.50%	6.56	5 – 7	6.78	6 – 7
<b>SELF CONFIDENCE</b>					
Provide support	27.27%	5.00	4 – 7	3.67	2 – 7
Person management	27.27%	7.00	7 – 7	7.00	7 – 7
Anxiety management	27.27%	6.33	5 – 7	7.00	7 – 7

**Table 6.3: Percentage of Stress Source Dimension Linked to Coping Dimension**

<b>Stress Source/ Coping General Dimension</b>	<b>% Of Stress Dimension Linked to Coping Dimension</b>	<b>Effectiveness Mean</b>	<b>Effectiveness Range</b>	<b>Frequency Mean</b>	<b>Frequency Range</b>
<b>ON COURT CONCERNS</b>					
Anxiety management	16.67%	6.73	5 – 7	6.93	6 – 7
Provide support	12.22%	6.33	5 – 7	7.00	7 – 7
Communication	21.11%	6.47	4 – 7	6.89	6 – 7
<b>PRE-EVENT CONCERNS</b>					
Provide support	10.20%	5.60	5 – 6	6.60	6 – 7
Communication	14.29%	5.71	5 – 7	6.29	3 – 7
Draw on an excellent mentality	14.29%	6.29	6 – 7	6.43	4 – 7
Planning and preparation	32.65%	6.56	5 – 7	6.75	4 – 7
<b>MENTORING RESPONSIBILITIES</b>					
Provide Support	20.45%	5.11	2 – 7	6.77	5 – 7
Communication	22.73%	6.30	5 – 7	6.90	6 – 7
Anxiety Management	13.64%	6.67	6 – 7	7.00	7 – 7
<b>POLITICAL AND INTERPERSONAL PRESSURES</b>					
Acceptance and perseverance	19.23%	1.60	1 – 4	7.00	7 – 7
Person Management	15.38%	4.75	2 – 6	6.25	4 – 7
Rationalisation and action	15.38%	7.00	7 – 7	7.00	7 – 7
Communication	23.07%	4.67	1 – 7	7.00	7 – 7
Mental Disengagement	11.54%	7.00	7 – 7	6.30	5 – 7

Table 6.3: Percentage of Stress Source Dimension Linked to Coping Dimension

Stress Source\Coping General Dimension	% of Stress Dimension Linked to Coping Dimension	Effectiveness Mean	Effectiveness Range	Frequency Mean	Frequency Range
<b>COACHING CONSTRAINTS AND BARRIERS</b>					
Acceptance and perseverance	23.81%	1.40	1 – 3	7.00	7 – 7
Anxiety management	14.29%	5.67	5 – 7	7.00	7 – 7
Planning and preparation	23.81%	5.60	4 – 7	6.00	3 – 7
<b>LIFESTYLE CONCERNS</b>					
Effective Organisation	13.04%	7.00	7 – 7	6.34	6 – 7
Planning and preparation	17.39%	5.50	5 – 7	7.00	7 – 7
Lifestyle management	30.43%	6.00	5 – 7	5.29	1 – 7
<b>ORGANISATIONAL CONCERNS</b>					
Anxiety management	13.23%	5.89	5 – 7	6.89	6 – 7
Provide support	10.29%	6.40	5 – 7	7.00	7 – 7
Mental disengagement	10.29%	6.29	2 – 7	6.71	6 – 7
Effective organisation	23.53%	5.75	2 – 7	6.63	5 – 7
Planning and preparation	32.35%	6.00	4 – 7	6.37	5 – 7
<b>MEDICAL CONCERNS</b>					
Lifestyle management	14.29%	6.00	6 – 6	7.00	7 – 7

**Medical Concerns:-** In response to this stress source dimension, only one coping strategy dimension, 'lifestyle management' was used. This strategy was linked to 14.29% of the stressor 'medical concerns'. 'Lifestyle management' was perceived to be effective ( $M=6.00$ ) in dealing with 'medical concerns' and was used all the time (frequency  $M=7.00$ ).

**Lifestyle Concerns:-** A number of coping strategies were linked to 10% or more of the stress dimension 'lifestyle concerns'. These strategies included 'effective organisation', 'planning and preparation' and 'lifestyle management'. All the strategies were perceived to be highly effective, ( $M=7.00$ ,  $M=5.50$ ,  $M=6.00$ ). The frequency means of all the coping strategy dimensions were also high ( $M=5.29$ ,  $M=6.34$ ,  $M=7.00$ ). Just under a third (30.43%) of the raw data themes in 'lifestyle concerns' were linked to 'person management', just under a fifth (17.39%) were linked to 'planning and preparation' and exactly 13.04% were linked to 'effective organisation'.

**Organisational Concerns:-** There were five coping strategies that were linked to 10% or more of the stress dimension 'organisational concerns' including 'anxiety management', 'provide support', 'mental disengagement', 'effective organisation', and 'planning and preparation'. The effectiveness means were fairly high, the lowest being 'effective organisation' ( $M=5.75$ ) and the highest being 'provide support' ( $M=6.40$ ). The frequency means were also high, the lowest being 'planning and preparation' ( $M=6.37$ ) and the highest being 'provide support' ( $M=7.00$ ). Almost a third (32.35%) of the raw data themes in 'organisational concerns' were linked to 'planning and preparation' and over a fifth (23.53%) were linked to 'organise effectively'.

**Mentoring Responsibilities:-** Three coping strategies were linked to 10% or more of the stress dimension 'mentoring responsibilities'. These included 'provide support', 'communication', and 'anxiety management'. The effectiveness means and the frequency means were all high (over 5.00). Approximately a fifth (20.45%) of the raw data themes in the stressor 'mentoring responsibilities' were linked to the coping



dimension 'provide support', over a fifth (22.73%) were linked to the coping dimension 'communication' and exactly 13.64% were linked to the coping dimension 'anxiety management'.

**On Court Concerns:-** The coping strategies that were linked to 10% or more of this stress source dimension were the same coping dimensions as those used in response to 'mentoring responsibilities'. They included, 'anxiety management', 'provide support', and 'communication'. The effectiveness means and the frequency means were all high (over 5.00). Approximately a fifth (21.11%) of the raw data themes in 'on court concerns' were linked to the coping dimension 'communication', 16.67% were linked to 'anxiety management' and only 12.22% were linked to 'provide support'.

**Pre-event Concerns:-** The coping strategies that were linked to at least 10% of this stress source dimension were 'provide support', 'communication', 'planning and preparation' and 'draw on an excellent mentality'. The effectiveness means were all high (values above 5.60) and the frequency means were also high (values above 6.29). Almost a third (32.65%) of the raw data themes in 'pre-event concerns' were linked to the coping dimension 'planning and preparation', 10.20% were linked to 'provide support', 14.29% were linked to 'communication' and 14.29% were linked to 'draw on an excellent mentality'.

**Coaching Barriers and Constraints:-** The coping strategies that were linked to 10% or more of this stress source dimension included 'acceptance and perseverance', 'anxiety management', and 'planning and preparation'. The effectiveness means ranged from low scores (M=1.40) for 'acceptance and perseverance', to high scores (M=5.60) 'planning and preparation' and (M=5.67) 'anxiety management'. The frequency means were all high, (M=6.00-7.00). Just over a fifth (23.81%) of the raw data themes in 'coaching constraints and barriers' were linked to 'acceptance and perseverance', similarly 23.81% were linked to 'planning and preparation' and only 14.29% were linked to 'anxiety management'.

**Team Management:-** Coping strategies that were linked to 10% or more of this stress source dimension included 'person management', 'planning and preparation', and 'rationalisation and action'. The effectiveness means were high (all above  $M=5.50$ ) and the frequency means were exceptionally high (all  $M=7.00$ ), suggesting that in response to the stressor 'team management' these coping strategies were very effective and were used 'all the time'. A quarter (25%) of the raw data themes in 'team management' were linked to the coping dimension 'person management', almost a fifth (18.75%) were linked to 'planning and preparation' and 12.50% were linked to 'rationalisation and action'.

**Post Match Concerns:-** Five coping strategies were identified that were linked to 10% or more of this stress source dimension. These coping strategies including 'planning and preparation', 'rationalisation and action', 'provide support', 'communication', and 'anxiety management'. The effectiveness means were all very high (all above 6.56) and the frequency means were also exceptionally high (all above  $M=6.68$ ). More than a quarter (25.58%) of all raw data themes in 'post match concerns' were linked to 'communication', 16.23% were linked to 'anxiety management', 12.50% were linked to 'rationalisation and action', 11.63% were linked to 'provide support' and 11.63% were linked to 'planning and preparation'.

**Self Confidence:-** :- A number of coping strategies were identified that were linked to 10% or more of this stress source dimension. These coping strategies included, 'provide support', 'person management', and 'anxiety management'. The effectiveness means were all high (all above 5.00), and the frequency means varied, 'provide support' being used relatively infrequently ( $M=3.67$ ) yet 'person management' and 'anxiety management' being used 'all the time' ( $M=7.00$ ,  $M=7.00$ ). Almost a third (27.27%) of the raw data themes in the stressor 'self confidence' were linked to each of these coping dimensions.

In summary, it appears that although a range of coping strategies were used to deal with the 12 stress source dimensions, it is possible to identify specific links between the predominant coping strategies employed to deal with particular stress source dimensions.

### ***Specificity and Generality of Coping Strategy Dimensions (table 6.4)***

The following section discusses more general links between sources of stress and coping strategies by identifying the breakdown of each coping dimension in terms of percentage of coping strategies used with particular sources of stress (see table 6.4).

**Planning and Preparation:-** This coping dimension was implemented in response to 6 sources of stress including 'pre-event concerns', 'organisational concerns', 'post match concerns', 'lifestyle concerns', 'coaching constraints and barriers' and 'team management'. Strikingly, 40% of this coping dimension was used in response to the stress dimension 'organisational concerns'. A further 29.09% of this coping dimension was linked to the stress dimension 'pre-event concerns'. Perceived coping effectiveness scores were fairly high irrespective of the stress dimensions (all mean values above 5.50). Frequency scores were all high (all mean values above 6.37) suggesting that the coping dimension 'planning and preparation' was generally perceived to be an effective and frequently used strategy with all the sources of stress mentioned.

**Rationalisation and Action:-** This coping dimension was used in response to 9 sources of stress including 'post match concerns', 'organisational concerns', 'on court concerns', 'political and interpersonal pressures', 'team management', 'interpersonal relationships', 'mentoring responsibilities', 'coaching constraints and barriers', and 'pre-event concerns'. Almost a third (28.1%) of the strategies in this coping dimension were used to deal with 'post match concerns'. The remaining 8 stress source dimensions were each dealt with using small proportions (less than 13% each) of the remaining strategies in this coping dimension. Therefore, it appears that this coping dimension is linked to lots of sources of stress and is more of a 'general' strategy. The mean effectiveness and frequency values were all high (all mean values above 5.00) suggesting that 'rationalisation and action' was perceived to be a useful coping strategy and was

regularly implemented in response to those 9 sources of stress. The perceived effectiveness scores for 'rationalisation and action' were highest when implemented in response to 'political and interpersonal pressures ( $M=7.00$ ).

**Vent Thoughts and Emotions:-** This coping dimension was implemented in response to 5 sources of stress, 'pre-event concerns', 'interpersonal relationships', 'team management', 'on court concerns' and 'mentoring responsibilities'. A large proportion (44.44%) of the coping dimension 'vent thoughts and emotions' was linked to the stress dimension 'on court concerns'. A further 22.22% of this coping dimension was linked to 'interpersonal relationships'. The remaining 3 stress source dimensions 'pre-event concerns', 'team management' and 'mentoring responsibilities' were each linked to 11.11% of the coping dimension. The perceived effectiveness scores were generally high (mean values above 4.50). However, 'vent thoughts and emotions' was perceived to be least effective when used to cope with 'interpersonal relationships'. Interestingly, the frequency scores were lowest when used with that stress source dimension.

**Lifestyle management:-** This coping dimension was identified as being linked to 5 sources of stress, 'medical concerns', 'lifestyle issues', 'on court concerns', 'mentoring responsibilities', and 'organisational concerns'. Interestingly, over half (53.84%) of this coping dimension was used in response to the stressor 'lifestyle concerns'. The remainder of this coping dimension was used to deal with the other 4 stressors. Perceived effectiveness scores for this coping dimension were high for all 5 sources of stress (mean above 5.00). Perceived frequency scores were also relatively high ( $M=5.29-7.00$ ).

**Communication:-** This coping dimension was linked to 7 stress source dimensions, 'pre-event concerns', 'organisational concerns', 'mentoring responsibilities', 'political and interpersonal pressures', 'on court concerns', 'post match concerns', and 'interpersonal relationships'. A large proportion of this coping dimension (26.38%) was used in response to the stress dimension 'on court concerns', and nearly a fifth (18.05%) was linked to the stressor 'inter-personal relationships'. The other five stress source dimensions were linked to small proportions of the coping dimension (less than 16%

each). Perceived effectiveness and frequency scores were fairly high (all mean values above 4.67). The coping dimension 'communication' was perceived to be most effective in dealing with 'post match concerns' (M = 6.81) and 'on court concerns' (M=6.47).

**Draw on an excellent mentality:-** This coping dimension was linked to 5 stress source dimensions including 'organisational concerns', 'post match concerns', 'on court concerns', 'coaching constraints and barriers', and 'pre-event concerns'. Most of this coping dimension was linked to the stress dimensions 'organisational concerns' (21.05%), 'post match concerns' (36.84%), and 'on court concerns' (21.04%). Perceived effectiveness and frequency scores for 'draw on an excellent mentality' were generally high for dealing with all stress source dimensions (means all above 5.75).

**Effective Organisation:-** This coping dimension was linked to 2 sources of stress, 'organisational concerns' and 'lifestyle concerns'. However, most of the coping dimension (84.21%) was used to deal with 'organisational concerns', only 15.79% was linked to 'lifestyle concerns'. Perceived effectiveness scores were high for this coping dimension (M=5.75 'organisational concerns', M=7.00 'lifestyle concerns'), and frequency scores were also high for both scores (M=6.63, M=6.34 respectively).

**Mental Disengagement:-** This was identified as being used to deal with 6 sources of stress, 'pre-event concerns', 'on-court concerns', 'mentoring responsibilities', 'lifestyle concerns', 'political and interpersonal pressures' and 'organisational concerns'. The largest proportions of this coping dimension were linked to 'on court concerns' (29.62%) and 'organisational concerns' (25.92%). The perceived effectiveness scores were varied, 'mental disengagement' was perceived to be most effective in dealing with 'political and interpersonal pressures' (M=7.00) and least effective in dealing with 'lifestyle concerns' (M=3.50). The frequency scores for all stressors were high (all mean values above 5.00).

Table 6.4: Percentage of Each Coping Dimension Linked to Particular Sources of Stress

	% Of Coping Dimension Used With Each Source of Stress	Effectiveness Mean	Effectiveness Range	Frequency Mean	Frequency Range
<b>PROVIDE SUPPORT</b>					
Mentoring Responsibilities	22.5%	5.11	2-7	6.77	5-7
On court concerns	27.5%	6.33	5-7	7.00	7-7
Pre event concerns	12.5%	5.60	5-6	6.60	6-7
Post match concerns	12.5%	7.00	7-7	7.00	7-7
Self confidence	7.5%	5.00	4-7	3.67	2-7
Organisational concerns	17.5%	6.40	5-7	7.00	7-7
<b>PERSON MANAGEMENT</b>					
Self confidence	12.5%	7.00	7-7	7.00	7-7
Team management	16.66%	6.50	6-7	7.00	7-7
Interpersonal relationships	33.33%	5.88	2-7	6.75	6-7
Political and interpersonal pressures	16.66%	4.75	2-6	6.25	4-7
Mentoring Responsibilities	12.5%	3.67	1-5	6.34	6-7
Organisational Concerns	8.33%	6.00	5-7	7.00	7-7
<b>ESCAPISM</b>					
Lifestyle Concerns	10%	5.00	5-5	3.00	3-3
Political and Interpersonal Pressures	20%	7.00	7-7	7.00	7-7
On Court Concerns	20%	5.50	5-6	7.00	7-7
Organisational Concerns	10%	4.00	4-4	5.00	5-5
Interpersonal Relationships	30%	6.00	6-6	4.33	3-7
Mentoring Responsibilities	10%	1.00	1-1	6.00	6-6
<b>VENT THOUGHTS AND EMOTIONS</b>					
Pre-event concerns	11.11%	7.00	7-7	7.00	7-7
Interpersonal relationships	22.22%	4.50	2-7	4.50	2-7
Team management	11.11%	5.00	5-5	7.00	7-7
On court concerns	44.44%	7.00	7-7	6.50	6-7
Mentoring responsibilities	11.11%	6.00	6-6	7.00	7-7

Table 6.4: Percentage of Each Coping Dimension Linked to Particular Sources of Stress

	% Of Coping Dimension Used With Each Source of Stress	Effectiveness Mean	Effectiveness Range	Frequency Mean	Frequency Range
<b>LIFESTYLE MANAGEMENT</b>					
Medical concerns	7.69%	6.00	6 – 6	7.00	7 – 7
Lifestyle concerns	53.84%	6.00	5 – 7	5.29	1 – 7
On Court Concerns	15.38%	6.00	6 – 6	7.00	7 – 7
Mentoring Responsibilities	15.38%	7.00	7 – 7	7.00	7 – 7
Organisational Concerns	7.69%	5.00	5 – 5	7.00	7 – 7
<b>COMMUNICATION</b>					
Pre-event Concerns	9.72%	5.71	5 – 7	6.29	3 – 7
Organisational Concerns	8.33%	6.00	3 – 6	7.00	7 – 7
Mentoring Responsibilities	13.88%	6.30	5 – 7	6.90	6 – 7
Political and Interpersonal Pressures	8.33%	4.67	1 – 7	7.00	7 – 7
On Court Concerns	26.38%	6.47	4 – 7	6.89	6 – 7
Post Match Concerns	15.27%	6.81	6 – 7	7.00	7 – 7
Interpersonal Relationships	18.05%	5.69	2 – 7	6.69	6 – 7
<b>DRAW ON AN EXCELLENT MENTALITY</b>					
Organisational Concerns	21.05%	5.75	4 – 7	6.00	5 – 7
Post Match Concerns	36.84%	6.00	5 – 7	7.00	7 – 7
On Court Concerns	21.05%	7.00	7 – 7	7.00	7 – 7
Coaching Constraints and Barriers	10.52%	5.00	4 – 6	7.00	7 – 7
Pre-event Concerns	10.52%	6.29	6 – 7	6.43	4 – 7

Table 6.4: Percentage of Each Coping Dimension Linked to Particular Sources of Stress

	% Of Coping Dimension Used With Each Source of Stress	Effectiveness Mean	Effectiveness Range	Frequency Mean	Frequency Range
<b>PLANNING AND PREPARATION</b>					
Pre-event concerns	29.09%	6.56	5 - 7	6.75	4 - 7
Organisational concerns	40.00%	6.00	4 - 7	6.37	5 - 7
Post match concerns	9.09%	6.60	6 - 7	7.00	7 - 7
Lifestyle concerns	7.27%	5.50	5 - 7	7.00	7 - 7
Coaching constraints and barriers	9.09%	5.60	4 - 7	6.00	3 - 7
Team Management	5.45%	6.00	4 - 7	7.00	7 - 7
<b>RATIONALISATION AND ACTION</b>					
Post match concerns	28.1%	6.56	5 - 7	6.78	6 - 7
Organisational concerns	9.37%	6.67	6 - 7	7.00	7 - 7
On court concerns	9.37%	6.00	4 - 7	7.00	7 - 7
Political and interpersonal pressures	12.5%	7.00	7 - 7	7.00	7 - 7
Team management	6.25%	5.50	4 - 7	7.00	7 - 7
Interpersonal relationships	6.25%	6.50	6 - 7	7.00	7 - 7
Mentoring responsibilities	9.37%	6.00	4 - 7	7.00	7 - 7
Coaching constraints and barriers	6.25%	5.00	5 - 5	7.00	7 - 7
Pre-event concerns	12.5%	5.25	1 - 7	6.75	6 - 7
<b>EFFECTIVE ORGANISATION</b>					
Organisational concerns	84.21%	5.75	2 - 7	6.63	5 - 7
Lifestyle concerns	15.79%	7.00	7 - 7	6.34	6 - 7



Table 6.4: Percentage of Each Coping Dimension Linked to Particular Sources of Stress

	% Of Coping Dimension Used With Each Source of Stress	Effectiveness Mean	Effectiveness Range	Frequency Mean	Frequency Range
<b>MENTAL DISENGAGEMENT</b>					
Pre-event concerns	14.81%	5.00	1 – 7	5.00	3 – 7
On court concerns	29.62%	6.38	5 – 7	6.88	6 – 7
Mentoring responsibilities	11.11%	5.34	2 – 7	7.00	7 – 7
Lifestyle concerns	7.40%	3.50	1 – 6	6.00	6 – 6
Political and interpersonal pressures	11.11%	7.00	7 – 7	6.30	5 – 7
Organisational concerns	25.92%	6.29	2 – 7	6.71	6 – 7
<b>ANXIETY MANAGEMENT</b>					
Organisational concerns	19.56%	5.89	5 – 7	6.89	6 – 7
On court concerns	32.60%	6.73	5 – 7	6.93	6 – 7
Mentoring responsibilities	13.04%	6.67	6 – 7	7.00	7 – 7
Post match concerns	15.21%	6.71	5 – 7	7.00	7 – 7
Coaching constraints and barriers	6.52%	5.67	5 – 7	7.00	7 – 7
Interpersonal relationships	6.52%	6.00	5 – 7	5.67	3 – 7
Self Confidence	6.52%	6.33	5 – 7	7.00	7 – 7
<b>ACCEPTANCE AND PERSEVERANCE</b>					
Political and interpersonal pressures	17.85%	1.60	1 – 4	7.00	7 – 7
Coaching constraints and barriers	17.85%	1.40	1 – 3	7.00	7 – 7
Lifestyle concerns	7.14%	3.50	1 – 6	3.50	1 – 6
Mentoring responsibilities	10.71%	3.00	1 – 5	6.00	4 – 7
On court concerns	17.85%	4.77	1 – 7	6.90	4 – 7
Pre-event concerns	7.14%	6.00	5 – 7	7.00	7 – 7
Organisational concerns	21.42%	5.33	1 – 7	6.67	6 – 7

**Anxiety management:-** This coping dimension was used to deal with 7 sources of stress including 'organisational concerns', 'on court concerns', 'mentoring responsibilities', 'post match concerns', 'coaching constraints and barriers', 'interpersonal relationships', and 'self confidence'. Most of this coping dimension was linked to 'on court concerns' (26.78%) and 'organisational concerns' (19.56%). Smaller percentages of the coping dimension were linked to the other 5 stressors. The perceived coping effectiveness scores were all high (mean above 5.89) and frequency scores were also high (mean above 5.67). 'Anxiety management' was perceived to be most effective in dealing with 'on court concerns'.

**Acceptance and Perseverance:-** This coping dimension was linked to 7 sources of stress including 'political and interpersonal pressures', 'coaching constraints and barriers', 'lifestyle concerns', 'mentoring responsibilities', 'on court concerns', 'pre-event concerns', and 'organisational concerns'. Most of the strategies in this dimension (21.42%) were linked to 'organisational concerns', 'on court concerns' (17.85%), 'coaching constraints and barriers' (17.85%) and 'political and interpersonal pressures' (17.85%). The perceived effectiveness scores for this coping dimension varied depending upon the stressor. For example, 'acceptance and perseverance' was rated fairly ineffective in dealing with 'political and interpersonal pressures' (M=1.60) and 'coaching constraints and barriers' (M=1.40) but highly effective in dealing with 'organisational concerns' (M=5.33) and 'pre-event concerns' (M=6.00). The frequency ratings also varied, 'lifestyle concerns' was rated quite low (M=3.50) whereas 'political and interpersonal pressures' and 'coaching constraints and barriers' were rated very high, (M=7.00).

**Provide Support:-** This coping dimension was linked to 6 sources of stress including 'mentoring responsibilities', 'on court concerns', 'pre-event concerns', 'post match concerns', 'self confidence' and 'organisational concerns'. Almost a third of the coping strategies in this dimension were linked to 'on court concerns', just over a fifth (22.5%) were linked to 'mentoring responsibilities', and just under a fifth (17.5%) were linked to 'organisational concerns'. The remaining small percentage of the strategies in this

coping dimension were linked to the other 3 stressors. The perceived effectiveness scores for this coping dimension were high irrespective of the stressor (all mean values above 5.00). Most of the frequency ratings were high (all mean values above 6.60) except with 'self confidence', which had a low frequency rating ( $M=3.67$ ).

**Escapism:-** This coping dimension was linked to 6 sources of stress including 'lifestyle concerns', 'political and interpersonal pressures', 'on court concerns', 'organisational concerns', 'interpersonal relationships', and 'mentoring responsibilities'. Almost a third (30%) of this coping dimension was used to deal with 'interpersonal relationships', a fifth (20%) was used to deal with 'political and interpersonal pressures', and a fifth (20%) was used to deal with 'on court concerns'. This dimension was perceived to be very ineffective in dealing with 'mentoring responsibilities' ( $M=1.00$ ) and highly effective in dealing with 'interpersonal relationships' ( $M=6.00$ ). The frequency ratings were all quite high (all means above 4.00).

**Person Management:-** This coping dimension was linked to 6 sources of stress including 'self confidence', 'team management', 'interpersonal relationships', 'political and interpersonal pressures', 'mentoring responsibilities' and 'organisational concerns'. Almost a third (32.6%) of the strategies in this coping dimension were linked to 'anxiety management' and almost a fifth (19.56%) were linked to the stressor 'organisational concerns'. The perceived coping effectiveness scores varied depending upon the stressor. For example, 'anxiety management' was perceived to be quite effective in dealing with 'mentoring responsibilities' ( $M=3.67$ ) to very effective in dealing with 'team management' ( $M=6.50$ ) and 'self confidence' ( $M = 7.00$ ). The coping frequency scores were very high irrespective of the stressor (all mean values above 6.00).

This analysis of the breakdown of each coping dimension provides insight into the nature of each coping strategy. Some coping dimensions are linked to only a small number of stressors and other coping dimensions are linked to lots of different stressors. For example, over half of the coping dimension 'lifestyle management' is linked to the stressor 'lifestyle concerns' suggesting that this strategy is a fairly 'specific' coping

dimension. In contrast, much smaller percentages of the coping dimension 'rationalisation and action' are linked to 9 different stressors, suggesting that it is more of a 'general' coping dimension. Furthermore, although ratings of coping effectiveness were generally high ( $M=3$ ), no matter what the coping strategy or the stressor, some coping strategies appeared to be more effective with some stressors than others (e.g. escapism and acceptance and perseverance), and other strategies were reported as being effective across a range of different stressors (anxiety management, providing support and communication). Further research into 'positive perceptions' of coping effectiveness is required in phase two.

## 6.5 Summary and Discussion

The purpose of this chapter was to identify and describe the coping strategies used by high performance squash coaches, and also to examine the relationship between the coping strategies identified and the sources of stress reported in chapter 5. The following discussion is structured in three sections; The nature of coping strategies of high performance squash coaches; The relationships between coping strategies and stress source dimensions; Summary of the chapter.

### *The nature of coping strategies of high performance squash coaches*

A number of coping researchers have suggested that coping is a dynamic complex process (Compas, 1987; Folkman & Lazarus, 1985, Crocker, 1992; Crocker & Graham, 1995; Gould, Finch & Jackson, 1993b; Gould, Eklund & Jackson, 1993c; Gould, Udry, Bridges & Beck, 1997c; Udry, Gould, Bridges & Tuffey, 1997). Findings from this study revealed that high performance squash coaches used a range of coping strategies that varied according to the nature of the stressor experienced. Furthermore, the findings were diverse including cognitive and behavioural strategies, emotional based strategies, appraisal-reappraisal strategies, and avoidance strategies. Therefore the findings from this study also support the notion of coping as a dynamic complex process.

**Table 6.5: Similarities and differences between coping dimensions identified by high performance squash coaches and those identified in previous research studies of athletes**

Coping Dimensions Identified By High Performance Squash Coaches	Coping Dimensions With A Similar Meaning Identified By Athletes in Previous Research Studies
COMMUNICATION	<i>No coping dimensions with a similar meaning to 'communication' were identified</i>
PLANNING AND PREPARATION	<ul style="list-style-type: none"> <li>▪ <i>'Time management and prioritization' (Gould, Finch &amp; Jackson, 1993)</i></li> <li>▪ <i>'Preparedness for Olympic Champion role' (Jackson, Mayocchi &amp; Dover, 1998)</i></li> </ul>
RATIONALISATION AND ACTION	<ul style="list-style-type: none"> <li>▪ <i>'Cognitive Re-structuring' (Jackson, Mayocchi &amp; Dover, 1998)</i></li> <li>▪ <i>'Took notes, drew up lessons and learned' (Gould, Udry, Bridges &amp; Beck, 1997)</i></li> <li>▪ <i>'Rational thinking and self talk' (Gould, Finch &amp; Jackson, 1993)</i></li> <li>▪ <i>'Take action to improve our own situation' (Jackson, Mayocchi, &amp; Dover, 1998)</i></li> </ul>
LIFESTYLE MANAGEMENT	<ul style="list-style-type: none"> <li>▪ <i>'Time management and prioritization' (Gould, Finch &amp; Jackson, 1993)</i></li> </ul>
PROVIDE SUPPORT	<ul style="list-style-type: none"> <li>▪ <i>'Social support' (Gould, Finch &amp; Jackson, 1993)</i></li> <li>▪ <i>'Sought and used social resources' (Gould, Udry, Bridges &amp; Beck, 1997)</i></li> </ul>
ORGANISE EFFECTIVELY	<i>No coping dimensions with a similar meaning to 'organise effectively' were identified</i>
DRAW ON AN EXCELLENT MENTALITY	<ul style="list-style-type: none"> <li>▪ <i>'Competing only against self' (Dale, 2000)</i></li> <li>▪ <i>'Consistency' (Dale, 2000)</i></li> </ul>
PERSON MANAGEMENT	<i>No coping dimensions with a similar meaning to 'person management' were identified</i>
VENT THOUGHTS AND EMOTIONS	<i>No coping dimensions with a similar meaning to 'vent thoughts and emotions' were identified</i>
ANXIETY MANAGEMENT	<ul style="list-style-type: none"> <li>▪ <i>'Emotional control' strategies (Gould, Eklund &amp; Jackson, 1993)</i></li> <li>▪ <i>'Thought control strategies' (Gould, Eklund &amp; Jackson, 1993)</i></li> <li>▪ <i>'Managed emotion and thoughts' (Gould, Udry, Bridges &amp; Beck, 1997)</i></li> <li>▪ <i>'Relaxation' (Park, 2000)</i></li> <li>▪ <i>'Imaging, visualising' (Dale, 2000)</i></li> <li>▪ <i>'Positive focus and orientation' (Gould, Finch &amp; Jackson, 1993)</i></li> <li>▪ <i>'Have confidence in one's training' (Dale, 2000)</i></li> </ul>
ESCAPISM	<ul style="list-style-type: none"> <li>▪ <i>'Isolation and deflection' (Gould, Finch &amp; Jackson, 1993)</i></li> <li>▪ <i>'Avoidance &amp; isolation' (Gould, Udry, Bridges &amp; Beck, 1997)</i></li> <li>▪ <i>'Distracted self' (Gould, Udry, Bridges &amp; Beck, 1997)</i></li> <li>▪ <i>'Substance use' (Park, 2000)</i></li> <li>▪ <i>'Maladaptive coping' (Jackson, Mayocchi &amp; Dover, 1998)</i></li> </ul>
MENTAL DISENGAGEMENT	<ul style="list-style-type: none"> <li>▪ <i>'Ignore the stressor' (Gould, Finch &amp; Jackson, 1993)</i></li> <li>▪ <i>'Ignore the stressor' (Gould, Udry, Bridges &amp; Beck, 1997)</i></li> <li>▪ <i>'Ignore, block things out' (Jackson, Mayochhi &amp; Dover, 1998)</i></li> <li>▪ <i>'Hobby activities' (Park, 2000)</i></li> <li>▪ <i>'Thought control strategies' (Gould, Eklund &amp; Jackson, 1993)</i></li> </ul>
ACCEPTANCE AND PERSEVERANCE	<ul style="list-style-type: none"> <li>▪ <i>'Prayer'</i></li> </ul>

In terms of the coping findings, the 18 interview transcripts were inductively content analysed revealing 13 distinct coping dimensions. Based on the systematic review of literature, it was expected that findings would fall into the range of coping categories, 'problem-focused', 'emotion-focused', (Lazarus & Folkman, 1984) 'appraisal/reappraisal' (Billings & Moos, 1984; Cox & Ferguson, 1991) and 'avoidance' (Endler & Parker, 1990). Table 6.2 categorises the 13 coping dimensions into the four major coping categories. Results indicated that seven of the coping general dimensions fell into the 'problem-focused' category, four fell into the 'emotion-focused' category, three fell into the 'appraisal/reappraisal' category and three fell into the 'avoidance' category. In some cases, it was difficult to assign coping dimensions to just one category. Therefore, the four coping general dimensions 'rationalisation and action', 'provide support', 'anxiety management', and 'acceptance and perseverance' were assigned to more than one category. To re-iterate from chapter 2, according to Hardy, Jones and Gould (1996; 207), "Problem-focused coping involves efforts to alter or manage the problem that is causing the stress for the individual involved." Therefore, the coping dimensions 'communication', 'planning and preparation', 'rationalisation and action', 'lifestyle management', 'provide support', 'organise effectively', 'draw on an excellent mentality' were all included in the 'problem-focused' category. In terms of 'emotion-focused' coping, Hardy, Jones and Gould (1996; 207) state, "emotion-focused coping involves regulating the emotional responses that result from the problem that causes stress for the individual". In this study, the coping dimensions 'person management', 'vent thoughts and emotions', 'provide support' and 'anxiety management' were included in this dimension. 'Avoidance' coping can be defined as, "...efforts to physically or mentally disengage from the stressful situation" (Hardy, Jones & Gould, 1996;207). A number of 'avoidance' coping dimensions were identified in this study including 'escapism', 'mental disengagement', and 'acceptance and perseverance'. Finally, the category 'appraisal-reappraisal' involves, "...efforts to appraise or re-appraise the stressful problem or situation one faces." (Hardy, Jones & Gould, 1996;208). This category incorporated the coping dimensions 'rationalisation and action', 'anxiety management', and 'acceptance and perseverance'. Therefore, as expected, findings fell

into the range of coping categories identified by previous authors. Therefore, this study confirms the usefulness of these categories of coping.

In addition to organising each coping dimension into an appropriate coping category, table 6.2 represents each coping dimension as a percentage of the total raw data themes for coping. Therefore, table 6.2 demonstrates that the largest coping category was 'problem-focused' incorporating 63.84% of the coping raw data themes identified by high performance coaches. This finding confirms previous research findings on sports performers (Campbell, 1997; Crocker & Graham, 1995; Madden et al., 1989) and community populations (Bjork & Cohen, 1993; Endler & Parker, 1990; Folkman & Lazarus, 1985) suggesting that 'problem-focused' coping is the most predominantly used category of coping. It has been suggested that the reason more 'problem-focused' coping is used is that individuals prefer to alter the external environment rather than altering their own internal environment (Brown & Seigel, 1988; McCrae, 1992; Vitaliano et al, 1990).

In order to compare the results of this study with the results of previous qualitative studies of coping, table 6.5 was developed. Table 6.5 lists the coping dimensions identified by high performance coaches in this study and matches them with coping dimensions of a similar meaning that were identified by athletes in previous studies. In doing so, the table highlights the similarities and differences between the results of this study and the findings from previous research. These similarities and differences are discussed below.

Of the 13 coping dimensions identified by high performance coaches, table 6.5 demonstrates that 9 of them were similar to coping dimensions identified in previous research studies of athletes. These 9 coping dimensions are listed below and matches with findings from previous research studies are discussed.

**Planning and preparation:-** This dimension was similar to a number of coping dimensions identified in previous studies. Firstly, Gould, Finch and Jackson (1993b) studied figure skaters and identified the dimension 'time management and prioritisation'.

Some of the second-order themes were similar to those themes identified in this dimension. For example, the second-order theme 'general planning' (this study) shared a similar meaning to the second-order theme 'time-utilization' (Gould et al's 1993b study). Secondly, Jackson, Mayocchi and Dover (1998) studied Olympic gold medallists. The first order theme 'plan and prepare for all potential outcomes' (identified in this dimension) appears to have a similar meaning to the coping dimension 'preparedness for Olympic Champion role' identified by Jackson, Mayocchi and Dover (1998).

**Rationalisation and action:**-This dimension was similar to a number of coping dimensions identified in previous studies. Firstly, Jackson et al (1998) studied Olympic gold medallists and identified the coping dimension 'cognitive re-structuring'. A number of the second-order themes in the dimension 'cognitive restructuring' ('future oriented focus' and 'perspective taking') were similar to the first-order themes in this dimension ('forget the past, look forward to the future' and 'put it in perspective'). Secondly, Gould, Finch and Jackson (1993b) studied figure skaters and identified 'rational thinking and self talk' as a coping dimension. Some of the second-order themes in the dimension 'rational thinking and self talk' ('accepting the reality of the situation', 'taking a rational perspective on self and skating') were similar to those in this dimension ('accept it', 'put it in perspective'). Finally, Gould, Udry, Bridges and Beck, (1997c) studied athletes suffering season-ending ski injuries and identified the coping dimension 'took notes, drew upon injury lessons'. Some of the second-order themes ('look at it as a learning experience' and 'draw upon lessons from earlier injuries) shared a similar meaning to the second-order themes in this dimension ('try to learn', 'critically reflect').

**Lifestyle Management:**- :- Gould, Finch and Jackson (1993b) identified the coping dimension 'time management and prioritisation'. A number of second-order themes share similar meaning with the coping dimension 'lifestyle management' identified in this study. For example, the second-order theme 'making time for personal interests and growth' is similar to the 'lifestyle management' second-order themes 'get away' and 'lifestyle strategies'.



**Provide Support:-** This dimension was similar to a number of coping dimensions identified in previous studies. Firstly, Gould, Finch and Jackson (1993b) identified 'social support' as a coping dimension. Some of the second-order themes in the dimension 'social support' ('support from coach', 'support from family and friends', 'unconditional love and support') were similar to those in this dimension ('react to player's needs' and 'provide emotional support'). Secondly, Gould, Udry, Bridges and Beck, (1997c) studied athletes suffering season-ending ski injuries and identified the coping dimension 'sought and used social resources'. Some of the second-order themes ('hanging out with friends' and 'gaining inspiration from others') shared a similar meaning to the second-order themes in this dimension ('provide emotional support' and 'react to player needs'). A noticeable difference between the results of previous research and the results of this study is that the athletes in Gould et al's studies 'sought' support whereas the coaches in this study 'provided support'. Therefore it appears that both players and coaches use the coping strategy 'social support' in different ways.

**Draw on an excellent mentality:-** This dimension was similar to a number of coping dimensions identified in Dale's (2000) study of decathletes. Dale (2000) identified the coping dimensions 'competing only against oneself' and 'consistency'. A number of the first order themes were similar to those identified in this study. For example, 'prior work ethic' (Dale, 2000) is similar to 'work hard, persevere' (this study) and 'no major mistakes' (Dale, 2000) is similar to 'strive for excellence' (this study).

**Anxiety Management:- :-** This dimension was similar to a number of coping dimensions identified in previous studies. Firstly, Gould, Finch and Jackson (1993b) identified the coping dimension 'positive focus and orientation'. The second-order themes 'positive thinking and self talk', 'positive belief in ability, programme and goals' and 'negative to positive self appraisal' are similar to the second-order themes 'take a positive perspective', 'positive self talk' and 'association strategies' identified in this dimension. Secondly, Gould, Eklund and Jackson (1993c) studied wrestlers and identified 'emotional control strategies'. The first-order theme 'arousal control' is similar to the first-order themes 'keep calm', 'deep breathing' and 'relaxation' in this dimension. Thirdly, Gould,

Eklund and Jackson (1993c) also identified the dimension 'thought control strategies'. The first-order theme 'positive thinking' (Gould et al's study) was similar to the second-order theme 'take a positive perspective' (this study). Fourthly, Gould, Udry, Bridges and Beck (1997c) identified the dimension 'manage emotion and thoughts'. This dimension had a similar second-order theme, 'keep positive focus', to the second-order themes, 'takes a positive perspective' and 'positive self belief' identified in this dimension. Finally, Park (2000) identified the dimension 'relaxation' and Dale (2000) identified the dimension 'imaging, visualising'. These are similar to the second-order themes, 'relaxation strategies' and 'association strategies' identified in this study.

**Escapism:-** This dimension was similar to a number of coping dimensions identified in Gould, Udry, Bridges and Beck's (1997c) study of skiers. Firstly, Gould et al (1997c) identified the coping dimension 'avoidance and isolation'. This dimension emerged from raw data themes such as 'removed myself from that trainer', 'be by myself' and 'moved to a ski area where there were no expectations'. Similar raw data themes were identified in this study including 'don't talk to anyone', 'sit away from people I know' and 'avoid parents during matches'. Secondly, Gould et al (1997c) identified the coping dimensions 'distracted self'. This dimension emerged from the second-order themes 'kept busy' and 'sought out change of scenery', which were similar to the second-order theme in this dimension, 'diversions'. Thirdly, Gould, Finch and Jackson (1993b) identified the coping dimension 'isolation and deflection', consisting of the second-order themes 'not letting troublesome things get to me', 'avoiding or having others screen the media' and 'keeping to self at competition'. These second-order themes are similar to the first order theme 'avoidance of people and situations', identified in this study. Finally, Park (2000) identified the dimension 'substance use', which is similar to 'diversions' such as 'having an alcoholic drink' and 'taking pills', all identified in this study.

**Mental Disengagement:-** This dimension was similar to the coping dimension 'hobby activities' identified in Park's (2000) study of Korean National athletes. Park cites the first-order themes 'reading a book', 'listening to music' and 'watching a movie' and these are similar to the first-order themes 'listen to music', 'eat and drink', 'read', and 'sleep'

identified in this dimension. This dimension was also similar to the coping dimensions 'thought control strategies' identified by Gould, Eklund and Jackson (1993c) and 'ignore, block things out' (Jackson, Mayocchi, & Dover, 1998). The first-order theme of 'thought control strategies' was 'blocking distractions', and the first-order theme of 'ignore, block things out' was 'block it out'. These themes were similar to the first order theme 'block out stress', identified in this study. There was also a similarity between the dimension 'ignore the stressor' (Gould, Finch and Jackson, 1993b) and the second-order theme 'ignore the situation' identified in this study.

**Acceptance and Perseverance:- :-** This dimension was similar to the coping dimension 'prayer' identified in Park's (2000) study of Korean National athletes. This is similar to the second-order theme identified in this dimension, 'just hope and pray'.

It was expected that coaches would employ some different coping strategies to those employed by athletes. Results show that of the 13 coping dimensions identified in this study, only four dimensions appear to have no similarities with any of the coping dimensions identified in previous research studies. The coping dimensions identified in this study (of coaches) that were different to the findings of previous studies (of athletes) were 'communication', 'vent thoughts and emotions', 'organise effectively' and 'person management'. It is very surprising that 'communication' is not a dimension identified by previous researchers in studies of athletes. In this study, the dimension 'communication' consisted of the largest number of raw data themes of any of the coping general dimensions, indicating that it is a popular strategy used by high performance coaches. The fact that the strategies 'person management' and 'organise effectively' appear to be strategies used only by coaches is more understandable since the nature of coaching is such that organisational and managerial skills are paramount to effective practice. However, it is also surprising that the dimension 'vent thoughts and emotions' is not cited in previous studies of athletes. Given the nature of competitive sport, and the myriad of stressors identified in previous research, it is difficult to believe that the 'John McEnroe syndrome' is not more heavily cited as a coping strategy.

A further analysis of the findings from previous research studies demonstrated that there were a number of coping dimensions cited in studies of athletes that were not found in this study of coaches. These dimensions appear to be more behavioural in orientation and include 'train hard and smart' (Gould, Finch & Jackson, 1993b), 'behavioural based strategies' (Gould, Eklund & Jackson, 1993c), and 'training strategies' (Park, 2000).

Gould, Finch and Jackson (1993b) reported that skaters used both adaptive and maladaptive coping strategies. The coping strategies identified in this study can be classified as both 'adaptive' and 'maladaptive', therefore supporting the work of Carver et al (1989). Most of the strategies reported in this study were adaptive and therefore complement current strategies advocated by sport psychologists. However, there were certain strategies that sports psychologists would argue are maladaptive such as the 'avoidance', 'diversions', 'do nothing', and 'just hope'. Therefore, it may be helpful for a sports psychologist working with a coach to try to educate them in terms of which strategies are adaptive and which ones are maladaptive.

Having discussed the nature of coping of high performance squash coaches and considered the findings relative to previous research from sport and general psychology literature, the following section examines the relationship between these coping strategies and the stress source dimensions identified in chapter 5.

### *The relationships between coping strategies and stress source dimensions*

A further objective of this study was to investigate links between stress source dimensions and coping strategies. Only a few studies (Gould et al 1993a, 1993b, 1997a, 1997c) have previously examined such links. Furthermore, this study aimed to extend this previous work based on recommendations from the sport and general psychology literature, that future research needed to consider coping effectiveness (Bar-Tal et al, 1994; Carpenter, 1992; Hardy et al, 1996). Also, Bar-Tal and colleagues suggested that the frequency of use of coping strategies should be examined simultaneously with coping effectiveness. The rationale for this was that a coping strategy could be perceived as ineffective yet be used infrequently or vice versa, indicating that in reality, that individual

is not coping effectively. Consequently, this study followed these recommendations and examined both perceived effectiveness and frequency of coping. The findings are discussed in two sections, range of coping strategies used with specific sources of stress and generality and specificity of coping strategies.

### ***Range of coping strategies used with specific sources of stress***

Overall, the findings from this study demonstrated that the coping strategies used by high performance squash coaches differed depending on the nature of the stressors they encounter. This evidence supports Lazarus and Folkman's (1984) transactional model of stress and coping, and the findings of Gould, Finch and Jackson's (1993b) study of elite figure skaters. The results of this study are discussed below.

A range of coping strategies was used to deal with sources of stress occurring pre, during and post competition. Pre-competition source of stress were dealt with using problem-focused and emotion-focused coping strategies. For example, the stressor 'pre-event concerns' was linked to the coping strategies 'provide support' (problem-focused and emotion-focused), 'communication' (problem-focused), 'draw on an excellent mentality' (problem-focused) and 'planning and preparation' (problem-focused). The effectiveness and frequency scores were high for all coping strategies used to deal with 'pre-event concerns', suggesting that the strategies used were appropriate.

Sources of stress occurring during competition and post competition were dealt with using problem-focused, emotion-focused and appraisal re-appraisal coping strategies. For example, the stressor 'on court concerns' was linked to 'anxiety management' (emotion-focused, and appraisal re-appraisal), 'provide support' (problem-focused and emotion focused) and 'communication' (problem-focused). The effectiveness and frequency scores were very high (all mean values above 6.33) for all these coping strategies indicating that high performance squash coaches implement adaptive coping responses to 'on court concerns'. The stressor 'post match concerns' was dealt with using 'provide support' (problem-focused and emotion-focused), 'communication' (problem-focused), 'anxiety management' (emotion-focused and appraisal re-appraisal),

'planning and preparation' (problem-focused) and 'rationalisation and action' (problem-focused and appraisal re-appraisal). Again effectiveness and frequency scores were very high (all mean values above 6.56) suggesting that high performance coaches implement appropriate coping responses to 'post match concerns'. Therefore, results show that competition related sources of stress experienced by high performance coaches were dealt with using a variety of effective and frequently used coping strategies.

A number of the non-competition sources of stress were associated with managing people or situations, such as 'interpersonal relationships', 'mentoring responsibilities', 'political and interpersonal pressures' and 'team management'. The stress dimension 'interpersonal relationships' was linked to 'person management' (emotion-focused) and 'communication' (problem focused). The effectiveness and frequency scores were quite high (mean values above 4.75) indicating that these strategies were appropriate for dealing with 'interpersonal relationships'. 'Mentoring responsibilities' were dealt with using the coping strategies 'provide support' (problem-focused and emotion-focused), 'communication' (problem-focused) and 'anxiety management' (emotion-focused and appraisal re-appraisal). Both effectiveness and frequency scores were high for these coping strategies. The stress dimension 'political and interpersonal pressures' was dealt with using 'acceptance and perseverance' (appraisal re-appraisal and 'avoidance'), 'person management' (emotion-focused), 'rationalisation and action' (problem-focused and appraisal re-appraisal), 'communication' (problem-focused), and 'mental disengagement' (avoidance). The effectiveness score for 'acceptance and perseverance' was low ( $M=1.60$ ) yet the frequency score was high ( $M=7.00$ ) indicating maladaptive coping. Furthermore, the effectiveness score for 'mental disengagement' was high and the frequency score was high yet the strategy was essentially avoidance coping, and a sport psychologist may not advocate an avoidance strategy as the most appropriate way of dealing with a stressor. Therefore, it may be helpful to educate high performance squash coaches in terms of the various types of coping and the difference between adaptive and maladaptive coping. Finally, the coping strategies 'person management' (emotion-focused), 'planning and preparation' (problem-focused), and 'rationalisation and action' (problem-focused and appraisal re-appraisal) were used to cope with the

stress dimension 'team management'. The effectiveness and frequency scores were all high (all mean values above 5.50) indicating that these coping strategies were appropriate.

Other non-competition sources of stress included 'self confidence', 'lifestyle concerns', 'organisational concerns', 'medical concerns' and 'coaching constraints and barriers'. These stressors appeared to be manifest in the management role of the coach. For example management of the coach's lifestyle ('lifestyle concerns'), management of resources ('coaching constraints and barriers'), management of the coaches' emotions ('self confidence'), and management of the health ('medical concerns'). Interestingly, a range of coping strategies was used to deal with each stress dimension. 'Self confidence' was dealt with using 'provide support' (problem-focused, emotion-focused), 'person management' (emotion-focused) and 'anxiety management' (emotion-focused, appraisal re-appraisal). The stressor 'lifestyle concerns' was linked to the coping strategies 'organise effectively' (problem-focused), 'planning and preparation' (problem-focused) and 'lifestyle management' (problem-focused). Furthermore, these coping strategies were perceived to be both effective and frequently used. The source of stress 'organisational concerns' was linked to a variety of coping strategies, all perceived to be effective and frequently used including 'anxiety management' (emotion-focused, appraisal re-appraisal), 'provide support' (problem-focused, emotion-focused), 'mental disengagement' (avoidance), 'effective organisation' (problem-focused), and 'planning and preparation' (problem-focused). Again, a sport psychologist working with high performance squash coaches would have to question the perceived effectiveness of 'mental disengagement', an essentially 'avoidance' coping strategy in dealing with 'organisational concerns'. In reality this may be a maladaptive strategy and it may be beneficial for a sport psychologist to educate high performance squash coaches to understand the difference between adaptive and maladaptive coping techniques. The stressor 'medical concerns' was dealt with using the coping strategy 'lifestyle management'. Finally, the coping strategies 'acceptance and perseverance', 'anxiety management' and 'planning and preparation' were used to deal with the stressor 'coaching constraints and barriers'. Interestingly, there was a mismatch between

perceived effectiveness ( $M=1.40$ ) and frequency ( $M=7.00$ ) for the coping strategy 'acceptance and perseverance'. This suggests maladaptive coping and requires intervention to improve coping effectiveness.

These results demonstrate that certain stress source dimensions were dealt with using a wide range of coping strategies whereas others were dealt with by just a few coping strategies. These results support the findings of Gould, Finch and Jackson's (1993b) study of elite figure skaters. Furthermore, this study has extended the work of Gould and colleagues by investigating effectiveness and frequency of coping strategies used.

By combining the results from chapter 5 concerning the source of stress characteristics data with the coping results from this chapter, a number of interesting trends emerged. Firstly, the stress source dimensions ranked highest in terms of challenge (rank 1 = 'team management', rank 2 = 'mentoring responsibilities', rank 3 = 'on court concerns', rank 4 = 'pre event concerns') tended to be linked to problem focused coping strategies. Specifically, 3 of 4 strategies used to deal with 'team management', 2 of 4 strategies used to deal with 'mentoring responsibilities', 2 of 3 strategies used to deal with 'on court concerns' and 4 of 4 strategies used to deal with 'pre-event concerns' were problem-focused in nature. In contrast, no such trend was found with high threat stressors or high harm/loss stressors. The coping strategies linked to high threat and high harm/loss stressors were a mixture of problem-focused, emotion-focused and appraisal re-appraisal. The stress source dimensions ranked highest in control and severity were also linked to problem-focused, emotion-focused and appraisal re-appraisal coping strategies. However, they were linked to more problem-focused strategies than to any other type of coping strategy. Therefore, these results partially support Bjork and Cohen's (1993) findings that problem-focused coping was predominantly used to deal with sources of stress perceived to be controllable and challenging.

### ***Generality and Specificity of Coping Strategies***

The breakdown of each coping dimension was illustrated in table 6.4. 'General' coping strategies used to deal with a range of stress source dimensions. 'Specific' coping



strategies used in response to only a few stress source dimensions and were identified as those coping dimensions in which at least 35% of the raw data themes were linked to any particular source of stress.

The 'general' strategies used with a range of stressors included, 'communication', 'rationalisation and action', 'provide support', 'person management', 'escapism', 'mental disengagement', 'anxiety management', and 'acceptance and perseverance'. The mean perceived effectiveness scores of the 18 high performance coaches provided insights into the effectiveness of coping strategies over a range of stress source dimensions. Findings revealed that the coping strategies 'communication', 'rationalisation and action', 'provide support', 'mental disengagement', 'person management' and 'anxiety management' were perceived to be effective over a range of stressors. Therefore, sports psychologists working with high performance coaches must ensure that they develop a range of these highly effective multipurpose coping strategies. The coping dimensions 'escapism', and 'acceptance and perseverance' were reported to be effective with certain stressors but not with others. Specifically, 'escapism' was perceived to be an effective response (all mean values above 4.00) to all stressors except 'mentoring responsibilities' to which it was perceived to be a very ineffective response ( $M=1.00$ ). 'Acceptance and perseverance' ranged in effectiveness from highly ineffective in dealing with 'political and interpersonal pressures' ( $M=1.6$ ) and 'coaching constraints and barriers' ( $M=1.40$ ) to fairly effective with 'lifestyle concerns' ( $M=3.50$ ) and 'mentoring responsibilities' ( $M=3.00$ ), to highly effective with 'pre-event concerns' ( $M=6.00$ ) and 'organisational concerns' ( $M=5.33$ ). Therefore, this effectiveness data is vital to a sports psychologist working with high performance squash coaches because it identifies coping strategies that are adaptive in response to some stressors yet maladaptive in response to others. Therefore, in assessing the 'goodness of fit' (Hardy, Jones & Gould, 1996) of a particular strategy with a particular source of stress, it is essential for a sports psychologist to have the relevant information about links between sources of stress and coping strategies and perceived coping effectiveness data.

A number of coping strategies were identified as being specific to dealing with one or two sources of stress. These coping strategies included 'lifestyle management' (used to deal with 'lifestyle concerns'), 'draw on an excellent mentality' (used to cope with 'post match concerns'), 'planning and preparation' (used to cope with 'organisational concerns'), 'effective organisation' (used to cope with 'organisational concerns') and 'vent thoughts and emotions' (used to deal with 'on court concerns'). The perceived effectiveness data showed that all these strategies were perceived to be highly effective in dealing with specific stressors.

### **Summary**

This study has explored links between stress source characteristics and the nature and effectiveness of coping. It has made a number of theoretical contributions in addition to producing findings of applied value. Firstly, this study identified a number of coping strategies used by high performance squash coaches during coaching activities. Table 6.5 demonstrated that some of these coping strategies were similar to those found in previous studies of athletes (Gould, Eklund & Jackson, 1993c; Gould, Finch & Jackson, 1993b; Gould, Udry, Bridges & Beck, 1997c; Jackson, Mayocchi & Dover, 1998;), and others were specific to high performance squash coaches. Specifically, 'communication', 'organise effectively', 'vent thoughts and emotions' and 'person management' were coping strategies specifically identified by high performance coaches, they were not cited in previous studies.

Secondly, the results of this study support findings from previous research, which suggest the most predominantly used coping strategies are problem-focused in nature (Bjork & Cohen, 1993; Campbell, 1997; Crocker & Graham, 1995; Endler & Parker, 1990; Folkman & Lazarus, 1985; Madden et al., 1989). If this is the case, Sports Psychologists working with high performance coaches should work on facilitating coaches to develop problem-focused coping skills, since these are the strategies that they will predominantly use.

Thirdly, it was possible to categorise coping strategies identified by high performance coaches into the coping categories identified by previous researchers, problem-focused, emotion-focused, (Lazarus & Folkman, 1984) appraisal re-appraisal (Billings & Moos, 1984; Cox & Ferguson, 1991) and avoidance (Endler & Parker, 1990). Therefore, this reinforced the usefulness of this classification in understanding the nature of coping.

Finally, by examining the link between sources of stress and coping strategies, and by analysing perceived effectiveness and frequency of these strategies, this study provided some interesting findings. Certain coping strategies were viewed as 'general' strategies and were used in response to a range of stressors. Other strategies were identified as more 'specific' coping strategies and were used in response to a small number of stressors. The effectiveness data showed that certain coping strategies were only effective with certain stressors whereas other coping strategies were effective with all stressors. These findings are useful for sports psychologists working with high performance coaches since they provide a basis for discussion and intervention. Furthermore, the findings suggest that investigating stress and coping simultaneously and assessing perceived effectiveness and frequency both enhances understanding and contributes to the applied value of the research.

In conclusion, this study has been particularly useful as a first study since it has produced a vast array of rich qualitative data from which a number of interesting trends have emerged. Consequently, the findings are limited to this particular sample and cannot be generalised across populations. Future research of a more quantitative nature is required in order to gain a fuller picture of the interaction between sources of stress and coping in sport. Finally, this study has extended previous research in the area by investigating high performance coaches rather than athletes or officials. It has provided a sound empirical basis on which to build future quantitative research in phase two.

**PHASE TWO**

**STRESS AND COPING IN HIGH**

**PERFORMANCE SQUASH COACHING:**

**PLAYER'S PERSPECTIVE**

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## Synopsis

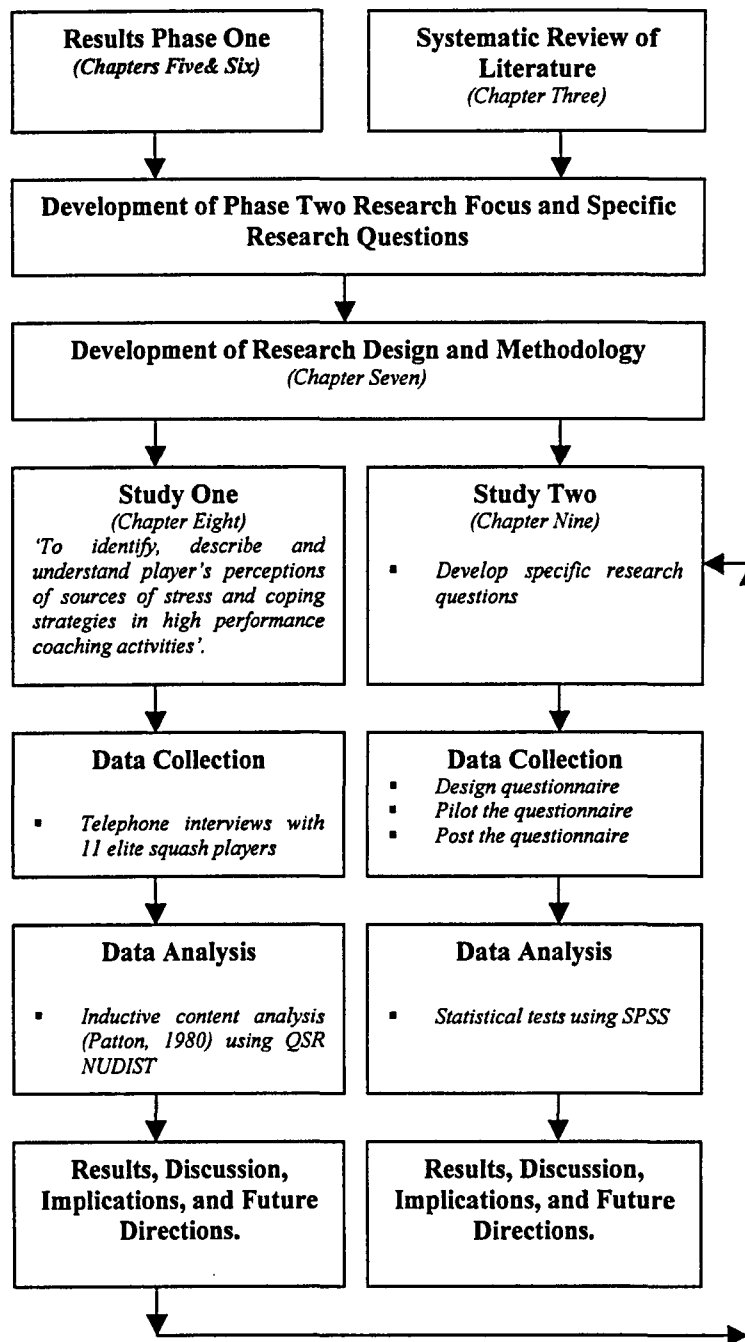
*Phase two of the research extended the work conducted in phase one in a number of ways. Firstly, the research focus naturally progressed from phase one, investigating coaches' perspectives, to phase two, investigating player's perspectives. Secondly, specific research questions were derived from the results of phase one and a further analysis of the literature, providing the basis for more tightly focused theoretical and empirical investigations. Therefore the research design and methodology of phase one was further developed to fit the objectives of phase two. The research design for phase two is outlined and discussed in chapter seven. Specifically, this chapter documents the ways in which phase two extends phase one, it identifies the aims and objectives for phase two, and it outlines and discusses the methodological approach, and the methods of data collection and data analysis adopted. A summary of the ways in which phase two extends current knowledge in stress and coping in sport is also offered.*

*The research conducted in phase two is reported in two studies (chapters 8 & 9). Chapter eight reports the first study investigating the sources of stress and coping strategies used by elite squash players during coaching activity. Study one was qualitative in nature and allowed the research themes to be derived from the data rather than theoretically imposed. Data were collected via telephone interviews (lasting approximately 20 minutes) with 11 elite squash players from the population of English lottery funded players at the time of study (84 in January 1999). Data were analysed using inductive content analysis (Patton, 1980) and the software package QSR NUDIST (version 4). The results of the study one were used to design a questionnaire for study two, reported in chapter nine. In order to obtain more precise findings, it was necessary to use more rigorous quantitative methods in study two, providing larger sample sizes and serving to increase the generalisability of the findings. Chapter nine documents the design and implementation of the postal questionnaire that was distributed to the whole population of English lottery funded players. Data was inputted into the software package SPSS (version 8.0) in order to undertake various statistical tests. The results were analysed and implications for theory, practice and future research are discussed.*

Figure 7.1:- Overview of Phase Two

### Overview of Phase Two

“...social scientists are likely to exhibit greater confidence in their findings when these are derived from more than one method of investigation” (Webb et al 1966).



# CHAPTER SEVEN

## PHASE TWO RESEARCH DESIGN

### 7.1 Structure of the chapter

This aim of this chapter is to outline and discuss the research design for phase two of the research process. The chapter has six main objectives. Firstly, to identify the ways in which phase two extends the work conducted in phase one. This is achieved in part two. Secondly, this chapter documents the aims and objectives of phase two. These are detailed in part three. Thirdly, the methodological approach is outlined and discussed in part four. Fourthly, a rationale for the methods of data collection is provided and discussed in part five. Fifthly, the various tools and techniques used to analyse data in phase two, are discussed and detailed in part six. Finally, part seven outlines the contribution summarising the ways in which phase two extends current knowledge.

### 7.2 Introduction to Phase Two

The aim of phase two of the research process was to extend the work undertaken in phase one to provide a more coherent insight and understanding of stress and coping in high performance squash coaching. Consequently, since phase one investigated stress and coping in high performance squash coaching from a coaches' perspective, it was thought both natural as well as essential to investigate a player's perspective.

The research questions in phase two were developed from both the findings of phase one and a further analysis of the stress and coping literature. This ensured that they were very specific questions requiring more precise theoretical and empirical investigations. These research questions are documented in detail in studies one and two (chapters 8 & 9).

Specifically, phase two extended phase one both empirically, theoretically and methodologically:

- (i) Phase two extends the research focus from investigating coaches' perceptions to investigating player's perceptions of stress and coping in high performance squash coaching.
- (ii) Phase two extended the research design used in phase one. Phase one used Campbell's (1997) design to investigate stress and coping simultaneously using a combination of quantitative and qualitative methods. However, all the data were collected using retrospective interviews and consequently the quantitative data was limited by small sample sizes. Therefore, phase two combined qualitative and quantitative methods to develop a questionnaire specific to the population of elite squash players.
- (iii) Phase two increased the precision of the measurement of stress appraisals. Based on the mainstream stress and coping research findings (Bjork & Cohen, 1993; Lazarus & Folkman, 1984, McCrae, 1992) and the findings from phase one, a questionnaire was designed to measure player's perceptions of challenge, threat, harm/loss, control, severity and frequency. Data was analysed using inferential statistics.
- (iv) Phase two increased the precision of the measurement of coping characteristics. Based on the mainstream stress and coping research findings (Bar-Tal et al., 1994), and the findings from phase one, a questionnaire was designed to measure effectiveness and frequency of coping strategies. Data was analysed using inferential statistics.
- (v) Phase one studied stress and coping simultaneously using qualitative methods. Phase two extended study one by investigating significant links between sources of stress and coping strategies using quantitative methods.



### 7.3 Aims and Objectives for Phase Two

#### *Aim*

To understand and investigate stress and coping in high performance squash coaching from a player's perspective.

#### *Objectives*

- (i) To identify and understand the sources of stress experienced by elite squash players during coaching activities
  - (ii) To identify and understand coping strategies used by elite squash players during coaching activities
  - (iii) To investigate possible links between age and gender of players and particular sources of stress
  - (iv) To investigate possible links between age and gender of players and particular coping strategies
  - (v) To investigate the extent to which certain players have a higher propensity to experience events as stressful i.e., have a higher trait measure of stress
  - (vi) To investigate the extent to which certain players implement one particular coping strategy in response to all stressors, i.e., a 'constant copier'.
  - (vii) To identify players' perceptions of high and low stress situations in high performance squash coaching
  - (viii) To measure the stress appraisals (challenge, threat, harm\loss control, severity, frequency) of the sources of stress identified by players
-

- (ix) To search for significant relationships between various stress source characteristics
- (x) To identify significant links between sources of stress and coping responses
- (xi) To measure the characteristics of coping responses (in terms of effectiveness and frequency)
- (xii) To search for significant relationships between coping effectiveness and coping frequency.
- (xiii) To provide the scientific foundation and empirical basis necessary for interventions within squash.

## 7.4 Methodological Approach

### *Quantitative and qualitative methodology in psychological research*

Both quantitative and qualitative methods can be employed in psychological research, each methodology bringing its own unique value to the analysis. However, there are competing sets of beliefs or paradigms associated with each approach to data collection, which are linked to highly contrasting views about what is accepted as knowledge and the nature of social reality (ontology) and how it 'ought' to be studied (epistemology).

Traditionally data has been gathered through quantitative methods and the language of the researcher – notions of 'variables', 'control', and 'measurement' all reflect the advocacy of the natural science model, that expresses the positivistic paradigm, which holds that human performance can best be measured through objective facts and the discovery of natural laws (Bryman, 1988). In contrast the researcher adopting the phenomenological paradigm, argues that the methods of the natural sciences are limited

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in investigating complex human phenomena. Rather than the discovery of natural laws, the aim is to understand, the researcher discovering what makes the world meaningful and intelligible to respondents.

Recently, there has been a growing recognition of the value of qualitative techniques in psychology. These techniques are now becoming more widespread and legitimate (Symon & Cassell, 1998). Henwood and Pidgeon (1995) argue that one benefit of using qualitative methods in psychology is that the qualitative paradigm does not overemphasize the role of theory in research. Qualitative methods explore the individuals own experiences and interpretations, providing holistic/systemic explanations (Henwood & Pigeon, 1995).

Many psychology projects combined methods by using qualitative methods in the pilot phase of research (Symon & Cassell, 1998). The qualitative data in these cases may act as a precursor, providing hunches and hypotheses for the quantitative study to test.

Both qualitative and quantitative methods were used in phase two of the research. Although the rationale for this was the suitability of the method in dealing with the research objectives, the advantages of combining methods applied.

### ***Methodological Approach to Phase Two***

In order to meet the objectives of phase two, both qualitative and quantitative methodologies were required. Objectives one and two were essentially about 'identifying' and 'understanding' the player's perspective and therefore qualitative methods were deemed appropriate. In contrast, objectives three to twelve were focused on 'measuring', 'searching for significant relationships', 'identifying significant links' and 'investigating possible links' between various key constructs and variables that were identified as important in phase one. Therefore, quantitative methods incorporating much larger sample sizes were also essential. This resulted in phase two being split into two separate studies, study one (chapter eight) followed objectives one and two, and study

two (chapter nine) followed objectives three to twelve. Objective thirteen was met in both studies.

## **7.5 Phase Two Methods of Data Collection**

In phase two, two main data collection techniques were employed; semi-structured telephone interviews and a postal questionnaire. The rationale for using these particular methods is discussed below.

### ***Structured Retrospective Interviews***

Denzin (1978) identifies three types of interview, the schedule-standardized interview, the non-schedule standardized interview and the non-standardized interview. The schedule standardised interview employs a set agenda, similar wording and order of questions. The value of this type of interview is that since each respondent is given the same stimulus to answer, the results are more likely to be comparable. Therefore, this is more of a quantitative technique. The non-schedule standardised interview adapts the same questions to make them more appropriate to the understanding of the subject or to the situation. In doing so, it permits the researcher to deal immediately with any misinterpretation problems that the respondent may face. The non-schedule standardised interview simply follows an agreed agenda of points to be covered, which acts as a rough guide for the interview. Although the non-schedule standardised interview is the hardest to conduct, it allows the researcher the freedom to follow any interesting leads and to probe into the real meaning behind the respondent's answers. Finally, the non-standardized interview is completely unstructured and the interviewer simply has a general discussion with a participant about a particular subject area. Usually the interviewer allows the participant to lead the discussion.

The qualitative work that has been conducted in previous studies of stress and coping in sports psychology has usually involved the use of structured retrospective interviews (Campbell, 1997; Gould et al., 1993a, 1993b, 1993c; Jackson et al, 1998; Scanlan,

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Ravizza & Stein, 1989). To use Denzin's (1978) terminology, these retrospective interviews were non-schedule standardized in nature. Scanlan et al (1989) developed a number of techniques associated with this method to ensure standardization of the researcher's input into the interview, yet simultaneously allowing the participant the freedom to lead the responses. Firstly, they designed an interview guide that allowed pertinent issues to be covered in an unstructured manner (Patton, 1980). In other words, participants were asked the same questions in the same words but the order of topics was free to develop with the flow of the interview (Campbell, 1997). Additionally, probes were used to ensure responses were consistent in depth and complexity across subjects (Patton, 1980). Secondly, 'bounding' techniques were used to anchor subjects into the exact time period wanting to be discussed (Moss, 1979). This method of data collection was successfully implemented in phase one of this thesis. Therefore, since the objectives of phase one were similar to those of the first study of phase two, structured retrospective interviews were deemed appropriate. However, due to the smaller scale of study one phase two, a modified version of the interview guide was developed and telephone interviews were decided upon for logistical ease.

### *Telephone Interviews*

There were a number of reasons why a telephone interview was chosen over a face-to-face encounter. Firstly, interviewing over the telephone would save time in that the researcher would not have to travel to the participant. Secondly, telephone interviews would be less costly because the cost of the phone call would be less than travel expenses. Thirdly, a more favourable response rate was expected because phone interviews can be more easily arranged around participant's schedule, rather than them having to give up the whole morning or afternoon. Also, phone interviews allow the participant and the researcher more versatility in terms of canceling and re-arranging appointments. For example, if the participant has an urgent matter to attend to, the researcher can easily phone back at another time. Furthermore, with face to face interviewing the researcher or participant has the difficulty of finding the agreed venue and contemplating traffic and parking etc. With the phone interview the researcher and participant have less disruption and can focus on the task of the interview. Since the

structured retrospective interview method was successful in identifying and understanding sources of stress and coping strategies used by high performance squash coaches in phase one, a modified version was developed for phase two. The telephone interview, like face-to-face interview, was structured or focused in order to ensure standardization, yet allowed the respondent to lead the discussion around pre-determined topics.

### ***Postal questionnaires***

Veal (1992) notes that the most commonly used survey technique is the questionnaire which can be used to gather data from a large number of participants allowing the researcher to study a large number of variables. Since the objectives of study two (phase two) were to measure stress appraisals and coping characteristics, a questionnaire was chosen since a large number of variables were involved. According to Haralambos and Holborn (1990), questionnaires can be structured to consist of primarily closed (pre-categorised) questions, or unstructured (predominantly open questions). Open-ended questions are more flexible and allow the researcher to gain a greater insight into the respondents' meaning. Closed questions, although only achieving a snapshot of social reality, are easier to analyse and also easier to answer. Compared to the open-ended type, fixed choice questions provide responses that can be more easily classified and quantified. In study two (phase two), the questionnaire incorporated mainly closed fixed choice responses. However, the categories used in the questionnaire were determined from exploratory work in study one (phase two). The questionnaire was intended to provide quantitative data to enhance the qualitative findings from study one (phase two).

According to Davidson (1970), a questionnaire needs to be,

*"...clear, unambiguous and uniformly workable. Its design must minimise potential errors from respondents..." (cited in Cohen & Manion, 1994;92-3).*

Since the questionnaire designed for study two (phase two) was based on the findings from study one (phase two), the terminology used in the questionnaire was taken from the

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interviews with elite squash players. Therefore, it was expected that potential errors occurring as a result of interpretation of key terms would be reduced. Furthermore, the sources of stress and coping strategies cited in the questionnaire were identified by elite squash players in study one. Therefore, it was expected that as questionnaire respondents, elite squash players would be familiar with the topic under investigation, and misunderstandings of questions would be less likely.

Finally, Borg (1981) suggests that the questionnaire has to achieve a high response rate if it is to be representative of the population. Therefore, in order to maximize the response rate of the questionnaire used in study two (phase two), two steps were taken. Firstly, the questionnaire was administered to the total population of lottery funded squash players (84 in January 1999). Secondly, an accompanying letter of support from Matt Hammond, the Performance Director for English squash, asking players to take part in the study in order to develop the knowledge required to enhance future performance, was sent with the questionnaires to the players. Responses were gained from almost 60% (50 of 84) of the total population of lottery-funded players and therefore the researcher was satisfied that they were representative of the whole population.

## **7.6 Phase Two Data Analysis Tools and Techniques**

Since both qualitative and quantitative methods were used in phase two, quantitative and qualitative data analysis techniques were required. The following section discusses both the use of content analysis and the computer assisted qualitative data analysis software package (NUDIST) and the statistical package for social scientists (SPSS).

### ***Content analysis***

Content analysis as prescribed by Patton (1980) was used to analyse all interview transcripts in phase one and study one (phase two). This method had been successfully adapted to sport by Scanlan Stein and Ravizza (1989) and Gould et al (1993a, 1993b, 1993c) with elite skaters and wrestlers. Content analysis involves organising raw data from interview transcripts into interpretable and meaningful themes and categories

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(Patton, 1980). Specifically, the process clusters quotes around underlying uniformities that then become emergent themes. Eventually the analysis is developed until it is not possible to locate further underlying uniformities to create a higher-level theme. There are two kinds of content analysis, inductive and deductive. Inductive content analysis allows the themes to emerge from the data whereas deductive content analysis requires the researcher to provide the themes and the data is then clustered around them.

### **QSR NUDIST**

QSR NUDIST (Non-numerical Unstructured Data Indexing Searching and Theorizing) is a software package that helps researchers organise, manage, code and store qualitative data (user manual version 4). NUDIST can facilitate inductive content analysis by making it quicker to recall organised and coded data. However, the data still has to be imported to the software, and the data still has to be coded. Therefore, the main advantages of using NUDIST for content analysis are logistical in that data can be recalled at the push of a button rather than looking through box files, bits of paper and card. In fact Gorely, Gordon and Ford admit that this is their main motivation for using NUDIST,

*"Born out of considerable experience and frustration with cut-up-and-put-in-folders and file card methods, we are currently applying NUDIST to several studies" (1994; 319).*

Since the manual method of data organisation and storage was used to analyse the qualitative data in phase one, it was deemed appropriate to use NUDIST as a more efficient method of data storage, organisation and analysis in phase two. Other advantages of using NUDIST are that it,

*"allows for the addition of user notes and memos about the ideas and theories that emerge during projects" (Gorely et al., 1994).*

According to Gorely et al., (1994),



*"The processes and functions are supported by the creation of two systems: the document system and the indexing system".*

The document system can be used to store both on-line textual documents such as transcribed interviews and off-line data such as photos or graphs. Documents existing outside of NUDIST such as word documents can be saved as 'text only with line breaks' documents and imported into NUDIST to become on-line documents. All documents are then divided up into text units that can be any size and are used to define meaningful blocks of data that support the existence of a given node. Documents can then be studied or browsed on the screen or saved and printed. The index system is created by the user and is used to reference text units that support the ideas and theories that emerge from the data. The index system allows the construction of tree diagrams that can be illustrated on the screen so that all or part of the index system can be viewed (Gorely et al., 1994).

### ***NUDIST Indexing***

NUDIST indexing is a way of organising coded text units from a document. This facility is perfect to develop tree structures to organise data. The NUDIST index system was used in study one (phase two) to provide visual structure to the data. For example it was possible to build trees in which the lower branches were made up of the raw data themes and the higher branches were made up of the higher order themes and general dimensions. Eventually, it is possible to see a huge tree diagram of sources of stress experienced by players during coaching, and a huge tree diagram of the players' coping responses. Another benefit of using NUDIST is that if for example there is an uncertainty about a particular node (coded text unit) in an index system, it is possible to browse the node and to re-read the text unit to re-assess the appropriateness of the coding and hence indexing. Therefore, it is easy to make amendments to the analysis.

### ***NUDIST Searching***

Another facility that NUDIST provides is the ability to search through coded data and to provide information on frequencies, often a useful analysis. For example, in study one

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(phase two), it was possible to code the data with the base data age and gender in order to conduct a NUDIST search to find out the number of seniors/juniors and men/women mentioning particular sources of stress. Although this sort of analysis is still possible by hand, it would be very time consuming. The limitation of searching in NUDIST is that it can only search coded data so it is vital to code the data in the most appropriate way for any particular search.

### **SPSS**

SPSS is a statistical software package for social scientists. Data is coded and input into a spreadsheet. Data can be selected and a variety of relevant statistical tests performed.

## **7.7 Contribution**

In summation, phase two aimed to make theoretical and methodological contributions to existing knowledge in the following ways:

- (i) It investigated players' perceptions of stress during coaching activity. Previous studies (Campbell, 1997; Gould et al., 1993a; James & Collins 1997; Scanlan et al., 1991) have investigated players' perceptions of stress during performance.
- (ii) It combines qualitative and quantitative methods to investigate stress and coping in sport. Only two previous studies (phase one of this thesis and Campbell, 1997) have used a triangulation of methods to investigate stress and coping in sport.
- (iii) It develops a unique research design for measuring sport specific stress and coping. Campbell (1997) designed a rating system to measure stress appraisals and coping characteristics of elite wheelchair basketball players. This template was used in phase one of this thesis to measure high

performance squash coaches' ratings of stress and coping characteristics. However, the quantitative data was gained via interview and therefore sample sizes were small making data analysis very general. Therefore, phase two extends this design by combining qualitative and quantitative methods to develop a questionnaire specific to the population of elite squash players. The questionnaire incorporates Campbell's (1997) template for measuring stress and coping characteristics.

- (iv) Adopting a transactional definition of stress (Lazarus & Folkman, 1984), sources of stress were appraised as both positive and negative. Only a small number of previous studies have embraced such a definition, the bulk of research in the sport domain has adopted a definition resulting in negative consequences.
- (v) Only 6 studies in the sport domain plus phase one of this thesis have acknowledged the importance of studying stress and coping simultaneously (Campbell, 1997; Gould, Finch & Jackson, 1993a, 1993b; Gould, Udry, Bridges & Beck, 1997a, 1997c; Scanlan et al., 1991), and all of these studies have done so using qualitative methods. Phase two is the first research study to investigate significant links between sources of stress and coping strategies using quantitative methods.
- (vi) The total population of English lottery funded squash players (in January 1999) were involved in the research at some stage. Therefore, gaining findings from the whole population of elite English lottery funded players adds to the quality of the research.
- (vii) Quantitative studies of elite athletes are scarce because large numbers of elite performers do not exist by definition. Furthermore, gaining access to them is usually difficult. Therefore, phase two study two is unique in sports

psychology research because it is a fairly large-scale quantitative study of elite athletes.

- (viii) Much research in the psychology of coaching has focused on interaction between coach and athlete. This study investigates player's perceptions of coaching activities in isolation of the coach i.e., a study of the intra-personal dynamics of the player during coaching activities rather than a study of inter-personal dynamics between the coach and the player.

# CHAPTER EIGHT

## PHASE TWO STUDY ONE

### 8.1 Structure of the chapter

This chapter reports the first study of phase two of the research process. The second study of phase two is reported in the following chapter (chapter nine). This chapter consists of eight parts. Part two provides an introduction to study one which contextualises the research. Part three outlines the purposes and rationale for the study and part four identifies the specific research questions to be investigated. Part five documents the data collection procedures detailing the steps taken to overcome the potential for interviewer bias. Part six describes the 10-step procedure used to content analyse the findings using the software package QSR NUDIST. The results of the inductive content analyses are illustrated in part seven. Part eight provides a summary and discussion.

### 8.2 Introduction

Phase one of the research investigated the sources of stress experienced by high performance squash coaches and the coping strategies they used to deal with these stressors. In order to develop a more complete picture of stress and coping in high performance squash coaching, it was thought necessary to investigate a players' perspective. Therefore, the research focus naturally progressed from phase one.

The importance of studying stress and coping in coaching from a player/athlete perspective has been highlighted in a number of recent sporting autobiographies (see chapter one). Such evidence suggests that the issue of players' experiencing stress during coaching activities is very pertinent in contemporary UK sport, yet it remains relatively

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un-researched. Therefore, by investigating stress and coping in high performance squash coaching from a player's perspective, phase two of the research is unique.

As a result of the general lack of research in the area of stress and coping in coaching, an exploratory investigation focusing on understanding player's perceptions of stress and coping during squash coaching was thought essential as a first study in the area. The essence of this chapter is to report this first study. The results of this study were then used to form the basis of research reported in study two (chapter 9).

### **8.3 Purpose and Rationale of Study One**

#### ***Purpose***

The purpose of study one was to meet objectives one and two of phase two. Specifically, these were;

- (i) To identify and understand the sources of stress experienced by elite squash players during coaching activity.
  
- (ii) To identify and understand the coping strategies used by elite squash players during coaching activity.

#### ***Rationale***

There were a number of reasons why study one was necessary. Firstly, it was essential to obtain empirical findings on stress and coping that were specific to the population of elite squash players. Findings from previous studies of athletes experiences of stress and coping in a variety of sports, (Campbell, 1997; Dale, 2000; Gould Jackson & Finch, 1993a, Gould, Finch & Jackson, 1993b; Gould, Eklund & Jackson, 1993c; Jackson, Mayocchi & Dover, 1998; James & Collins, 1997; Kreimer-Phillips & Orlick, 1993; Park, 2000; Scanlan, Ravizza & Stein, 1991), have revealed that both sport specific and general sources of stress and coping strategies exist. Therefore squash player specific findings offered the possibility of a more precise understanding of player's perceptions of stress and coping in high performance coaching focused on one specific sport. Another benefit from an exploratory study was to obtain the required sport specific knowledge to

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inform the detailed design of a questionnaire for study two. To design this only using data from previous non-squash-specific studies would have reduced both the validity and reliability of the research. Therefore, study one ensured that the research in study two was well founded based on empirical sport specific data rather than generalised findings.

#### **8.4 Specific Research Questions for Study One**

A number of specific research questions were developed to focus the overall phase two investigation. These questions emerged as a result of the findings of phase one and a further analysis of the literature.

- (i) What are the sources of stress experienced by elite squash players during coaching activities?
- (ii) What are the coping strategies used by elite squash players during coaching activities?
- (iii) What are the similarities and differences between the sources of stress experienced by players during coaching activities (identified in this study) and the sources of stress experienced by players during performance (identified in earlier studies) (Campbell, 1997; Gould, Jackson & Finch 1993a; James & Collins, 1997; Scanlan, Ravizza & Stein, 1991)?
- (iv) What are the similarities and differences between the coping strategies used by players during coaching activities (identified in this study) and the coping strategies used by players during performance (identified in earlier studies) (Campbell, 1997; Dale, 2000; Gould, Finch & Jackson, 1993b; Gould, Eklund & Jackson, 1993c; Jackson, Mayocchi & Dover, 1998; Kreimer-Phillips & Orlick, 1993; Park, 2000)?
- (v) What are the key characteristics of the sources of stress identified by players during coaching, and in what ways can they be classified?

- (vi) Do the coping strategies identified by players in this study fit into the pre-existing categories of coping 'problem-focused', 'emotion-focused' (Lazarus & Folkman, 1984), 'appraisal re-appraisal' (Billings & Moos, 1984; Cox & Ferguson, 1991) and 'avoidance' (Endler & Parker, 1990).
- (vii) What is the largest category of coping in terms of the number of raw data themes?

### ***General expectations of Study One***

Given the experience of phase one and previous studies identified in the systematic review (chapter 3), it was thought reasonable to expect that:

- (i) Both similarities and differences would be found between sources of stress and coping strategies identified in this study and those identified in previous studies of players. However, there were no expectations concerning the nature of these similarities and differences.
- (ii) Sources of stress would be both 'competition' and 'non-competition' in nature and would be manifest in both the 'person' and the 'environment'.
- (iii) Coping strategies would fit into the pre-existing categories 'problem-focused', 'emotion-focused', appraisal re-appraisal', and 'avoidance'.
- (iv) The largest coping category in terms of numbers of raw data themes would be 'problem focused'.



## 8.5 Data Collection Procedures

### *Stratifying the sample*

Study one consisted of a sample of 11 English lottery funded squash players. The total number of players on the Sport England World Class Performance Plan was 84 (Jan 1999) consisting of 18 junior females, 22 junior males, 22 senior females, and 22 senior males. Therefore in order to stratify the sample to represent the actual population of English performance players, it was necessary to have equal numbers of junior men and senior men and women, and less junior women. Therefore, the exact sample consisted of 3 junior men, 2 junior women, 3 senior men and 3 senior women. The players were selected at random from the appropriate categories in the SRA's list of nominations. All players who were approached to participate in the study took part.

### *The Telephone Interview*

Data was collected using a 20 minute retrospective interview over the telephone. The interview was chosen as the most appropriate method of obtaining the data in an exploratory fashion, allowing the respondent some freedom yet ensuring standardisation and structure through the design and implementation of an interview guide. The foci for the interview were 'stress experienced during coaching' and 'coping responses'. Within these broad foci, the interviews were un-structured to allow participants to lead the discussion.

### *Procedure*

A number of procedures were followed in order to undertake the telephone interview:

- (i) Participants were contacted a month in advance in order to gain their commitment to the research and to set a date for the phone interview.
- (ii) A telephone interview guide was developed to standardise the procedure.

- (iii) The interview guide was sent to the participants at least 2 weeks prior to the interview. The guide included important definitions of stress, coping and coaching activity, and the participants were requested to familiarise themselves with these definitions before the interview. In addition, the guide detailed the format of the interview in order to prepare the participant for what to expect.
  
- (iv) In order to prepare for the interview, participants were asked to make a few notes on stress that they experience during coaching activities and the ways in which they cope. The notes served the purpose of memory jogging the participants during the actual interview and cutting down thinking (pausing) time.
  
- (v) At the pre-arranged time, the researcher telephoned the participant and recorded the interview using a dictaphone and a telephone adapter. The role of the researcher was to guide the interview and to gain an understanding of the player's perspective. The researcher implemented a priori-probing rule of two probes per response, which was established to ensure that responses obtained were as consistent as possible in terms of depth and complexity (Patton, 1980). 'Clarification' probes included "I am not sure I understand what you mean, would you please go over that again", and elaboration probes included "what made it a source of stress? Who or what did it involve?"
  
- (v) The researcher followed the same procedure with all the study participants.

### ***The Interview Guide***

Specifically, the interview guide consisted of the following four sections:

**Section one** – A general discussion in which the interviewer verified with the participant that they had read the definitions of stress, coping and coaching activities and understood the purpose and format of the interview. Specifically, these definitions were as follows:

**Stress**

*“A relationship between the person and the environment that the person appraises as taxing or exceeding his or her resources and possibly endangering his or her well being.” (Lazarus & Folkman, 1984)*

**Coping**

*“Efforts we make either in terms of our behaviour or thoughts to deal with/manage the specific external or internal demands that we have appraised as taxing or exceeding our resources.” (Lazarus & Folkman, 1984)*

**Coaching Activities**

*“All activities and interactions undertaken by a player and a coach that aim to facilitate the player’s squash performance. Therefore, coaching activities occur both on and off the court and can take place at any time in person or over the phone, email or fax.” (My Definition)*

This section was required before the interview itself could begin to ensure that both the interviewer and the researcher had the same understanding of these key terms.

**Section two** - The participant was asked to talk about sources of stress that they experience during coaching.

**Section three** - Participants were asked to talk about their coping responses. Obviously, section three had to follow section two since it would be impossible to talk about coping responses without identifying the sources of stress first.

**Section four** - A summary in which the researcher provided the participant with a general overview of the points they had made and checked that she hadn't misunderstood the responses in any way and hadn't led or biased the responses at all. The participant was given the opportunity to make any further points or make comments about the nature of the interview.

### ***Interviewer Bias***

The interviewer had a dual role; researcher and international squash player at the time of interview. The main advantage associated with this was familiarity with the experiences and terminology used by the players in the interview, which facilitated empathy and understanding of the player's perspective. The main disadvantage of the dual role of the researcher was the potential for bias. However, there were a number of ways in which the potential for bias in the interviews was addressed:-

- (i) An interview guide was used to structure the session, thus ensuring that all interviews were carried out in the same order and depth.
- (ii) The researcher conducted all the interviews and strove to adopt a neutral impartial stance to avoid biasing or encouraging participants. In addition, the researcher was familiar with, and had gained considerable experience during phase one, of the method of interviewing outlined by Patton (1980), Taylor and Bogdan (1984), Lincoln and Guba (1985), and Bromley (1986).
- (iii) During the interviews, participants were encouraged to ask if they did not understand anything.
- (iv) At the end of every interview, the participant was asked if they felt they had been influenced in any way by the researcher. If so, they were asked to explain how they had been influenced and were given a second chance to express how they really felt. However, all participants said that they were able to express

themselves fully and that they were not consciously influenced at all by the researcher.

## 8.6 Data analysis procedures

### *Content Analysis (Patton, 1980)*

All 11 telephone interviews were recorded and interview transcripts were transcribed verbatim. Content analysis (Patton, 1980) was used to organise the data. Since the purpose of this study was to discover the sources of stress and coping responses of players during coaching, it was vital to use inductive rather than deductive content analysis, thereby allowing the themes to emerge rather than be imposed. In study one, inductive content analysis was implemented by hand, the 8 step procedure advocated by Campbell (1997) was followed (see chapter 4). However, logistically this method was questionable (see 7.6). Therefore, it was decided that in phase two study one, the same process of inductive content analysis would be followed but data would be organised and managed using the computer software package, QSR NUDIST. This proved to be a much more efficient way of organising and storing the data and eased the process of analysing the large quantities of qualitative data gained from the interview transcripts.

### *QSR NUDIST*

In order to undertake inductive content analysis (Patton, 1980) using QSR NUDIST, the following steps were taken:

- (i) The 11 interview transcripts were transcribed verbatim and saved as text only with line breaks in Word "97".
- (ii) They were then imported to QSR NUDIST. Imported documents are known as 'on line' documents in NUDIST. Once on line, documents and in particular text units of documents, can be coded directly.

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- (iii) Once 'on line', the transcripts were coded with the base data 'name', 'age', and 'gender'. The purpose of this was to ensure that it would be possible to conduct NUDIST searches using this data at a later date.
  - (iv) 3 separate investigators, the author, Dr. Harwood and Professor Biddle, read the interview transcripts.
  - (v) Blocks of text and/or lines of text in the form of quotations or paraphrased quotes that captured the major ideas conveyed from the transcripts were coded appropriately by all 3 investigators.
  - (vi) The investigators discussed the identified text units until triangular consensus was reached. Where disagreements occurred, discussions took place until the meaning of the text was agreed upon and the coding was appropriate.
  - (vii) Once coded, the list of raw data themes for all 11 participants was accessible online. For 11 participants, there were 165 raw data themes for stress and coping. The 3 investigators conducted inductive content analysis by identifying and indexing common themes of greater generality from the list of raw data themes. Higher level themes were then labelled 'first order themes', 'second order themes' and the highest level labelled as 'general dimensions' (those of higher abstraction).
  - (viii) Consensus was reached between 3 informed individuals on all identified themes. This process was much easier using NUDIST than doing it by hand because using NUDIST, it is so easy to revert back to the text unit in the main document to clarify the meaning of a particular quote.
  - (ix) Raw data themes comprising each higher order category were re-read to ensure that they fit coherently into the broader category.
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- (x) Deductive analysis was conducted to provide a validity check. Specifically, the researcher re-read the transcripts to verify that all themes and dimensions were represented.

## 8.7 Results

The results of the inductive content analysis are outlined below. In total, there were 227 raw data themes (stress and coping themes) that collapsed into 9 general dimensions for stress, and 8 general dimensions for coping. It was expected that between 10-12 general dimensions for stress and coping would emerge. Therefore the actual numbers of general dimensions were less than anticipated.

### *Ideographic Profiles for Stress*

The following section outlines the 9 ideographic profiles emerging from 110 raw data themes for stress experienced by players during coaching activities. Since the purpose of study one was 'to identify and understand the sources of stress', a number of quotes have been extracted from the interview transcripts which illustrate the meaning of each stress dimension.

**Time Pressures:-** This general dimension emerged from 16 raw data themes. 'Time pressures' refers to the stress caused by time constraints on both players and coaches that disrupt the regularity of coaching activities. There were two second-order themes, 'coaches time constraints' and 'players time constraints'. 'Coaches time constraints' emerged from the first-order themes, 'availability of the coach' and 'coach commitment to elite'. 'Players time constraints' emerged from the first-order themes 'lifestyle management', 'timetabling squads', 'outside pressures' and 'missed opportunities'. All these 'time pressures' appear to be caused by various conflicting role requirements of both players and coaches. For example, 'outside pressures' and 'missed opportunities' experienced by players appear to result from the institutional requirements of university courses or school commitments that conflict with being an elite squash player. Stress associated with 'coach commitment to elite' appears to result from the conflicting

coaching roles of high performance coaches who have to coach club players to gain club retainers in order to live. The essence of the theme 'availability of the coach' appears to be conflicting roles of the coach such as father/mother or husband/wife, that may get in the way of coaching during week-end tournaments. A selection of quotes explaining these sources of stress are provided below:

*Coaches time constraints*

*"...and the other thing I struggle with is trying to get their availability, they're always keen in principle saying we'll do this and we'll do that and then you try to book a session and it's well I can't fit it in here and I can't fit it in there"*

*"...and obviously it's not their fault if they're so busy but as a player trying to be elite, you try to get coaching with someone and you can't get a session because they're coaching club members or some of the juniors!"*

*"He's saying to me you should be coming at least 3 times a week, and from him saying that to me...there isn't a single week when I can get 3 times a week with him"*

*Players' time constraints*

*"and errrm...in terms of national squads, it's not always convenient to go because of work commitments and also commitments to training programmes, but you sort of feel you have to"*

*"...much as it's good to get good sessions with people, it's nearly as important to feel that you can cope with all the time you're spending doing everything, and if you find yourself being rushed and put under major pressure to do everything you have to do, then even if it's good for you, it ends up being almost bad for you if that makes sense?"*



*“Yea...group sessions are mainly on the week-ends, and they take up most of the week-end, and when you don't get many week-ends off from tournaments, it's a missed opportunity to catch up with work if you have to go to squads”*

*“...well like last year I had to train for the worlds and do my 'A' levels and you don't want to let coaches down so you try to do everything they want you to do even though it puts strain on you to try to keep the study under control, so they may not take into consideration other lifestyle factors that affect your ability to be committed to their schedule and it can be stressful trying to manage it all”*

*“Well until I had a spare day, I just wouldn't be able to go for coaching because the nearest decent coach is at least a 2 hour drive away, so I'd miss out.”*

**Time Pressures**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Trying to get coaches' availability</i></li> <li>◆ <i>Coaches being booked up due to other coaching commitments such as club members</i></li> <li>◆ <i>Arranging lessons 3 times per week is impossible</i></li> </ul>	<p style="text-align: center;">Availability of the coach</p>	<p style="text-align: center;">Coaches time constraints</p>	<p><b>Time Pressures</b></p>
<ul style="list-style-type: none"> <li>◆ <i>Coaches not being fully committed to elite players, coaching juniors and club members</i></li> <li>◆ <i>Coaches not being able to watch me play matches because they have to run junior coaching at week-ends</i></li> </ul>	<p style="text-align: center;">Coach commitment to elite</p>		
<ul style="list-style-type: none"> <li>◆ <i>Trade off between getting good sessions and being too rushed</i></li> <li>◆ <i>Requiring a whole day to travel to coaching, no time left for other things</i></li> <li>◆ <i>Having to attend squads rather than having a week-end off to do normal things</i></li> </ul>	<p style="text-align: center;">Lifestyle management</p>	<p style="text-align: center;">Players time constraints</p>	
<ul style="list-style-type: none"> <li>◆ <i>National squads are not always convenient because of work commitments and commitments to training programmes</i></li> <li>◆ <i>Squads disrupting training programmes</i></li> </ul>	<p style="text-align: center;">Timetabling squads</p>		
<ul style="list-style-type: none"> <li>◆ <i>Pressure of a university course and coaching's about an hour away</i></li> <li>◆ <i>Fitting homework in around coaching</i></li> <li>◆ <i>Fitting squash commitments in with work commitments</i></li> </ul>	<p style="text-align: center;">Outside pressures</p>		
<ul style="list-style-type: none"> <li>◆ <i>Squads causing missed opportunities to catch up on some work</i></li> <li>◆ <i>National squads prevent you catching up with your homework</i></li> <li>◆ <i>Not able to travel that far to the coach so I miss out on quality coaching, quality tournament preparation etc.</i></li> </ul>	<p style="text-align: center;">Missed opportunities</p>		

**Coach Evaluation Issues:** This general dimension referred to the stress experienced by players that resulted from coach appraisal. 'Coach evaluation issues' emerged from 28 raw data themes and there were four second-order themes, 'revealing weaknesses', 'reacting to coach feedback', 'demonstrating strengths' and 'lack of coach feedback'. These themes depict both positive and negative perceptions of stress caused by coach evaluation. For example, the theme 'demonstrating strengths' emerged from the lower-order themes 'need to impress coach' and 'pressure to perform', both of which emerged from raw data themes expressing positive reactions to the stress of coach appraisal. Conversely, the theme 'revealing weaknesses' emerged from the first order themes 'task failure', 'de-selection issues', 'task under achievement', 'nowhere to hide', 'demonstrations', and 'addressing weaknesses' all of which emerged from raw data themes expressing negative reactions to the stress of coach evaluation. A selection of quotes illustrating these issues are offered below:

*Revealing weaknesses*

*"...if you're not managing to do some of the things they say...and it can get a bit stressful if the coach is getting you to work on something but it's not going right"*

*"Errrm, well with individual coaching, the fact that there's nowhere to hide can be quite stressful"*

*"Yea, sometimes when you go on for a session with your individual coach, you're not totally focused, you might be a bit tired and stuff, and if you don't put the effort in or if the quality isn't good enough, the coach points the finger at you, you can't escape, therefore in individual sessions you have to perform all of the time"*

*"Errm yea, I don't like going through the movement, 'cos I hate it when they like ask you to demonstrate 'cos errm they ask you to demonstrate in front of the whole national squad and that's quite stressful"*

## Coach Evaluation Issues

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Not managing to do some of the things coaches say</i></li> <li>◆ <i>If you're working on something and it's not going right</i></li> </ul>	Task Failure	Revealing weaknesses	Coach Evaluation Issues
<ul style="list-style-type: none"> <li>◆ <i>Not being picked for England</i></li> <li>◆ <i>Being dropped for the world championship final having got the team to the finals</i></li> </ul>	De-selection issues		
<ul style="list-style-type: none"> <li>◆ <i>Not hitting the ball as well as I can and the coach being disappointed when I'm trying hard</i></li> <li>◆ <i>Playing badly during national squad matches</i></li> <li>◆ <i>Hitting tins trying to volley and the coach encouraging me to keep volleying when it's not working</i></li> </ul>	Task under achievement		
<ul style="list-style-type: none"> <li>◆ <i>There's nowhere to hide in individual coaching</i></li> <li>◆ <i>Nowhere to hide in individual coaching</i></li> </ul>	Nowhere to hide		
<ul style="list-style-type: none"> <li>◆ <i>Demonstrating movement at squads</i></li> <li>◆ <i>Coaches taking the piss out of your demonstration and other squad members laughing</i></li> </ul>	Demonstrations		
<ul style="list-style-type: none"> <li>◆ <i>Coaches forcing you to do things you're not comfortable with</i></li> </ul>	Addressing weaknesses		
<ul style="list-style-type: none"> <li>◆ <i>Trying to impress national coach yet being uncomfortable with his coaching style</i></li> <li>◆ <i>Trying to impress England coaches whilst representing your country</i></li> <li>◆ <i>Wanting to be seen as one of the best in the squad</i></li> <li>◆ <i>Demonstrating your capabilities to the national coaches</i></li> <li>◆ <i>Trying to impress the England team coach</i></li> </ul>	Need to impress coach		
<ul style="list-style-type: none"> <li>◆ <i>In individual coaching, you've got to perform</i></li> <li>◆ <i>Wanting to perform to keep your coach happy</i></li> <li>◆ <i>Pressure to win for the England coach and manager</i></li> <li>◆ <i>Not performing the way the coach wants you to perform</i></li> <li>◆ <i>Letting the England coach down by losing</i></li> <li>◆ <i>The coach having ridiculous expectation, thinking I'm miles better than I am and expecting me to beat world champions</i></li> </ul>	Pressure to perform		
<ul style="list-style-type: none"> <li>◆ <i>My coach never watches me play matches</i></li> <li>◆ <i>My coach never used to watch me in tournaments and then used to comment on how I played</i></li> </ul>	Coach not watching match play	Lack of coach feedback	
<ul style="list-style-type: none"> <li>◆ <i>Having someone there to look at your game and give you feedback</i></li> <li>◆ <i>Having someone to give you direction</i></li> </ul>	External Feedback	Reacting to coach feedback	
<ul style="list-style-type: none"> <li>◆ <i>If you've been working on something with your coach and you don't put it into your match play, this can create tension</i></li> </ul>	Failure to operationalise agenda		

**Demonstrating strengths**

*"Yea...ermm in individual sessions on squads, that can be quite stressful if say you're on with the National Coach because you really want to impress them and you may feel a bit uncomfortable because you're not used to working with them and the style of session and feedback may be different to what you are used to"*

*"Yea...in squad coaching, the stress of wanting to be seen as one of the best in the group"*

*"At national squad, it's quite stressful in front of all the coaches, showing your capabilities, doing yourself justice"*

*" I suppose coming through as a player, the biggest things that I always found hard were that sometimes coaches tended to pick players that they were keen on that they thought might do well, and sometimes I think that players got left out and I found that quite annoying that not everyone got the same opportunity"*

*"Yea, the coach of the England team you always look up to and respect or whatever and you want to make yourself better so it makes you even more nervous"*

*"Well there's the stress of always wanting to perform for yourself and your coach. If a coach tells you ways to improve your game, sometimes you feel that you've got to try hard to achieve that"*

**Lack of coach feedback**

*"Yea I'd like my coach to come and watch me play, but I've only just started with Richard and he can't really afford the time to watch me, he works with lots of good players"*

*“Errm I think what I used to find quite stressful was that my coach wouldn’t come to watch me very often in tournaments and then he would comment on how I played and I would think to myself well you don’t actually watch very often so how do you know?”*

**Reacting to coach feedback**

*“I suppose having someone to sit down with and be able to work out ways of improving, again it can be quite difficult to know if you’re confused, which direction to go in...it’s just good to have another opinion”*

*“I think if you’ve been working on something on court with your coach and you go into a match and you don’t do it, I think that can actually be quite a stress thing when you actually come off after the match because you know all the time you’ve spent doing something that’s obviously going to be beneficial and you just don’t do it, and it can obviously make a big difference to the outcome of a match.”*

**Travel Concerns:** This general dimension emerged from 8 raw data themes and referred to the stress associated with travel to the coach in terms of the time it takes, the distance and the tiredness experienced as a result. There was only one second-order theme ‘travel to coach’, and three first-order themes ‘distance to coach’, ‘time to coach’ and ‘tiredness from travel’. The following quotes illustrate the meaning of this general dimension:

**Travel to coach**

*“Well I mean I suppose that I would probably go to a different coach if the access was easier for me”*

*“Yea I find the travelling quite stressful ‘cos it’s quite a long way...I have to travel all the way across to Heathrow airport to pick my coach then we have to drive to Eaton and that’s quite a long way from his house and we never finish a*

*session until gone 10 o'clock at night and then we have to drop him off and drive home and I have to get up for school the next day."*

*"Travel's probably the worst stress, anywhere I go it's at least sort of an hour away and umm, tiredness and boredom"*

*"...well it's just when you've got to get up early, and you know you've got to sit in a car for about an hour and a half or whatever before you get on court, and it's just you get there and you're feeling knackered before you start."*

### Travel Concerns

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Quality coaches being geographically out of reach for regular sessions</i></li> <li>◆ <i>The fact that I can only see my coach once a week due to the distance to travel</i></li> </ul>	Distance to coach	Travel to coach	Travel Concerns
<ul style="list-style-type: none"> <li>◆ <i>Coaches expecting you to drive 2 hours to see them for a session and 2 hours back</i></li> <li>◆ <i>Regional squads are an hour away and with a university course, there's limited time</i></li> <li>◆ <i>Having to drive to the coach, pick him up, drive to the courts, have the session, and drive back just wipes out about 5 or 6 hours.</i></li> <li>◆ <i>Every coach is at least an hour away, that's a stress</i></li> </ul>	Time to coach		
<ul style="list-style-type: none"> <li>◆ <i>Finishing a coaching session late, having to drive back and get up for school the next day</i></li> <li>◆ <i>Driving an hour and a half before a coaching session is just knackered!</i></li> </ul>	Tiredness from travel		

**Technical Issues:** This general dimension emerged from 11 raw data themes all referring to stress associated with technical issues and movement sessions. In fact the second-order theme 'changing technique' emerged from six first-order themes, 'being self conscious', 'being uncertain of the benefits of change', 'timing the change', 'hard work to change', 'over focus on technique', and 'decline in performance'. Therefore, players reported a wide range of stressors associated with 'changing technique'. The second-order theme 'movement sessions' emerged from three first-order themes, 'changing movement', 'demonstrating movement' and 'practising movement'. Consequently, this general dimension embraced a whole range of sources of stress associated with working on the technicalities of moving and hitting the ball during coaching sessions. A selection of quotes from the transcripts are provided to give examples of these issues:

#### *Changing technique*

*"I've got a sort of unique forehand technique and the coaches have thought I might need to change it, and there's the sort of stress in that one do you think it's possible to change given that I've played with it for 10 years or so, and urrm also, is it necessary to change it?"*

*"If you're trying to change things or work on something and people are watching, I can be quite self conscious of it"*

*"If you're trying to change your technique, becoming comfortable with a new style, you know you can become overly focused on it and be thinking about it during matches and it can lead to frustration especially if you're trying really hard and your match play is just getting worse"*

#### *Movement sessions*

*"When I first started coming here we did try to change my movement a bit, and I did find it a bit hard, but at the same time it has helped me now so I suppose it was a positive stress"*



*"I don't like going through movement and I hate it when coaches ask you to ghost while they watch your technique"*

### Technical Issues

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>Trying to change technique whilst people are watching is stressful, I can be quite self conscious of it</i>	Self conscious	Changing technique	Technical Issues
♦ <i>When you've been playing with a certain technique for 10 years, you are bound to be uncertain about making changes you wonder whether it's necessary.</i> ♦ <i>Wondering if changing your technique is going to benefit you in the long term</i> ♦ <i>If you change your technique and it doesn't work, that's stressful</i>	Uncertainty of benefits		
♦ <i>Trying to change technique before a major championship</i>	Timing the change		
♦ <i>Playing a certain way for years means it's hard work to change technique, that's a challenge</i>	Hard work to change		
♦ <i>If you're doing a lot of technical work, you can become overly focused on technique and start thinking about it during a match which may lead to frustration</i>	Over focus on technique		
♦ <i>Changing technique and your game going backwards for the first month or so. You end up losing to people you beat before and you're uncertain as to whether the change is going to work, it's really stressful</i>	Decline in performance		
♦ <i>Changing movement before a major championship</i>	Changing movement		
♦ <i>Demonstrating movement in front of fellow competitors at national squad</i>	Demonstrating movement		
♦ <i>Practicing movement is stressful but you have to do it to get better</i>	Practicing movement		

**Organisation and Planning Issues:** This general dimension emerged from 6 raw data themes reporting player's stress resulting from organising and planning issues in coaching. There were three second-order themes, 'structured programmes', 'too much squash' and 'no lower tin'. 'Structured programmes' emerged from four first-order themes, 'being organised', 'making progress', 'lack of flexibility', and 'lack of structure at squads'. Therefore, players revealed a variety of stressors all associated with the organisation and planning of structured programmes. The second-order themes, 'too much squash' and 'no lower tin' emerged directly from the raw data themes. The stressor 'too much squash' resulted from players living with a group of squash players who all work with a particular coach. 'No lower tin' referred to the stress experienced by players as a result of having coaching on a court with no lower tin. In this case the lack of planning on the part of the coach is the source of stress. A selection of quotes explaining some of these issues are illustrated below:

#### *Structured programmes*

*"Having a flexible coaching plan is vital so if you're having a bad day you can do something else to help you work through it, I mean there's nothing worse than if you've planned a pressure session and you're body just won't go for some reason ...and if the coach makes you stick rigidly to the plan and pushes you through it, it just does no good 'cos you end up more knackered and depressed about the quality."*

*"Yea at squads, sometimes the lack of structure is actually stressful because you feel like you're just wasting time when you could be working hard at your own programme".*

#### *Too much squash*

*"Yea, you can't help it but you talk about squash because that's what you've got in common, and you can get all squashed out and I think it's important for your coach to make sure that you're getting enough time off away from the environment so that you can come back fresh and more focused"*

**No lower tin**

*“Yea, there’s little things like if I go for coaching with David in Harrogate, it’s not a lower tin, it’s not a movable tin, which means that we’re practicing on a court that I wouldn’t play a match on, which can be a bit annoying, especially if we’re working on drops!”*

**Organisation and Planning Issues**

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>Structured programmes can be really challenging to stick to them to see the benefits</i>	Being organised	Structured programmes	<b>Organisation and Planning Issues</b>
♦ <i>Having targets to beat during coaching sessions is challenging, such as number of court sprints in a minute or number of shots in the target in a minute</i>	Making progress		
♦ <i>If you don’t have a flexible coaching plan so if you’re having a bad day, your coach still pushes you through a pressure session, this is stressful when your body won’t go</i>	Lack of flexibility		
♦ <i>If there’s not structure to squads, that’s stressful because you feel like you’re wasting time</i>	Lack of structure at squads		
♦ <i>Getting too much squash because you’re living with a group of players who all work with a particular coach</i>	→	Too much squash	
♦ <i>Having coaching on a court with a 19 inch tin when I play matches on a court with a 17 inch tin, this is annoying especially when you’re practicing drop shots</i>	→	No lower tin	

**Quality Concerns:** This general dimension emerged from 13 raw data themes referring to stress experienced by players due to the quality of the coach. 'Quality concerns' emerged from three second-order themes, 'coaches adding no value', 'generalised coaching' and 'stressed coaches'. 'Coaches adding no value' emerged from two first-order themes, 'lack of respect for the coach' and 'lack of learning'. Therefore these first-order themes were associated with stress caused by players' negative perceptions of the coaches' ability and performance. The second-order theme 'generalised coaching' emerged from the first order themes, 'lack of specificity to individual needs', 'working to general themes' and 'rigid ideas about best practice'. Therefore 'generalised coaching' reported stress resulting from a lack of flexibility in coaching practice. The second-order theme 'stressed coaches' emerged from a number of raw data themes reporting stress experienced as a result of coaches panicking and becoming quite nervous concerning players' performances. A selection of quotes have been chosen from the interview transcripts to illustrate the sources of stress represented in this general dimension:

*Coaches adding no value*

*"...sometimes we don't learn an awful lot, we're just put onto court and told to get on with it, and the lack of consistent benefit that you get from the squads doesn't outweigh the hassle that it is to go there"*

*"Oh yea, sometimes if you don't respect a coach, and you don't think what they're telling you is any good, that can be stressful"*

*"Yea, the sessions started to get the same all the time and I never thought I'd learn anything new"*

*"Well I used to find on our regional squads the coach didn't really know what he was talking about and he used to say 'well you know what you're doing, just go on court and do whatever routines you normally do', and I didn't think he was good enough really."*

**Generalised coaching**

*"...if a coach is working on the same thing with everyone, you feel as if it's not specific enough to you, even in individual coaching sometimes you see someone having a session before you and you end up working on the same thing as them"*

*"...on a squad, working with so many people and the coaches are trying to get us all to do the same thing...and I felt that it was too much of a general thing and we all had to try to do it"*

*"I mean in my eyes, squash is an individual sport so it's probably quite particular what you have to work on yourself, and working in a group environment...well a lot of the time the themes that are decided upon aren't probably exact enough for what you need...errm that's one source of stress I suppose"*

*"If you want to work on something different and the group's doing something else, you feel like you're not working at your own game, you're just doing group stuff"*

**Stressed coaches**

*"...like a coach who is obviously getting quite nervous about the situation and in meetings and preparation during the tournament he's quite anxious and quite stressful then that can rub off on everyone else as well, and that's happened before"*

### Quality Concerns

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>If you don't respect a coach and you don't think what they're telling you is any good</i></li> <li>◆ <i>Coaches who don't really know what they are talking about are stressful</i></li> </ul>	Lack of respect for the coach	Coaches adding no value	<b>Quality Concerns</b>
<ul style="list-style-type: none"> <li>◆ <i>Lack of benefit from regional squads does not outweigh the hassle of going</i></li> <li>◆ <i>When sessions start to get the same all the time and you feel as if you're not learning anything new</i></li> </ul>	Lack of learning		
<ul style="list-style-type: none"> <li>◆ <i>If a coach is working on the same things with everyone, you feel as if it's not specific enough to you</i></li> <li>◆ <i>If you end up working on something that you saw the person in the previous session was working on, you feel like it's not specific to your needs</i></li> </ul>	Lack of specificity to individual needs	Generalised coaching	
<ul style="list-style-type: none"> <li>◆ <i>Working to themes on squads, the coaches are trying to get us all to do the same things and it's too much of a general thing</i></li> <li>◆ <i>Group coaching in which themes are decided upon that aren't probably exact enough for what you need</i></li> <li>◆ <i>If you want to work on something to improve your own game and you have to do group stuff you feel like you're not benefiting from the expert advice that you could be using to deal with your problem</i></li> </ul>	Working to general themes		
<ul style="list-style-type: none"> <li>◆ <i>Most coaches have got set ideas about the best way to play and that might not work for you and therefore it's difficult if you have to work with that coach</i></li> <li>◆ <i>If you've got a fair idea of how you want to play and another coach is telling you something different, you can get confused</i></li> </ul>	Rigid ideas about best practice		
<ul style="list-style-type: none"> <li>◆ <i>A coach who is obviously getting quite nervous about the situation and in meetings and preparation during the tournament he's quite anxious and quite stressful, that can be stressful for us as players</i></li> <li>◆ <i>If your coach starts panicking and you can see it in them, that can be pretty unsettling</i></li> </ul>	→	Stressed coaches	

**Competition In Coaching:** This general dimension emerged from 6 raw data themes reporting both positive and negative sources of stress resulting from competition during coaching activities. There were three second-order themes, 'conflict with other users', 'loss of confidence', and 'competing with others'. The theme 'conflict with other users' represented negative experiences of stress resulting from conflict 'with other squad members' and conflict 'with club members and juniors'. In addition, the theme 'loss of confidence' also represented negative experiences of stress resulting from 'comparisons' with other players and 'poor performance of the task'. However, 'competing with others' emerged from a number of raw data themes expressing players' experiences of positive stress or challenges associated with competing against others during coach activities. Therefore, this data suggests that players find 'competition in coaching' both challenging and threatening. A selection of quotes depicting the meaning of this general dimension are offered below:

***Conflict with other users***

*"...at squads, you can be on court with someone and the coaches are trying to help that person and so the routines are breaking down every two minutes while the coach is helping them...obviously this is just a pain for you because you can't get into a rhythm"*

***Loss of confidence***

*"...this summer is the first time we've done lots of squads and I sometimes found that I was losing confidence after being on a squad 'cos some people seemed to be doing better than me at what the coaches were trying to get us to work on, I got quite depressed about it cos the things that I'm good at seemed to be dismissed and unimportant"*

***Competing with others***

*"when we play matches at squads, I don't feel as fired up as when we play in tournaments and then I don't play as well and just feel bad afterwards."*

*"I find competitive court sprints at squads a real challenge, it's so much more motivating than struggling on your own"*

### Competition in Coaching

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>In squad coaching when you are on court with someone and the routines keep breaking down because the coaches are trying to help that person</i>	With other squad members	Conflict with other users	Competition in Coaching
♦ <i>When you can't book a session in with a coach because they are too busy coaching club members and juniors</i>	With club members and juniors		
♦ <i>Losing confidence with squad work because other people are able to do certain things better and the things I do better were viewed as unimportant</i>	Comparisons	Loss of confidence	
♦ <i>Squad work is often too much of a general thing and we have to try and do it and I often do it badly</i>	Poor performance of task		
♦ <i>Not feeling as fired up for matches at national squads as tournament matches and therefore playing badly and feeling bad about my performance</i>	→	Competing with others	
♦ <i>Competing against others in squad coaching is more fun and challenging whether it's physical training or routines or matches</i>			

**Ethical Issues:** This general dimension emerged from just 2 raw data themes reporting stress experienced by players as a result of coaches' integrity. There was only one second-order theme 'confidentiality', which emerged from a number of raw data themes. A selection of quotes explaining these raw data themes are listed below:

#### Confidentiality

*"If a coach coaches somebody who's probably a similar standard to you, that can be stressful"*

*"When you've got a coach working in a squad situation who works on an individual basis with other players, then they're gonna be telling their player*



*what to do when they play you. I just think it's a pretty false situation when a coach is telling someone how to beat you and is then coaching you as well"*

### Ethical Issues

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>If you're working with a coach who also coaches someone of a similar standard to you... I personally like the idea of having one coach who's working only with me, otherwise you never know what they're telling the other players.</i></li> <li>◆ <i>When you've got a regional coach who's working individually with other players and then they're in a squad situation with you and they seem more interested in finding ways to beat you and telling all their players rather than giving you help to improve your game.</i></li> </ul>	→	→	<b>Ethical Issues</b>

**Coaching Agendas:** This general dimension emerged from 20 raw data themes reporting stress experienced by players as a result of coaching programmes. There were three second-order themes, 'agenda items', 'setting agendas' and 'controlling agendas'. 'Agenda items' consisted of four first-order themes, 'new ideas', 'pressure sessions', 'conflicting ideas' and 'repetition'. Therefore this stress resulted from specific coaching practices and procedures. 'Setting agendas' emerged from the first-order theme, 'coach not responding to your specific needs'. The raw data themes associated with this theme suggested that the stress occurred due to an inability of the coach to listen to the needs of the player. 'Controlling agendas' emerged from the first order theme 'lack of control over coaching activity'. The raw data themes associated with this theme suggested that unequal control of coach and player in the coaching process resulted in stress. The following quotes illustrate the meaning of this general dimension:

**Coaching agenda items**

*"...different ideas you get in terms of practice routines, different information you can get from the different coaches so hopefully you can take away different information and different ideas that you can use"*

*"Errm well I suppose sessions you don't enjoy like pressure sessions are quite stressful just because they're hard work"*

*"Yea...sometimes you can get conflicting ideas between the national coach say and your private coach, both trying to help you but telling you conflicting things, and you end up stuck in the middle, that can be stressful"*

*"Conditioned games and just like playing to length on the forehand side or something, it's just a chore when they say it because it's every national squad and you're like oh God the same thing over again..."*

## Coaching Agendas

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Starting on doing something new like I've been trying to step onto the ball and having the confidence to do it is quite challenging.</i></li> <li>◆ <i>(The coach) has been trying to teach me to do something different and it's hard when you can't do it and you're losing points.</i></li> <li>◆ <i>Working with the national coach is hard cos you're trying to impress them but you're not used to their style and feedback</i></li> <li>◆ <i>Squads are great to get new ideas, a varied approach.</i></li> <li>◆ <i>All coaches have their own idea about technique and it can get confusing at squads with too many ideas</i></li> <li>◆ <i>Bouncing off ideas from a number of different coaches is helpful</i></li> <li>◆ <i>One to one attention is great cos the coach gives you specific things that you need to work on.</i></li> </ul>	New ideas	Agenda Items	Coaching Agendas
<ul style="list-style-type: none"> <li>◆ <i>The thought of pressure sessions and ghosting just stresses me out.</i></li> <li>◆ <i>Sessions you don't enjoy, like pressure sessions, are stressful cos they're hard work.</i></li> <li>◆ <i>I don't like the sound of a pressure sessions, it means hard work!</i></li> </ul>	Pressure sessions		
<ul style="list-style-type: none"> <li>◆ <i>Conflicting ideas of your private coach and say the national coach, both trying to help and you're stuck in the middle.</i></li> <li>◆ <i>Even though the theme of squad coaching is the same, you invariably get 3 different coaches with slightly different ideas, and you can tell by the way that they talk what they really think, and that can be confusing.</i></li> <li>◆ <i>There's often a situation where 2 different coaches are offering you conflicting advise and that's confusing and frustrating.</i></li> </ul>	Conflicting ideas		
<ul style="list-style-type: none"> <li>◆ <i>Conditioned games and just like playing to a length on the forehead or something, it's just a chore when they say it because it's every national squad and you're like Oh God, the same over and over again.</i></li> </ul>	Repetition		
<ul style="list-style-type: none"> <li>◆ <i>I used to tell (the coach) that I can't train on Saturdays cos I have to work and yet he's still write Saturdays into my programme, how annoying when he knows I can't do it.</i></li> <li>◆ <i>Pressure to do what the coach wants you to do rather than what you want to do, and the coach may not have written study time into your schedule.</i></li> <li>◆ <i>Sometimes you feel that they're not listening to you, your ideas and what you need, that's stressful.</i></li> <li>◆ <i>Coaches that are set in their ways, not responding to your needs, that's stressful.</i></li> </ul>	Coach not responding to your specific needs	Setting Agendas	
<ul style="list-style-type: none"> <li>◆ <i>With (the coach) he was very much in control of the coaching situation and I had to put everything by him, it was a nightmare.</i></li> <li>◆ <i>Coaches who write schedules for you without consulting you and taking into consideration other lifestyle factors.</i></li> </ul>	Lack of control over coaching activity	Controlling Agendas	

**Setting agendas**

*"I suppose there's some pressure to do what the coach wants you to do rather than what you want to do, and this can be stressful because you don't want to let them down"*

*"Yea, we used to have arguments...I had things I wanted to do and he had his ideas...he thought that because he'd coached for so many years that what he'd coached was right and if I thought other things were more important I was wrong"*

**Controlling agendas**

*"I think it's important that you as the player, really input into the coaching too, and when I was having coaching with David, I really felt like he was in control of the coaching situation and that was really stressful to me"*

**Ideographic Profiles for Coping**

The following section outlines the 8 ideographic profiles emerging from the 117 raw data themes for coping by players during coaching activities. Again, in order to facilitate understanding of the meaning of each general dimension, a number of quotes have been extracted from the interview transcripts and are presented with each profile below.

**Rationalisation and Action:** This general dimension emerged from 38 raw data themes reporting both logical and rational thinking and/or taking the appropriate course of action. There were three second-order themes, 'react and regroup constructively', 'rationalise thoughts' and 'reset and take action'. 'React and regroup constructively' emerged from the first order themes 'regroup emotionally', 'react realistically', 'respect the coach' and 'use it for motivation'. 'Rationalise thoughts' emerged from the first order themes, 'accept it', 'focus on long term benefits', 'try to learn' and 'work it out for myself'. 'Reset and take action' emerged from the first order themes, 'give it a try', 'do the best thing for me', 'problem solve', 'change coaches', 'practice', 'get coach to watch', 'video

matches' and 'avoid squads'. A number of quotes have been selected to illustrate the meaning of these themes:

***React and regroup constructively***

*"Well when I'm at squads I just think well it's gonna help me so I've gotta try and use these sessions to the best I can make of them really"*

*"Sat down and thought about what the reasons for it were and decided just to get on and be as good a team mate as I'd been all week when I'd been playing...I know I still helped the team even though I wasn't playing in the final so just look at the positive side of it even when it's so easy to look at the negative I suppose."*

*"...you have to be able to step back from a situation and look at it realistically rather than emotionally ...you know if I've been criticised, is the criticism a good thing, and is it something that will be positive for me."*

***Rationalise thoughts***

*"Well you'd just see it as positive and challenging that you are getting all the attention and make the most of it, you can only improve as a result really"*

*"You have to just try to think that it's obviously something that's important"*

***Reset and take action***

*"...in which case I would step back in and say yea I agree, how do we deal with this situation, and then do something about it..."*

## Rationalisation and Action

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>I tried to take the emotion out of the equation and view it as a tactical choice</i>	Regroup emotionally		<b>Rationalisation and Action</b>
♦ <i>You have to be able to step back from the situation and look at it realistically rather than emotionally before opening your mouth.</i>	React realistically		
♦ <i>You just have to respect the fact that it's hard work for them too to give you all the help, support and encouragement.</i>	Respect the coach		
♦ <i>Use it for motivation and aspire to it</i> ♦ <i>I just try to motivate myself more</i> ♦ <i>I used it to motivate me to improve my game</i> ♦ <i>I need it to help to motivate me, that's how I cope</i>	Use it for motivation	React and regroup constructively	
♦ <i>You have to accept it really</i> ♦ <i>We just accept that it's not always possible to have everything the way you'd like it</i> ♦ <i>You have to accept the way things are now</i> ♦ <i>Accept it, everyone has to drive to their coach, it's a pain but that's how it is.</i> ♦ <i>Accept it, coaches have to coach other players to earn a living.</i>	Accept it		
♦ <i>I think of the long term benefit and I know that it's gonna help me in the future so I've gotta do it</i> ♦ <i>Well you just think of the rewards in the long term I suppose</i> ♦ <i>I just think of the benefits and I know I'll feel good afterwards</i>	Focus on long term benefits		
♦ <i>I think to myself try and learn from what they are saying</i> ♦ <i>I'd just try to take the best points from each coach and get on with it</i> ♦ <i>I would listen to the coach and try to take the good advice and ignore the bad</i>	Try to learn	Rationalise thoughts	
♦ <i>I just try to practice on my own and get back to what I was doing well, be more individualistic</i> ♦ <i>I'd have to decide in my own mind what I thought, find out what works for me, and then go away and practice</i> ♦ <i>I would listen to both bits of advice, try both, and use the best bits to help myself</i>	Work it out for myself		
♦ <i>I'd just think that I've got to give it a try</i> ♦ <i>You'd take the best ideas from the coaches and try them</i> ♦ <i>I would listen to both, think it through and try both</i>	Give it a try		
♦ <i>I have to be a bit selfish and just not go or just go to the odd one</i> ♦ <i>I took the decision to go twice a week rather than everyday which was better for me</i> ♦ <i>I resorted to what was working for me</i>	Do the best thing for me		
♦ <i>I just try to work through it</i> ♦ <i>I just solved the problem by making the decision</i>	Problem solve		
♦ <i>I had to move on and go somewhere else for coaching</i> ♦ <i>It's such a big thing that you'd have to move coaches</i> ♦ <i>Get a new coach, leave him and move on!</i>	Change coaches	Reset and take action	
♦ <i>You'd go away and try to practice them</i> ♦ <i>Just by patience, perseverance and practice, the 3P's</i>	Practice		
♦ <i>I suppose I'd want him to watch me often and I'd want constant re-assurance</i> ♦ <i>I'd tell the coach not to tell me what I did wrong when he didn't even see the match!</i>	Get coach to watch		
♦ <i>Video matches so the coach can at least watch</i>	Video Matches		
♦ <i>Just didn't go, avoided squads and told someone in the SRA to sort it out!</i>	Avoid Squads		

**Communication:** This coping dimension emerged from 29 raw data themes and interestingly, there were only two second-order themes, 'communication with coaches' and 'communication with someone you trust'. 'Communication with coaches' emerged from nine first-order themes, 'conveying ideas to the coach', 'expressing needs to the coach', 'explaining situations to the coach', 'discussing issues with the coach', 'asking the coach questions', 'seeking ideas from the coach', 'being diplomatic', 'work at relationship with coach', and 'disagree with coaches'. 'Communication with someone you trust' emerged from three first-order themes, 'gain advice from family', 'gain advice from significant others' and 'moan to someone close'. A number of quotes from the transcripts are provided below:

*Communication with coaches*

*"...you might communicate with the coaches involved"*

*"You just have to try to develop a good off court relationship so that you feel comfortable communicating and work it out with him"*

*"I suppose if they're not doing what I've told them, I'd just tell them, communicate and discuss it with them."*

*Communication with someone you trust*

*"If I did get a bit stressed, then I talked to either my family or girlfriend, and they just try to encourage you to keep playing."*

*"I think my parents helped me out, my Dad got on well with him and obviously understood my position so he sort of acted as mediator"*

*"Well I suppose if there's someone else in the team who knows you better and who's given you advice before, get them to maybe do it instead of the coach"*

## Communication

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension	
<ul style="list-style-type: none"> <li>◆ <i>Make sure the coaches know how you feel about it</i></li> <li>◆ <i>Tell them what you want to work on</i></li> <li>◆ <i>Say to the coach I wouldn't mind working on this and see if they can incorporate it into the session or squad</i></li> </ul>	Conveying ideas to coach	Communication with coaches	Communication	
<ul style="list-style-type: none"> <li>◆ <i>I just tell the coaches what I need to work on these days</i></li> <li>◆ <i>I would ask the coaches to discuss my weaknesses with me alone rather than presenting them to the group</i></li> <li>◆ <i>I'd tell them how I liked to be spoken to so they know what you like</i></li> <li>◆ <i>I would speak to the coach before the match and say this is what I'm used to, I don't want fifty million things thrown at me I just need a few sensible ideas</i></li> <li>◆ <i>I'd tell the coach I need him to watch me play matches</i></li> </ul>	Expressing needs to coach			
<ul style="list-style-type: none"> <li>◆ <i>Just talk to them and be honest and thank them for the help and support they have given</i></li> <li>◆ <i>I'd just tell him that I don't agree and ask him if we can work on something else.</i></li> </ul>	Explaining situations to the coach			
<ul style="list-style-type: none"> <li>◆ <i>You have to develop a good off court relationship so that you feel comfortable communicating and working it out with him</i></li> <li>◆ <i>If they're telling you the best way to play and you don't really agree with it, you'd have to communicate it</i></li> <li>◆ <i>You'd have to agree to get on for the sake of the team</i></li> <li>◆ <i>I'd speak to the coach and ask them to spend more time with me.</i></li> </ul>	Discussing issues with the coach			
<ul style="list-style-type: none"> <li>◆ <i>I'd ask questions off the court and get the coaches to help me work it out</i></li> <li>◆ <i>Ask questions to make sure you understand what they're getting at.</i></li> </ul>	Asking the coach questions			
<ul style="list-style-type: none"> <li>◆ <i>Try to listen to the coaches and take out the things that work for you</i></li> <li>◆ <i>I would try to be open minded and seek fresh ideas</i></li> <li>◆ <i>Talk to as many coaches as you can and get their ideas on the game</i></li> <li>◆ <i>I'd talk to all the coaches at squads to see who was most keen and I'd ask them about their ideas</i></li> </ul>	Seeking ideas from the coach			
<ul style="list-style-type: none"> <li>◆ <i>You have to learn to be diplomatic</i></li> <li>◆ <i>Be a bit cagey when you talk to them, don't tell them everything you're thinking about.</i></li> </ul>	Being diplomatic			
<ul style="list-style-type: none"> <li>◆ <i>You have to develop a good off court relationship with a coach so that you feel comfortable discussing and communicating things</i></li> </ul>	Work at relationship with coach			Communicate with someone you trust
<ul style="list-style-type: none"> <li>◆ <i>I just disagree with them but I get along well with the coaches so they're never too worried when I disagree.</i></li> </ul>	Disagree with coaches			
<ul style="list-style-type: none"> <li>◆ <i>I talk to family or girlfriend about it</i></li> <li>◆ <i>I talk to my Dad objectively about it</i></li> <li>◆ <i>I got my Dad to have a work with him</i></li> </ul>	Gain advice from family			
<ul style="list-style-type: none"> <li>◆ <i>If there's someone in the team who knows you better and who's given you advice before, get them to do it instead of the coach</i></li> </ul>	Gain advice from significant others			
<ul style="list-style-type: none"> <li>◆ <i>I used to go home in the car and say to Mum and Dad, what an idiot!!</i></li> </ul>	Moan to someone close			



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*"I used to just listen to him but not really listen, just ignore what he said, I used to just go and moan at other people, like I used to just go home in the car and say to Mum and Dad, what an idiot!"*

**Mental Disengagement:** This coping dimension emerged from just 7 raw data themes reporting disengagement from task irrelevant cues as a way of coping. There were three second-order themes, 'block out stress', 'dissociation strategies', and 'ignore distractions'. 'Block out stress' and 'ignore distractions' emerged from the raw data and 'dissociation strategies' emerged from the first order themes 'escape from squash environment' and 'listen to music'. A few quotes depicting the meaning of the themes in this dimension are offered below:

***Block out stress***

*"Just concentrate on the task and block everything else out"*

*"Well I just put it out of my head really"*

***Dissociation strategies***

*"I didn't move up there and that's why I won't move to Chingford as well, I think it's good to keep yourself a bit separate sometimes"*

*"Yea... you just have to get a good CD on and listen to something you like."*

***Ignore distractions***

*"Yea, you just end up ignoring them!"*

**No Coping:** This coping dimension emerged from 7 raw data themes reporting no coping. There were six second-order themes that all emerged directly from the raw data, including, 'explode', 'live with it', 'just do as you're told', 'try to learn from it', 'active no coping' and 'experience'. Some quotes from the raw data are presented below:

### Mental Disengagement

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>Just concentrate on the task and block everything else out</i></li> <li>◆ <i>I just put it out of my head really</i></li> </ul>	→	Block out stress	<b>Mental Disengagement</b>
<ul style="list-style-type: none"> <li>◆ <i>I didn't move to Broxbourne and I won't move to Chingford because I think it's good to keep yourself separate from the coaching environment</i></li> </ul>	Escape from squash environment	Dissociation Strategies	
<ul style="list-style-type: none"> <li>◆ <i>I just get a good C.D. on to pass the journey</i></li> <li>◆ <i>Relaxation exercises to stop you getting nervous, get your tape out!</i></li> <li>◆</li> </ul>	Listen to music		
<ul style="list-style-type: none"> <li>◆ <i>I just ignore them!</i></li> </ul>	→	Ignore Distractions	

### No Coping

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>In the past, I have exploded!</i></li> </ul>	Explode	Carry on regardless	<b>No Coping</b>
<ul style="list-style-type: none"> <li>◆ <i>I don't do anything really, there's not a lot you can do, it's just the nature of squads</i></li> </ul>	Live with it		
<ul style="list-style-type: none"> <li>◆ <i>Well if you don't do it, you get told off, so you just do it</i></li> </ul>	Just get on with it		
<ul style="list-style-type: none"> <li>◆ <i>At the time I didn't cope but now I suppose you just have to put it down to experience and learn from it</i></li> </ul>	Try to learn from it	Avoid re-occurrence	
<ul style="list-style-type: none"> <li>◆ <i>I don't really need to cope with it I suppose</i></li> </ul>	No need for coping	Active no coping	
<ul style="list-style-type: none"> <li>◆ <i>It's got a lot more comfortable with experience</i></li> <li>◆ <i>When you get older, you just get used to the politics of it</i></li> </ul>	→	Experience	

**Explode**

*"I think initially when you're working with a coach, you don't cope, you explode at the smallest thing, and you don't take criticism very well"*

**Live with it**

*"You don't really cope, there's not a lot you can do, it's just the nature of squads"*

**Just do as you're told**

*"Well if you don't do it, you get told off...I don't really cope"*

**Try to learn from it**

*"...it probably was a mistake to try to change it so soon before the worlds, he probably should have tried to teach me a few things but within my limit at the time and then said right as soon as you get back from the worlds we'll get on court and work on a few things...but now it's happened I won't let it happen again."*

**Active no coping**

*"Well I don't really need to cope with it I suppose"*

**Fall back on experience**

*"Well the older you get, the easier it becomes, it's got a lot more comfortable with experience"*

*"There are certain situations that you can't deal with until you've experienced them"*

**Plan and Prepare:** This was a very small coping dimension emerging from just 2 raw data themes. There were two second-order themes, 'develop contingency plans' and 'prepare for performance', both emerging directly from the raw data. The quotes illustrating the meaning of these themes are listed below:

**Develop contingency plans**

*"...it's vital to develop contingency plans, if it doesn't work, you know, what you're gonna' do after that, maybe go back to the same technique or maybe try something else."*

**Prepare for performance**

*"Errm, just make sure that I prepare really well like I would for a major PSA event and just get the best out of myself, ya' know, eat the right food, go to bed at a decent hour etc."*

**Organise Effectively:** This coping dimension emerged from 4 raw data themes reporting players coping by being organised. There were three second-order themes, 'player specific organisation', 'have flexible training programmes' and 'use time constructively', all of which emerged directly from the raw data themes. The following quotes illustrate the meaning of this dimension:

**Player specific organisation**

*"Just be really organised...I sit down with Neil and work out what I'm doing, it's usually about 2-3 weeks ahead...he doesn't just give me a programme, we'll actually look through my diary as we do it so I know I can actually follow it."*

*"If I want to do a days training it means starting before breakfast and finishing before 4pm so that I can get my coaching in as well, I mean lottery funding helps but you can't be a full time athlete surviving on £4K a year."*

**Have flexible training programmes**

*"Errm well basically you'd have a flexible programme... I think that's one big thing we've learned, that your training schedules have to be flexible."*

**Use time constructively**

*"Well I suppose I just try to use my spare time constructively, don't watch t.v., and don't go out much with my school mates..."*

## Plan and Prepare

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>Develop contingency plans, plan what you're gonna do if it doesn't work, plan to cope with different scenarios</i>	→	Develop contingency plans	<b>Plan and Prepare</b>
♦ <i>Just make sure that I really prepare well, like I would for a major PSA event, eat the right food, go to bed at a decent hour and be professional.</i>	→	Prepare for performance	

## Organise Effectively

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
♦ <i>We design training programmes by looking through my diary so that I can actually do it</i> ♦ <i>I have to organise my day differently to most pro's cos I have to start training before breakfast to fit a full days work in and fulfil coaching commitments</i>	→	Player specific organisation	<b>Organise Effectively</b>
♦ <i>One big thing I've learned is that my training programmes have to be flexible</i>	→	Have flexible training programmes	
♦ <i>I try to use my spare time constructively, don't go out much with my school-mates, don't watch t.v.</i>	→	Use time constructively	

**Seek Social and Emotional Support:** This coping dimension emerged from just 6 raw data themes. There were two second-order themes, 'trust your coach', which emerged from the raw data, and 'gain advice from someone you trust', which emerged from the first order themes 'seek and objective opinion' and 'seek re-assurance'. The following quotes depict the meaning of this coping dimension:

### *Gain advice from someone you trust*

*"If you've got someone you can trust, obviously that helps relieve stress"*

*"I talk to my Dad and it helps 'cos we try to talk objectively"*

### Seek Social and Emotional Support

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension
<ul style="list-style-type: none"> <li>◆ <i>You have to believe ultimately that your coach wants you to do well</i></li> <li>◆ <i>You have to trust in this person, believe in what they say, they're not saying it just for the sake of it</i></li> </ul>	→	Trust your coach	<b>Seek Social and Emotional Support</b>
<ul style="list-style-type: none"> <li>◆ <i>If you've got someone you trust that can give you an objective point of view, that helps</i></li> <li>◆ <i>Afterwards, we always analyse my matches together, this helps because we try to talk objectively.</i></li> </ul>	Seek an objective opinion	Gain advice from someone you trust	
<ul style="list-style-type: none"> <li>◆ <i>You'd just want them to keep re-assuring you all the time</i></li> <li>◆ <i>I suppose I'd want constant reassurance</i></li> </ul>	Seek re-assurance		

*"I suppose I'd want constant re-assurance that I'm doing the right thing and I'd want him to watch as much as possible just to make sure that someone's being honest with me."*

#### **Trust your coach**

*"Well I think that you have to believe ultimately that your coach wants you to do well."*

**Draw On An Excellence Mentality:** This coping dimension emerged from 24 raw data themes reporting the implementation of psychological skills and the development of a professional attitude as a means of coping. There were two second-order themes, 'implement mental skills' and 'develop professional attitude'. 'Implement mental skills' emerged from seven first-order themes including 'be open minded', 'self belief', 'be disciplined', 'be honest', 'show appreciation', 'take control' and 'be patient'. 'Develop professional attitude' emerged from four first-order themes, 'write ideas down', 'take responsibility for your actions', 'admit your weaknesses', and 'constructive criticism'. A number of quotes have been selected from the transcripts to illustrate the meaning of these themes:

### Draw on an Excellent Mentality

Raw Data Theme	1 <sup>st</sup> Order Theme	2 <sup>nd</sup> Order Theme	General Dimension	
<ul style="list-style-type: none"> <li>◆ <i>I just think that I've got to go in with an open mind and believe that I can change it.</i></li> <li>◆ <i>You'd try to listen to what everyone's got to say and take out the best things that work for you.</i></li> <li>◆ <i>I'd try to listen to what everyone's got to say to keep fresh ideas of what you are doing, generally try to keep open-minded about it.</i></li> <li>◆ <i>I'd be open-minded and try them out, then work out what's best for me</i></li> <li>◆ <i>I would always listen to the coach and try to take the good advice and ignore the bad</i></li> <li>◆ <i>I would listen to both with an open-mind and then decide what's best for me.</i></li> </ul>	Be open minded	Implement Mental Skills	<b>Draw on an Excellent Mentality</b>	
<ul style="list-style-type: none"> <li>◆ <i>I would believe I could change it</i></li> <li>◆ <i>Others helped me to believe in my ability</i></li> <li>◆ <i>Ultimately you have to be strong minded and know at the end of the day what you're doing is right</i></li> <li>◆ <i>You just have to know that you've given it everything you've got</i></li> </ul>	Self Belief			
<ul style="list-style-type: none"> <li>◆ <i>I just have to try to be disciplined and get ahead of my work and stuff</i></li> <li>◆ <i>I just try to use my spare time constructively</i></li> </ul>	Be Disciplined			
<ul style="list-style-type: none"> <li>◆ <i>Just talk to them and be honest with them</i></li> <li>◆ <i>You have to be true to yourself at all times</i></li> </ul>	Be Honest			
<ul style="list-style-type: none"> <li>◆ <i>Just really talk to them... and thank them</i></li> <li>◆ <i>You have to appreciate that it's hard work for them too</i></li> </ul>	Show Appreciation			
<ul style="list-style-type: none"> <li>◆ <i>I took it in hand and said I'm going to come less often</i></li> <li>◆ <i>I decided to leave and go elsewhere</i></li> </ul>	Take Control			
<ul style="list-style-type: none"> <li>◆ <i>Just by patience, perseverance and practice</i></li> </ul>	Be Patient			
<ul style="list-style-type: none"> <li>◆ <i>I'd write down new ideas and take them away to practice</i></li> </ul>	Write ideas down			Develop Professional Attitude
<ul style="list-style-type: none"> <li>◆ <i>I think you have to be strong enough to decide for yourself that you're gonna do it and then take responsibility for your actions</i></li> <li>◆ <i>You either do it or lose, that's the choice, so you make the choice</i></li> </ul>	Take responsibility for your actions			
<ul style="list-style-type: none"> <li>◆ <i>You have to admit to yourself what the reasons are, whether you like them or not, and as a sportsman, you always know in your heart of hearts.</i></li> </ul>	Admit your weaknesses			
<ul style="list-style-type: none"> <li>◆ <i>You ask for constructive criticism to motivate yourself, it helps to have something positive to work on.</i></li> </ul>	Constructive Criticism			

**Implement mental skills**

*"I have to give it a try, go in with an open mind and believe that I can change it"*

*"Well you'd just try to relax and enjoy it, and take their advice and basically just get on with the session"*

*"Just believe in yourself and the person you work with..."*

*"I just have to try to be disciplined and get ahead of my work and stuff"*

*"I think you have to be honest with yourself, no matter how much it hurts"*

*"You should make sure you give 100% to all your sessions with them because they are also giving that much to you."*

*"Just patience, perseverance and practice, the 3 P's"*

**Develop professional attitude**

*"You'd just cope with new ideas by writing them down and taking them away to practice"*

*"I know that every time I step onto that court I give it everything I've got and I think the only time I wouldn't be able to cope with that situation would be if I knew I could have done more"*

*"I think that you have to be honest with yourself and admit to yourself whether you like the reason or not, why you didn't do it, and in your heart of hearts, you know why"*

*"I ask for constructive criticism 'cos it makes me want to work at things."*



## 8.8 Summary and Discussion

The purpose of this study was to identify and understand the sources of stress experienced by elite squash players during coaching activities and the coping strategies used in response to these stressors. This was achieved through the use of retrospective telephone interviews and inductive content analysis procedures using the software package QSR NUDIST. This study was unique in a number of ways. Firstly, it investigated stress experienced by elite players during coaching activities. Previous studies investigated stress experienced by athletes and officials during competition (detailed in chapter 3). Secondly, it investigated coping strategies used by elite players during coaching activities. Previous studies investigated coping strategies used by players during competition (detailed in chapter 3). Thirdly, on a methodological note, this study used the software package QSR NUDIST to facilitate the organisation and coding of data for inductive content analysis (Patton 1980). Previous studies used the manual method documented in phase one (chapter 4). Fourthly, the use of recorded telephone interviews provided rich data yet proved less time consuming and less expensive than the face-to-face interviews conducted in previous studies. Finally, this is the second study (phase one was the first) to investigate stress and coping in the sport of squash.

The following discussion is structured into five sections; sources of stress experienced by elite players during coaching activities; implications for practitioners; coping strategies used by elite squash players during coaching activities; implications for practitioners; summary and future research.

### *Sources of stress experienced by elite squash players during coaching activities*

Based on the results of previous research in the area and the results of phase one of this thesis, it was expected that between 10-12 source of stress general dimensions would emerge from the telephone interviews with players about stress they experience during coaching activities. In fact, findings revealed the emergence of only 9 general dimensions for stress. There are a number of possible reasons for this. Firstly, the

sample size was small ( $n=11$ ) for this study. Secondly, the length of the retrospective telephone interview was significantly shorter (approximately 20 minutes) than the retrospective interviews conducted in previous research (approximately 90 minutes). Both of these factors significantly reduced the total number of raw data themes identified in the study, which in turn could have impacted upon the number of general dimensions resulting from the content analyses.

Another expectation was that both similarities and differences would be found between sources of stress identified in this study and those identified in previous studies of players. Analysis of the findings of this study and the results of previous studies suggests that there are very few similarities, probably due to the fact that players experience very different sources of stress during coaching activities than they do during competition. However, it could be argued that the stress dimension 'coach evaluation issues' has a similar meaning to the stress dimensions 'expectations and pressure to perform' (Gould, Jackson & Finch, 1993a), 'social evaluation and self presentational concerns' (James & Collins, 1997) and 'not performing to required standard' (James & Collins, 1997), since the essence of all these stressors is challenge of performance and threat of evaluation. Furthermore, it might also be argued that another more tentative similarity exists between the stress dimension 'competition in coaching' identified in this study, and the stress dimensions 'competitive' (Cohn, 1990), 'competitive anxiety and doubt' (James & Collins, 1997), and 'negative aspects of competition' (Scanlan, Ravizza & Stein, 1991). Whilst 'competition in coaching' refers to specific competitive situations within the coaching setting, the stress results from the 'competitive situation', and may be similar to the stress resulting from 'competitive situations' described in the other studies. Therefore, it appears that the majority of sources of stress identified in this study are different to those stressors identified by previous studies. This reinforces the belief that research in stress in sport must be specific. Furthermore, it demonstrates the value of conducting this study prior to implementing larger scale quantitative work in study two.

Another expectation of the results of this study was that sources of stress identified would be both 'competition' and 'non competition' in nature. However, all the sources of stress

identified in this study were 'non-competition' in nature. There was not one source of stress that related to coaching before, during or after competition. Therefore it appears that coaching pre, during or post competition is only stressful for the coaches (identified in phase one), and not stressful for the players. It appears that coaching activities outside of the competition phase are most stressful for players.

A more detailed analysis of the sources of stress identified in this study revealed further interesting findings. Firstly, many of the stressors experienced by players within coaching were related to the coaching 'environment'. For example, the stressors 'travel concerns' and 'time pressures' were specifically associated with 'environmental/lifestyle' issues. Other sources of stress manifest in the coaching 'environment' were more 'social' in nature such as 'coach evaluation issues', 'ethical issues', 'quality concerns', 'competition in coaching' and 'coaching agendas'. Specifically, these sources of stress (reported by players) were manifest in coach-player interactions, coach-player relationships, and coach-player practices, procedures and routines. Finally, a couple of sources of stress reported by players in this study were manifest in the 'person' and were 'behavioural' in nature. For example, the sources of stress 'technical issues' and 'organisation and planning issues' were specifically related to feeling stressed about the implementation of particular coaching tasks. Therefore, as expected, sources of stress identified in this study were manifest in both the 'person' and the 'environment'. Furthermore, this classification of the origin of the stressor (designed in chapter 3 and applied to chapter 5) into 'person' and 'environment' is useful to help analyse and categorise the sources of stress identified in this study.

### *Implications for practitioners*

These findings have implications for sports psychologists working with elite squash players to manage stress during coaching. Firstly, a significant proportion of the stressors identified by players in this study were associated with the social environment of the coaching setting. Therefore, in order to manage this stress, it may be important to encourage players to develop the appropriate interpersonal and social skills such as

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decision making, communication, and listening, to enable effective management of the social interactions, social relationships and social situations that occur within the coaching setting. Additionally coaches must be encouraged to make the social environment of the coaching setting 'psychologically safer' for players. Secondly, in order to manage the stress such as 'travel concerns' and 'time pressures' that are essentially a function of a player's 'lifestyle', sports psychologists may implement lifestyle management programmes with elite players. Finally, in order to manage the stress caused by 'technical issues' and 'organisation and planning issues', sports psychologists may work with players to develop the mental skills required to enhance skill acquisition and to improve adherence.

Furthermore, the findings from this study may be useful to feed back to high performance coaches working with elite players for a number of reasons. Firstly, providing coaches with information about the stress experienced by players during coaching activities may facilitate the way in which these coaches manage the coaching process. Secondly, these results may enable sports psychologists to work with squash coaches to develop strategies to alleviate stress experienced by players during coaching activities.

In conclusion, it appears that intervention strategies may be aimed at both coaches and players to develop the appropriate psychological tools to manage stress experienced by players during coaching activities.

### *Coping strategies used by elite squash players during coaching activities*

Based on previous research and the results from phase one of this thesis, it was expected that both similarities and differences would be found between coping strategies used by elite squash players during coaching activities (identified in this study) and those identified in previous studies of players. Table 8.1 demonstrates that as expected, there were many similarities and some differences. In fact it was possible to match each coping dimension identified in this study with a similar dimension identified in earlier research with all but two of the coping dimensions, 'communication' and 'organise effectively'. Interestingly, coaches also identified these two coping dimensions in phase

one. Therefore, it may be that these strategies are particularly useful to coping during coaching rather than coping during competition. The six coping strategies that were similar to those identified in earlier research are listed below, and nature of the similarities are discussed:

**Seek social and emotional support:** There were 5 similar coping dimensions identified in previous studies. 'Social support' was identified as a coping strategy used by Gould, Finch and Jackson (1993b) in their study of elite figure skaters, Jackson, Mayocchi and Dover (1998) in their study of Olympic gold medallists, and Park (2000) in his study of Korean national athletes. Furthermore, Gould, Udry, Bridges and Beck (1997c) found that members of the US Ski team suffering season ending injuries 'sought and used social resources' to cope. Finally, Campbell (1997) found that wheelchair basketball players 'sought social support' to cope with a number of sources of stress. Therefore, these findings suggest that 'seeking social and emotional support' is a coping strategy used by athletes from a myriad of different sports.

**No Coping:** In her study of elite wheelchair basketball players, Campbell (1997) identified 'active no coping' that emerged from themes such as 'do nothing', 'just hope' and 'wait and see what happens'. The themes in Campbell's (1997) 'active no coping' dimension are similar to those identified in this study, for example, 'live with it', 'just get on with it', 'try to learn from it' and 'do nothing'. This is the only other study identifying a similar coping dimension to 'no coping'.

**Planning and Preparation:** Two studies revealed similar coping dimensions. Firstly, Gould, Finch and Jackson (1993b) found that elite skaters coped by using 'time management and prioritisation' and secondly, Jackson, Mayocchi and Dover (1998) found that Olympic gold medallists coped by 'preparedness for the Olympic champion role'.

**Table 8.1: Similarities and differences between coping dimensions identified by elite squash players and those identified in previous research studies of athletes**

Coping Dimensions Identified By Elite Squash Players	Coping Dimensions With A Similar Meaning Identified By Athletes in Previous Research Studies
SEEK SOCIAL AND EMOTIONAL SUPPORT	<ul style="list-style-type: none"> <li>▪ 'Social support' (Gould, Finch &amp; Jackson, 1993b)</li> <li>▪ 'Sought and used social resources' (Gould, Udry, Bridges &amp; Beck, 1997c)</li> <li>▪ 'Social support' (Jackson, Mayocchi &amp; Dover, 1998)</li> <li>▪ 'Social support' (Park, 2000)</li> <li>▪ 'Seek social support' (Campbell, 1997)</li> </ul>
NO COPING	<ul style="list-style-type: none"> <li>▪ 'Active no coping' (Campbell, 1997)</li> </ul>
COMMUNICATION	No coping dimensions with a similar meaning to 'communication' were identified
PLANNING AND PREPARATION	<ul style="list-style-type: none"> <li>▪ 'Time management and prioritization' (Gould, Finch &amp; Jackson 1993b)</li> <li>▪ 'Preparedness for Olympic Champion role' (Jackson, Mayocchi &amp; Dover, 1998)</li> </ul>
RATIONALISATION AND ACTION	<ul style="list-style-type: none"> <li>▪ 'Cognitive Re-structuring' (Jackson, Mayocchi &amp; Dover, 1998)</li> <li>▪ 'Took notes, drew up lessons and learned' (Gould, Udry, Bridges &amp; Beck, 1997c)</li> <li>▪ 'Rational thinking and self talk' (Gould, Finch &amp; Jackson, 1993b)</li> <li>▪ 'Take action to improve our own situation' (Jackson, Mayocchi, Dover, 1998)</li> </ul>
ORGANISE EFFECTIVELY	No coping dimensions with a similar meaning to 'organise effectively' were identified
DRAW ON AN EXCELLENT MENTALITY	<ul style="list-style-type: none"> <li>▪ 'Competing only against self' (Dale, 2000)</li> <li>▪ 'Consistency' (Dale, 2000)</li> </ul>
MENTAL DISENGAGEMENT	<ul style="list-style-type: none"> <li>▪ 'Ignore the stressor' (Gould, Finch &amp; Jackson, 1993b)</li> <li>▪ 'Ignore the stressor' (Gould, Udry, Bridges &amp; Beck, 1997c)</li> <li>▪ 'Ignore, block things out' (Jackson, Mayochhi &amp; Dover, 1998)</li> <li>▪ 'Hobby activities' (Park, 2000)</li> </ul>

**Rationalisation and Action:** This strategy was identified in four previous studies. Firstly, in Jackson, Mayocchi and Dover's (1998) study of Olympic Champions, they identified the coping strategies 'cognitive restructuring' and 'take action to improve your own situation', the former a form of 'rationalisation' and the latter a form of 'action'. Secondly, elite skaters in Gould, Finch & Jackson's (1993b) study reported coping via 'rational thinking and self talk'. Finally, Gould, Udry, Bridges and Beck (1997c) found that injured skiers 'took notes, drew up lessons and learned', therefore rationalising their situation.

**Draw on an Excellent Mentality:** Dale (2000) describes elite decathletes 'competing only against themselves' and 'aiming for consistency'. These athletes adopt such mindsets to cope effectively with competition. Therefore, decathletes identified in this study report a number of strategies that could be viewed as components of an 'excellent mentality'.

**Mental Disengagement:** Four previous studies have identified forms of 'mental disengagement'. Firstly, both skaters in Gould, Finch & Jackson's (1993b) study and skiers in Gould et al's (1997c) study identified 'ignoring the stressor' as a form of coping. Secondly, Olympic Champions in Jackson et al's (1998) study identified 'ignoring and blocking things out' as a coping strategy. Korean athletes in Park's (2000) study identified 'hobby activities' as a form of coping. These coping dimensions are all forms of 'mental disengagement'.

Further analysis of the findings from this study revealed that many of the coping responses adopted by players are similar to those described by coaches in phase one of this thesis. Therefore the responses to stress experienced during coaching appear to be similar whether implemented by players or coaches. This is discussed further in chapter 10.

A further expectation of the study was that the coping dimensions would fit into the pre-existing categories 'problem focused', 'emotion focused' (Lazarus & Folkman, 1984),

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'appraisal re-appraisal' (Billings & Moos, 1984; Cox & Ferguson, 1991) and 'avoidance' (Endler & Parker, 1990). Table 8.2 demonstrates that as expected, all coping dimensions fitted into these categories of coping. The strategies 'communication', 'plan and prepare', 'rationalisation and action', 'organise effectively' and 'draw on an excellent mentality' were all 'problem focused' in nature. Specifically, they "involved efforts to alter or manage the problem that is causing stress for the individual involved" (Hardy et al, 1996; 207). Only one coping dimension, 'seek social and emotional support' was 'emotion-focused' in nature and involved "regulating the emotional responses that result from the problem that causes the stress" (Hardy et al, 1996; 207). 'Rationalisation and action' was the only strategy fitting into the 'appraisal re-appraisal' category involving "efforts to appraise and re-appraise the stressful situation" (Hardy et al, 1996; 208). Finally, the avoidance category included the coping dimensions 'no coping' and 'mental disengagement' since both these strategies involved "efforts to physically or mentally disengage from the stressful situation" (Hardy et al, 1996; 207).

In addition to organising each coping dimension into an appropriate coping category, table 8.2 represents each coping dimension as a percentage of the total number of raw data themes for coping. Based on the previous literature in sport (Campbell, 1997; Crocker & Graham, 1995; Madden et al, 1989) and in community populations (Bjork & Cohen, 1993; Endler & Parker, 1990; Folkman & Lazarus, 1985), and the findings from phase one of this thesis, it was expected that 'problem focused' would be the most predominantly used category of coping. Table 8.2 demonstrates that this was clearly the case for elite squash players coping with stress during coaching. The 'problem-focused' category accounted for 82.86% of the total number of coping raw data themes in this study. Only 5.12% of the total numbers of raw data themes were 'emotion-focused' in orientation and 11.96% were included in the 'avoidance' category. The coping dimension 'rationalisation and action' was included in both the 'problem-focused' and 'appraisal re-appraisal' category since there were themes included in this dimension that applied to both categories. 'Rationalisation and action' accounted for 32.47% of the total number of raw data themes and was therefore the largest coping dimension identified by elite squash players.



**Table 8.2: General Dimensions Falling into Major Coping Categories**

<b>Coping Category</b>	<b>General Dimension</b>	<b>% of Total Raw Data Themes</b>
<b>Problem - focused</b>	Communication	24.78%
	Plan and Prepare	1.7%
	*Rationalisation and Action	32.47%
	Organise Effectively	3.41%
	Draw on an Excellent Mentality	20.5%
	<b>Total</b>	<b><u>82.86%</u></b>
<b>Emotion – focused</b>	Seek social and emotional support	5.12%
	<b>Total</b>	<b><u>5.12%</u></b>
<b>Appraisal/Re-appraisal</b>	*Rationalisation and Action	32.47%
	<b>Total</b>	<b><u>32.47%</u></b>
<b>Avoidance</b>	No Coping	5.98%
	Mental Disengagement	5.98%
	<b>Total</b>	<b><u>11.96%</u></b>

*\*General dimensions appearing in more than one coping category.*

### *Implications for practitioners*

These findings have implications for sports psychologists working with elite squash players to cope with sources of stress experienced during coaching activities. Since players employ 'problem-focused' coping strategies over 80% of the time, sports psychologists need to ensure that players have the appropriate skills and abilities to employ these 'problem-focused' coping strategies effectively. For example, to employ 'communication' as a coping strategy, players require effective verbal and non-verbal communication skills and listening skills. In order to 'plan and prepare' and to 'organise effectively', players need to develop goal setting skills, writing skills, computing skills, inter-personal skills and others. If players are to cope by 'drawing on an excellent mentality', they may need to work with sports psychologists to develop the appropriate mental skills such as critical self-reflection, self-confidence, developing focus, sustaining discipline etc. Finally, developing and refining thought control strategies and practicing effective thinking and doing routines with players is vital to enable players to 'rationalise thoughts and take action'. Therefore, in order to employ these 'problem-focused' strategies, players require a myriad of skills and abilities that can be developed through regular work with sports psychologists.

In conclusion, this study has provided insights and understanding of the sources of stress experienced by elite squash players during coaching activities and the coping strategies used to deal with these stressors. Emphasis was placed on gaining an understanding from the participant's own perspectives and therefore findings were specific to the population of elite squash players. This squash specific knowledge formed the basis for the design of a questionnaire for study two. In other words, the findings from this study were used to ensure that the research in study two was empirically based rather than solely being theory informed. Therefore, the purposes of this study were achieved.

### *Summary*

In summary, this study investigated sources of stress experienced by elite squash players during coaching activities and the coping strategies used to deal with these stressors. Data was collected via 20-minute telephone interviews with 11 elite squash players. Interview transcripts were then content analysed using the software package QSR NUDIST. Results identified 110 raw data themes for stress from which 9 general dimensions emerged, and 117 raw data themes for coping from which 8 general dimensions emerged.

The nature of the sources of stress was discussed. All stress dimensions were 'non-competition' in nature i.e., they were not related to coaching during any phase of the competition cycle. Of the 9 stress dimensions, 7 related to the 'coaching environment' in some way. Specifically, 'time pressures' and 'travel concerns' were categorised as 'environment/lifestyle' stressors, and the other 5 sources of stress, 'coach evaluation issues', 'ethical issues', 'quality concerns', 'competition in coaching' and 'coaching agendas' were related to the 'social' part of the coaching environment. The remaining 2 stress dimensions were categorized as 'person/behavioural'.

Stress source dimensions identified in this study were compared to those identified in previous studies and very few similarities were found. Specifically, tentative similarities were found between 'coach evaluation issues' and the stress dimensions 'expectations and pressure to perform' (Gould, Finch & Jackson, 1993a), 'social evaluation and self presentational concerns' (James & Collins, 1997) and 'not performing to required standard' (James & Collins, 1997). Also the dimension 'competition in coaching' identified in this study was similar to the stress dimensions 'competitive' (Cohn, 1990), 'competitive anxiety and doubt' (James & Collins, 1997), and 'negative aspects of competition' (Scanlan, Ravizza & Stein, 1991).

In contrast, the coping results identified in this study were very similar to those identified in previous studies of athletes. There were only 2 coping dimensions identified in this

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study that have not been previously identified in other research, these were 'communication' and 'organise effectively'. Interestingly, these strategies were identified by coaches in phase one, indicating that they may be strategies used to cope specifically with the stressors occurring during coaching.

Finally, the coping dimensions identified in this study all fitted into the pre-existing categories of coping, 'problem-focused', 'emotion-focused', 'appraisal re-appraisal' and 'avoidance', reinforcing the usefulness of this classification system. The largest category of coping measured in terms of the numbers of raw data themes was 'problem-focused'. This finding reinforced findings from earlier research.

In conclusion, this study provided the squash specific findings on which to base the design of a postal questionnaire for study two of phase two. The design, implementation and results of this postal questionnaire are documented in the next chapter (chapter 9).

# CHAPTER NINE

## PHASE TWO STUDY TWO

### 9.1 Structure of the chapter

The aim of this chapter is to report study two of phase two of the research process. The chapter consists of seven parts. Part two provides an introduction to the study that contextualises the research. Part three has two main objectives, to outline the purposes of study two and to provide the appropriate research rationale. Part four identifies five major investigative themes and details specific research questions emerging from each investigative theme. The data collection procedures are listed in part five and include detailed reports of the development of the questionnaire using the results of study one. The data analysis procedures including explanations of statistical tests and the results are provided in part six. Part seven provides a summary and discussion.

### 9.2 Introduction

This chapter reports the second study of phase two of the research process investigating stress and coping from a players' perspective. The systematic review (chapter 3) revealed there were no studies investigating stress and coping during high performance coaching, and consequently, no current knowledge. Therefore, it was essential in the first instance, to conduct an exploratory investigation (study one) to scope the area. Study one (chapter 8) identified 9 stress dimensions experienced by players during coaching activities, and 8 coping dimensions used by players to deal with these stressors. These results provided the essential squash player specific knowledge on which to base more precise investigations in study two. Study two contributed to the aim of phase two by undertaking a more detailed investigation into player's perceptions of stress and coping in high performance squash coaching. In terms of the overall research design of phase two,

study one provided rich qualitative data revealing insights and understanding of player's perceptions, and study two provided more precise quantifications of specific aspects of stress and coping in high performance squash coaching. This combined methodological approach offered the scientific foundation and empirical basis necessary for the design of possible effective intervention.

### **9.3 Purpose and Rationale of Study Two**

#### ***Purpose***

The purpose of study two was to meet objectives three to twelve of phase two. Specifically these were;

- (iii) To investigate possible links between age and gender of players and particular sources of stress
- (iv) To investigate possible links between age and gender of players and particular coping strategies
- (v) To investigate the extent to which certain players have a higher propensity to experience events as stressful i.e., have higher trait stress
- (vi) To investigate the extent to which certain players implement one particular coping strategy in response to all stressors, i.e., a 'constant copier'.
- (vii) To identify players' perceptions of high and low stress situations in high performance squash coaching
- (viii) To measure the stress appraisals (challenge, threat, harm/loss control, severity, frequency) of the sources of stress identified by players
- (ix) To search for significant relationships between various stress sources characteristics

- (x) To identify significant links between sources of stress and coping responses
- (xi) To measure the characteristics of coping responses (in terms of effectiveness and frequency)
- (xii) To search for significant relationships between coping effectiveness and coping frequency.

### ***Rationale***

Objectives three to twelve of phase two (outlined above) emerged from five major investigative themes;

- (i) Age/gender as determinants of stress and coping
- (ii) Personality/situation as determinants of stress and coping
- (iii) Stress appraisals – links between stress source characteristics
- (iv) Links between sources of stress and coping strategies
- (v) Coping effectiveness

The rationale for each of these investigative themes is outlined below;

#### **Theme One: Age/gender as determinants of stress and coping**

There were two main reasons why it was considered important to research this investigative theme. Firstly, the systematic review of literature (chapter 3) indicated that no studies have yet investigated age or gender and sources of stress or age, gender and coping. Therefore the lack of existing knowledge in this area justified further research. Secondly, levels of coaching support in England are dependent upon a player's age, (under 23's work with 'potential programme coaches' and over 23's work with 'performance plan coaches') and gender (men and women have separate programmes including different coaches and separate squad training). Therefore, players of different ages and genders have unique support systems in place that are tailored to specific

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age/gender needs. Therefore, since players of different age/gender have different coaching environments, it was considered possible that they may experience different sources of stress as a result. This combined with a lack of existing knowledge (in the literature) justified further investigation in this area.

**Theme two: Personality/situation as determinants of stress and coping**

This investigative theme was considered important since it addressed fundamental theoretical and conceptual issues in stress and coping research. Lazarus and Folkman (1984) provided a transactional definition of stress and coping in which the process of appraisal was viewed as central to the existence of psychological stress. Lazarus (1999; 61-72) identified a number of person and environment variables that influence this process. However, personality theorists have provided more dispositional explanations of stress and coping, suggesting that individuals have stable levels of stress (i.e., trait stress) (Spielberger, 1966) and tendencies to cope in particular ways (McCrae, 1989; Moos, 1974; Carver et al., 1989; Holahan & Moos, 1987) and that personality in addition to appraisal mediates the stress/coping process (Bolger, 1990). Other researchers (Parkes, 1986; Terry, 1994) have studied the role of both stable, situational and environmental factors in stress and coping. Parkes (1986;1277) argued that "neither transactional nor structural approaches provide evidence as to the role of situational variables in coping whilst simultaneously taking into account environment and inter-individual factors as separate and identifiable sources of influence". Therefore theories and conceptualisations of stress and coping are varied and the interplay between person, situation and environmental variables is problematic and requires further research.

**Theme Three: Stress appraisals – links between stress source characteristics**

This investigative theme was considered important for a number of reasons. Firstly, previous researchers in both sport (Bouffard & Crocker, 1992; Crocker & Bouffard, 1990; Campbell, 1997; Hardy et al., 1996) and the general psychology literature (Bjork & Cohen, 1993; Lazarus & Folkman, 1984; McCrae, 1984) have considered it to be important. Secondly, the research to date investigating stress source characteristics has produced a number of conflicting findings. A number of researchers (Bjork & Cohen,



1993; Campbell, 1997; Lazarus & Folkman, 1985; McCrae 1984) claimed that due to the dynamic nature of stress, it was not possible to label stressors as purely challenging, threatening or causing harm or loss. Despite such claims, researchers in the sport domain (Bouffard & Crocker, 1992; Crocker & Bouffard, 1990) attempted to categorise stressors in terms of their characteristics in order to investigate links between stress appraisal and coping. Findings from phase one of this thesis partially supported both of the above assertions. The dynamic nature of stress was revealed by examining the diversity of individual appraisals, yet group data showed that some stressors were generally appraised high or low on certain stress source characteristics. Therefore more research is required in order to further examine these possibilities. Thirdly, previous researchers (Lazarus & Folkman, 1984, McCrae, 1984) have claimed that a positive relationship may exist between appraisals of controllability and challenge. These findings were supported by Campbell (1997) in her study of elite wheelchair basketball players. Conversely, the findings from phase one of this thesis did not support this notion. Phase one findings indicated that a negative relationship may exist between appraisals of severity and control. Therefore research of a more precise nature was deemed essential in order to further examine these issues.

**Theme Four: Links between sources of stress and coping strategies**

The rationale for investigating links between sources of stress and coping responses is threefold. Firstly, a number of researchers in general psychology have highlighted that specific behaviours are required to deal with specific problems, whilst general behaviours can be used to deal with more general stressors. For example, McCrae (1992) suggested looking at common indicators across stressors that may help to determine the most appropriate forms of coping. Bjork and Cohen (1993) further developed this idea by examining ways in which 293 undergraduates coped with threats, losses and challenges. They found stressors appraised as challenging and controllable tended to be dealt with by problem-focused coping and stressors appraised as threatening or harmful and uncontrollable tended to be dealt with by emotion-focused coping. Furthermore, Lazarus and Folkman (1984) advocated assessing the 'goodness of fit' of coping strategies in dealing with particular stressors. According to this notion, the quality of coping is judged

based on two fits, the fit between reality and appraisal and the fit between appraisal and coping. Secondly, a number of studies in sports psychology (Gould et al 1993a, 1993b, 1997a, 1997c) have loosely examined links between stressors and coping responses, demonstrating the relevance of this level of investigation in the sporting literature. Finally, based on the research design of Campbell (1997), phase one of this thesis also investigated the specificity and generality of coping responses to particular sources of stress, providing some interesting findings. However, both Campbell's (1997) study and phase one were small scale ( $n < 20$ ) producing limited quantitative data. Therefore general trends in the data were revealed rather than statistically significant findings. Consequently it was deemed essential to investigate links between sources of stress and coping responses in sport using larger scale quantitative methods combined with statistical data analysis.

#### **Theme Five                      Coping effectiveness**

The effectiveness of coping strategies in dealing with sources of stress is obviously very important, yet researchers have had problems in assessing effectiveness (Hardy et al., 1996). The rationale for this investigative theme is based on previous literature and the findings from phase one of this thesis. In terms of previous literature, coping effectiveness has been measured in terms of outcome, by determining the extent of use of coping (Billing & Moos, 1984, 1985; McCrae & Costa, 1986; Spitzer, Bar-Tal & Golaner, 1993), and by assessing the 'goodness of fit' (Hardy et al, 1996; Lazarus & Folkman, 1984). However, all these methods have weaknesses (see chapter 2). In contrast, Bar-Tal, Lurie and Glick (1994) investigated the effectiveness of coping strategies used by male and female Israeli soldiers during the Gulf War by measuring perceptions of effectiveness. Further, they suggested that future research should consider using both extent and effectiveness measures. Therefore, Campbell (1997) developed a research design incorporating both effectiveness and frequency measures and this was adopted in phase one of this thesis. Due to the nature of the study, the findings reported general trends and consequently it was deemed essential for future research to measure perceptions of coping effectiveness using larger scale quantitative methods combined with statistical data analysis.

## 9.4 Specific Research Questions

A number of specific research questions were developed based on the five investigative themes;

**Theme one: Age/gender as determinants of stress and coping**

Question one: Is there a significant difference between the stress scores of juniors compared to seniors or males compared to females?

Question two: Is there a significant difference between the coping strategies used by juniors compared to seniors or males compared to females?

**Theme Two: Personality/situation as determinants of stress and coping**

Question one: Do some players have a higher propensity to experience events as stressful i.e., have higher 'trait' stress?

Question two: Do some players have a tendency to implement one particular coping strategy in response to all stressors i.e., a 'constant copier'?

Question three: Are there any situations that are appraised as stressful by most players?

Question four: Are there any coping strategies that are used by most players to cope with a particular source of stress?

**Theme Three: Stress appraisals – links between source of stress characteristics**

Question one: Are any sources of stress appraised as purely challenging, threatening or causing harm/loss?

Question two: Are there any links between the 6 stress source characteristics irrespective of the source of stress? For example do positive or negative relationships exist between any of these constructs?

**Theme Four: Links between sources of stress and coping strategies**

Question one: Are there any links between sources of stress and selection of coping strategies used by all players i.e., are there any specific strategies used by most players to cope with particular sources of stress or vice versa are there more general strategies that most players use to deal with a number of sources of stress?

Question Two: Are there any links between stress appraisals and categories of coping?

**Theme Five: Coping Effectiveness**

Question one: Is the most used coping strategy for each stressor perceived to be effective?

Question two: Is coping perceived to be effective by some players most of the time i.e., do some players have positive perceptions of coping?

Question three: Is coping perceived to be ineffective by certain players most of the time i.e., so some players have negative perceptions of coping?

Question four: Are there any significant links between coping effectiveness and coping frequency?

## **9.5 Data Collection Procedures**

The rationale for using a questionnaire was to gain larger scale quantitative data from which more precise conclusions could be drawn. The only other method of data collection that would have provided such large-scale quantitative data would have been a

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structured interview. The time and cost of a structured interview, even if it had been conducted over the telephone, would have far outweighed the cost of postal questionnaires. Additionally, the players in the sample have heavy training and competition schedules and this may have caused difficulty with timing of an interview. Postal questionnaires were chosen since in this case it was deemed that it would provide a more favourable response rate, allowing the respondent to complete in their own time.

### *Pre-requisites of questionnaire*

In order to investigate the research questions set, the questionnaire had a number of aims;

- (i) To use the sources of stress identified by players in the study one
- (ii) To target a large sample of players
- (iii) To obtain specific ratings of stress source characteristics for all the sources of stress identified in the study one
- (iv) To offer the respondent a variety of coping options from which to select the appropriate response to each source of stress
- (v) To obtain specific ratings of the effectiveness and frequency of the coping strategies selected
- (vi) To gather data in a format that would facilitate statistical analysis in order to explore each specific research question.

### *Using the study one results to develop the questionnaire*

The results of study one were used to develop the questionnaire in the following ways;

- (i) The questionnaire questions were based on the source of stress general dimensions that emerged from study one.

- (ii) Quotes from each source of stress general dimension identified in study one were used to explain the meaning of each general dimension used in the questionnaire.
- (iii) The coping general dimensions that emerged from study one were used to provide a number of coping options for respondents to select in response to each stressor.
- (iv) Quotes from each of the coping dimensions identified in study one were taken to explain the meaning of each strategy.

### ***Constructing the questionnaire***

#### **Stage One**

Due to the applied nature of the research, it was essential to ensure that the questionnaire was empirically based rather than theory led. Therefore, the sources of stress identified in study one were used as the basis for sources of stress investigated in this study. Each of the 9 sources of stress identified formed the basis of the questionnaire questions. The questionnaire had 9 questions in which the source of stress was prescribed from study one data, and 1 open ended question. The open ended question allowed participants to respond by detailing any other source of stress that they experience during coaching activity and was not mentioned in questions 1-9. Consequently, the questionnaire consisted of a total of 10 questions. Each of the questions 1-9 were entitled with the name of the source of stress, for example, 'Time pressures in coaching', or 'Technical issues in coaching'.

#### **Stage Two**

It was important to ensure that the respondent understood the precise meaning of each source of stress. Therefore, a paragraph explaining the nature of the stressor was provided under each question title. This paragraph included examples of quotes from study one and an explanation of the stress including its different forms (i.e., 1<sup>st</sup> and 2<sup>nd</sup> order themes).

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**Stage Three**

In order to measure the respondent's ratings of stress source characteristics, 6 likert scales of ratings 1-7 were provided. The respondent was invited to tick the appropriate measure for each of the scales. The 6 scales requested ratings of challenge, threat, harm/loss, control, severity, and frequency.

**Stage Four**

The next part of the questionnaire requested the respondent to select a coping response from a list of 8 (taken directly from the study one results) that they would use to deal with the stressor in question. Each of the coping responses appeared next to explanation boxes in order to remind the respondent of their meanings. If they used more than one coping strategy, they were asked to select the most used.

**Stage Five**

Finally, it was important to measure perceptions of coping effectiveness and frequency. In order to obtain this data, the questionnaire included another two Likert scales.

***Piloting the questionnaire***

The questionnaire was piloted before it was distributed to all 84 players. The 5 pilot respondents were all of different ages and genders and were not part of the Sport England Lottery Programme. The feedback from the pilots led to changes mainly with the questionnaire layout and terminology to make it more user friendly. After piloting, the final version of the questionnaire was distributed.

***Administering the questionnaire***

The questionnaire was designed to take between 20-30 minutes to complete. It was sent via post to 84 players listed on the SRA's Performance Plan. In addition to the questionnaire, there was a letter from the SRA's Performance Director requesting commitment to the research, and a cover letter plus notes from the researcher with contact numbers in case of difficulty with understanding. The notes from the researcher just

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explained the purpose of the research, how the research findings would be used, the voluntary nature of completion and a simple questionnaire guide (see Appendix B; 479).

### ***Questionnaire Responses***

Of the 84 questionnaires that were initially distributed, 50 postal responses were returned, a response rate of 60%. Of the 50 questionnaires, the sample breakdown in terms of age was 24 juniors (under 19) and 26 seniors (20 or above), and in terms of gender included 25 males and 25 females. Table 9.1 provides a 2x2 age/gender matrix to illustrate the exact breakdown of the sample in terms of age/gender components.

**Table 9.1: Breakdown of sample in terms of age/gender**

<b>Age/Gender</b>	<b>Male</b>	<b>Female</b>
<b>Junior</b>	8	16
<b>Senior</b>	17	9

Although the responding sample contained equal numbers of males and females (25 to 25) and almost as many juniors to seniors (24 to 26), table 9.1 highlights the imbalances in terms of (age x gender) composition. Specifically, only 33% of the juniors were male whereas two thirds (66%) were female, and only 35% of the seniors were female whereas 65% were male.

## **9.6 Data Analysis Procedures and Results**

The data was coded and imported into an SPSS file. Data analysis consisted of both descriptive and inferential statistics and was tailored to answering each specific research question. The exact procedures used are outlined below.

### **Theme one, question one:**

In order to investigate significant differences between the stress scores of juniors compared to seniors or males compared to females, a two by two MANOVA (multiple analysis of variance) was employed. According to Grimm and Yarnold,



*“...a MANOVA is appropriate when one’s design involves one or more categorical independent variables and two or more continuous dependent variables” (1995;15).*

Therefore, the justification for using it in this case was that there were multiple (4) independent variables, age (junior and senior) and gender (male and female) and multiple (9) dependent variables (composite stress scores for questions 1-9). Composite stress scores for each participant for each question were calculated by summing parts A, B,C,D,and F and dividing by 5. The rationale for this was that the correlation analysis (theme three question two) identified parts A, B, C, D & F as all measuring the same construct labelled ‘stress’ and part E, labelled ‘control’, as measuring a different construct.

A MANOVA, like an ANOVA, can examine the effects of each independent variable separately as well as the effects of combinations or interactions among independent variables. Grimm and Yarnold (1995;15) provide a number of rationale for the use of a MANOVA rather than multiple ANOVAs. Firstly, conducting separate univariate *F* tests may result in the formation of a type one error, thereby rejecting the true null hypothesis. Secondly, it is possible to obtain a significant multivariate effect even though separate ANOVAS might indicate that the groups do not differ with respect to any one dependent variable. Grimm and Yarnold state,

*“...these problems are circumvented when using MANOVA which allows a simultaneous test across all dependent variables , that is, MANOVA finds a linear combination of the dependent measures that maximise separation among groups. MANOVA also provides a test statistic for which a *p* value for the linear composite may be determined” (1995;15).*

Table 9.2 illustrates the results of the 2 x 2 MANOVA. The results show a significant multivariate age x gender interaction ( $p=.013$ ). However, no overall multivariate effects were detected for age, gender and stress. Interestingly, further analysis of the univariate

data revealed no significant differences in age, gender, or age x gender interactions for any of the sources of stress, although there was a trend for an interaction on 'travel concerns'. Consequently, there appears to be an anomaly in the data since the multivariate test statistics indicate that there is a difference in the age x gender interaction data, yet the univariate test statistics suggest that there are no significant differences between most of the variables. According to Field,

*"The reason for the anomaly in these data is simple; the multivariate test takes account of the correlation between dependent variables and so for these data it has more power to detect group differences. With this knowledge in mind, the univariate tests are not particularly useful for interpretation, because the groups differ along a combination of the dependent variables." (Field, 2000;407)*

Consequently, since the multivariate tests are 'more powerful', the data suggesting that there is a significant difference in terms of the age x gender interaction and stress will be taken as more reliable. However, to determine the nature of these differences, further statistical analyses such as discriminant function analysis would be required. Since the essence of theme one question one was to determine whether or not significant differences exist between age, gender and stress, further and more detailed analysis concerning the nature of such differences was thought unnecessary to answering the question.

Table 9.2:- Results of Multivariate Tests

Effect	Value	Sig.
<b>AGE</b>		
Pillai's Trace	.231	.286
Wilks' Lambda	.769	.286
Hotelling's Trace	.300	.286
Roy's Largest Root	.300	.286
<b>GENDER</b>		
Pillai's Trace	.167	.580
Wilks' Lambda	.833	.580
Hotelling's Trace	.200	.580
Roy's Largest Root	.200	.580
<b>AGE x GENDER</b>		
Pillai's Trace	.398	.013
Wilks' Lambda	.602	.013
Hotelling's Trace	.661	.013
Roy's Largest Root	.661	.013

Table 9.3: Tests of Between-Subjects Effects

Question No. / Source of Stress	Age (Sig.)	Gender (Sig.)	Age * Gender (Sig.)
Question One: Time Pressures in coaching	.254	.275	.794
Question Two: Coach Evaluation Issues	.324	.108	.118
Question Three: Travel Concerns	.791	.720	.070
Question Four: Quality Concerns	.098	.839	.375
Question Five: Technical Issues	.120	.341	.193
Question Six: Organisation and Planning Issues	.835	.547	.848
Question Seven: Competition in Coaching	.866	.166	.546
Question Eight: Ethical Issues in Coaching	.013	.453	.115
Question Nine: Coaching Agendas	.791	.714	.164

**Theme one, question two:**

To test for significant differences between the coping strategies used by juniors compared to seniors or males compared to females, the following procedures were undertaken. Firstly, 8 new columns were created in the SPSS file and were called 'sum of each coping strategy'. Secondly, for each participant, the frequency with which each of the coping strategies was used for questions 1-9 was counted. Consequently, the frequency range for

each participant was 0-9. Finally *t*-tests were employed to compare the means of each of the 8 columns. Age and gender were selected as mediating variables. Greene and D'Oliveira, note,

*"the unrelated t-test is used for experimental designs with two conditions testing one independent variable, when different subjects are doing the two conditions" (1995;85).*

In this case, there were four different groups of subjects, (juniors, seniors, males and females), two conditions (age and gender) and one independent variable (each coping strategy). Therefore, it was necessary to conduct 8 separate *t*-tests selecting one of the 8 coping strategies as the independent variable for each test. According to Greene and D'Oliveira (1995;85-86), the basic aim of the unrelated *t*-test is to compare the amount of variability due to the predicted differences in scores between the two groups as against the total variability in subjects' scores. The predicted differences are calculated as a difference between the mean scores for the two groups. The actual value of this difference between the means has to be compared against the overall range and variability in scores. Durlak notes

*"...if multiple t-tests are conducted, some control for Type 1 error should be made by using a Bonferroni correction procedure or by making the alpha level more stringent" (1995; 329).*

In this case, a Bonferroni correction procedure was employed. Vogt defines a Bonferroni correction as,

*"a method for testing the statistical significance of multiple comparisons, it involves adjusting the significance level needed to reject the null hypothesis by dividing the alpha level you want to use by the number of comparisons you're making" (1999;28-29).*

Specifically this involved dividing the accepted alpha level of  $p < 0.05$  by the 8 *t*-tests, resulting in statistical significance being accepted at the level  $p < 0.00625$ .

The results are presented in the following tables 9.4 and 9.5. Table 9.4 illustrates that no significant differences were found between males and females in terms of coping selection ( $p < 0.05$  with Bonferroni correction).

Table 9.4: Results of T-Tests Investigating Gender and Coping

Sum of coping strategy	Gender	N	Mean	Standard Deviation	df	Sig. (2-tailed)	Mean Difference
Communication	Male	25	3.6000	1.7078	48	0.593	-0.3200
	Female	25	3.9200	2.4310			
Rationalisation and Action	Male	25	1.4000	1.2247	48	0.051	0.6000
	Female	25	0.8000	0.8660			
Plan and Prepare	Male	25	0.8800	0.9713	48	0.007	0.6000
	Female	25	0.2800	0.4583			
Organise Effectively	Male	25	1.0000	0.9574	48	0.464	0.2000
	Female	25	0.8000	0.9574			
Seek Social and Emotional Support	Male	25	4.000E-02	0.2000	48	0.037	-0.3600
	Female	25	0.4000	0.8165			
Implement Mental Skills	Male	25	0.3600	0.7000	48	0.242	0.2000
	Female	25	0.1600	0.4726			
Mental Disengagement	Male	25	0.1600	0.3742	48	0.210	-0.2400
	Female	25	0.4000	0.8660			
No Coping	Male	25	1.5600	2.1618	48	0.300	-0.6800
	Female	25	2.2400	2.4201			

Table 9.5 demonstrates that no significant differences were found between juniors and seniors in terms of coping selection ( $p < 0.00625$ ).

Table 9.5: Results of T-Tests Investigating Age and Coping

Sum of coping strategy	Gender	N	Mean	Standard Deviation	df	Sig. (2-tailed)	Mean Difference
Communication	Junior	24	3.2917	1.8292	48	0.128	-0.9006
	Senior	26	4.1923	2.2453			
Rationalisation and Action	Junior	24	1.0417	1.0826	48	0.721	-0.1122
	Senior	26	1.1538	1.1204			
Plan and Prepare	Junior	24	0.3750	0.7109	48	0.086	-0.3942
	Senior	26	0.7692	0.8629			
Organise Effectively	Junior	24	0.7083	0.8065	48	0.174	-0.3686
	Senior	26	1.0769	1.0554			
Seek Social and Emotional Support	Junior	24	0.1250	0.3378	48	0.299	-0.1827
	Senior	26	0.3077	0.7884			
Implement Mental Skills	Junior	24	0.2083	0.5090	48	0.564	-9.9359E-02
	Senior	26	0.3077	0.6794			
Mental Disengagement	Junior	24	0.4583	0.8836	48	0.071	0.3429
	Senior	26	0.1154	0.3258			
No Coping	Junior	24	2.7917	2.6206	48	0.007	1.7147
	Senior	26	1.0769	1.5981			

**Theme two, question one:**

In order to investigate whether certain players have a higher propensity to experience events as stressful, i.e., have a higher 'trait' measure of stress, the following method of data analysis was employed. Firstly, high frequency stress was defined as equal to or greater than 5 on part A responses to each question 1-9. This definition was recoded into SPSS. Secondly, a frequency count for each participant responding equal to or greater than 5 on part A of questions 1-9 was undertaken. Finally, participants exhibiting 'high trait' stress were identified as those who responded to at least 5 or more of the 9 questions with stress ratings of equal to or greater than 5 on the 7 point Likert scale.

Table 9.6 illustrates the frequency table for the sum of Part A responses equal to or greater than 5 for questions 1-9. This table reveals that only 3 of the 50 participants scored equal to or greater than 5 on 5 or more questions, suggesting that there is no real evidence of high trait stress amongst the majority of squash players in the sample, although the phenomena appears to exist amongst a small minority (6%).

**Table 9.6: Frequencies for sum of part A responses =>5 for questions 1-9**

Number of responses =>5	N
0.00	13
1.00	12
2.00	13
3.00	5
4.00	4
5.00	1
6.00	1
9.00	1
Total	50

**Theme two, question two:**

To decipher whether certain players have a tendency to implement one particular coping strategy in response to all stressors i.e. a 'constant copier', the data compiled in the 8 columns developed for theme one question two was re-used. A 'constant copier' was defined as any player selecting the same strategy in response to 5 or more of the 9 questions. The SPSS 'count' command was used to sum the number of participants that used the same strategy in response to 5 or more of the 9 questions.

Table 9.7 presents the frequencies with which participants selected each coping strategy at least 5 times or more in response to the 9 questions. The table demonstrates that of the 50 participants, 21 (42%) were identified as 'constant copers', i.e., they selected the same strategy in response to 5 or more of the 9 questions. Further analysis revealed that of the 21 'constant copers', 16 selected 'communication' as the constant strategy and 5 selected 'no coping'.

**Table 9.7: Frequency of coping strategies selected  $\Rightarrow$ 5 times in response to the 9 questions**

Coping Strategy	N
Communication	16
Rationalisation and Action	0
Plan and Prepare	0
Organise Effectively	0
Seek Social and Emotional Support	0
Implement Mental Skills	0
Mentoring Responsibilities	0
No Coping	5

Table 9.8 illustrates the age/gender breakdown of the 'constant copers' for each strategy. Results show that of the 5 'no copers', 4 (80%) were juniors and one (20%) was senior whilst 2 (40%) were male and 3 (60%) were female. Of the 16 'communicators', 11 (68.75%) were seniors and 5 (31.25%) were juniors, and there were equal numbers of males and females (50%).

**Table 9.8: Breakdown of Age/Gender of 'Constant Copers'**

Age/Gender	'Communicators'	'No copers'
Juniors	5	4
Seniors	11	1
Males	8	2
Females	8	3

**Theme two, question three:**

In order to investigate whether most players appraise certain situations as stressful, it was essential to ascertain the results of theme three question two. This question found that participants were not able to distinguish between 'severity', 'harm/loss', 'challenge', 'threat' and 'frequency', and therefore these constructs were all measuring the same



thing, 'stress'. However, part E, 'control', was measuring something different. As a result of this finding, the following procedure was employed to investigate theme two question three. Firstly, a new column in the SPSS file was created and labelled 'stress'. Parts A, B, C, D, and F for each question and for each participant was summed to gain a total out of a possible 35. Part E for each question was 'control'. Secondly, mean 'stress' scores for each question were calculated by summing individual scores and dividing by 50 (the number of participants). Thirdly, mean 'control' scores for each question were computed by summing the scores of each participant and dividing by 50. Finally, the mean values for 'stress' and 'control' for all 9 questions were compared to identify any sources of stress (questions) that were appraised as high in 'stress' and/or 'control'.

Table 9.9 illustrates the mean scores for stress for each question, demonstrating the mean range for stress was 9.92 – 15.14.

**Table 9.9: Mean scores for stress, questions 1-9**

Question Number	Mean Stress Score
1: Time Pressures	14.14
2: Coach Evaluation Issues	14.38
3: Travel Concerns	13.98
4: Quality Concerns	11.44
5: Technical Issues	15.14
6: Organisation and Planning Issues	15.02
7: Competition in Coaching	12.78
8: Ethical Issues	9.92
9: Coaching Agendas	11.96

Table 9.10 illustrates the mean scores for control for each question. The mean range for control was 3.9 – 4.8.

**Table 9.10: Mean scores for control, questions 1-9.**

Question Number	Mean Control Score
1: Time Pressures	3.96
2: Coach Evaluation Issues	4.8
3: Travel Concerns	4.38
4: Quality Concerns	4.76
5: Technical Issues	4.72
6: Organisation and Planning Issues	4.6
7: Competition in Coaching	4.7
8: Ethical Issues	4.52
9: Coaching Agendas	4.68

The data shows that 'technical issues' was appraised by most players as high in terms of both stress and control.

**Theme two, question four:**

To find out whether some coping strategies are used by most players to cope with a particular source of stress, the data from theme one question two was re-used for analysis. A frequency count was employed for each coping strategy used with each source of stress. The strategies that were implemented by equal to or greater than 20% of participants in dealing with a particular stressor were reported. The rationale for 20% was that a fifth of the sample responding with the same strategy in response to any particular stressor was thought to be a significant finding.

Table 9.11 presents coping strategies used by equal to or greater than 20% of participants in dealing with a particular stressor.

Table 9.11: Coping strategies used by =&gt;20% of participants in dealing with a particular stressor

Question Number/Stressor	Coping Strategies used by =>20% of participants
1: Time Pressures	Communication, Organise Effectively
2: Coach Evaluation Issues	Communication, Rationalisation and Action
3: Travel Concerns	Communication, Organise Effectively, No Coping
4: Quality Concerns	Communication, No Coping
5: Technical Issues	Communication, Rationalisation and Action
6: Organisation and Planning Issues	Communication, Organise Effectively
7: Competition in Coaching	Communication, Rationalisation and action, No Coping
8: Ethical Issues	Communication, No Coping
9: Coaching Agendas	Communication.

**Theme three question one:**

To find out whether or not any sources of stress were appraised as purely challenging, threatening or causing harm/loss, the following steps were taken. Firstly, 'purely challenging/threatening/harm-loss' was defined as all 50 participants rating 7 on the challenge, threat or harm-loss scales for any particular source of stress. The second step involved ascertaining frequency tables for the ratings of challenge, threat and harm/loss for each question. Analysis of the frequency tables revealed all appraisals of challenge, threat and harm/loss for each question.

Table 9.12 presents the frequencies of ratings of 7 for challenge, threat and harm/loss for each question. Results demonstrate that only a few participants rated 7 for each source of stress indicating that no sources of stress were perceived to be purely challenging, threatening or harmful.

Table 9.12: Frequency of ratings of 7 for challenge, threat and harm/loss scores for each source of stress

Question Number/Source of Stress	No. of participants rating 7 on challenge	No. of participants rating 7 on threat	No. of participants rating 7 on harm/loss
One: Time Pressures	1	1	0
Two: Coach Evaluation Issues	5	2	1
Three: Travel Concerns	1	1	0
Four: Quality Concerns	1	3	0
Five: Technical Issues	4	1	0
Six: Organisation and Planning Issues	3	2	0
Seven: Competition in Coaching	2	2	0
Eight: Ethical Issues	1	1	1
Nine: Coaching Agendas	1	2	0

**Theme three, question two:**

It was essential to find out whether any links existed between the 6 stress source characteristics irrespective of the source of stress. This was necessary in order to determine whether or not squash players cognitively distinguish between positive and negative stress or whether they view stress as a uni-dimensional concept. The data analysis procedure involved employing a Pearson's correlation analysis of parts A-F across all 9 questions. Greene and D'Oliveira note a limitation to correlation analysis,

*"...because neither of the variables are being manipulated by the experimenter, it is not possible to predict which variable is having an effect on the other variable. All one can say is that there is a relationship between the two variables" (1995;10).*

Therefore, principal components analysis (PCA) was required to determine the nature of the correlation. Bryant and Yarnold note,

*"...the goal of PCA is to identify a new set of a few variables called principal components, that explains all (or nearly all) of this total variance" (1995;100).*

To clarify the factor structure, factor analysis using a varimax orthogonal rotation was used (see table 3.14).

Table 9.13 presents the results of the correlation analysis. A number of correlations were identified at the 0.01 level.

**Table 9.13: Results of Pearson's Correlation Analysis on Stress Source Characteristics Data**

	Sum of A	Sum of B	Sum of C	Sum of D	Sum of E	Sum of F
<b>Sum of Part A (Frequency)</b> <i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	1.000	0.739** 0.000	0.820** 0.000	0.835** 0.000	-0.079 0.588	0.681** 0.000
<b>Sum of Part B (Challenge)</b> <i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0.739** 0.000	1.000	0.653** 0.000	0.685** 0.000	0.026 0.859	0.481** 0.000
<b>Sum of Part C (Threat)</b> <i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0.820** 0.000	0.653** 0.000	1.000	0.898** 0.000	-0.065 0.653	0.877** 0.000
<b>Sum of Part D (Severity)</b> <i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0.835** 0.000	0.685** 0.000	0.898** 0.000	1.000	-0.078 0.589	0.817** 0.000
<b>Sum of Part E (Control)</b> <i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	-0.079 0.588	0.26 0.859	-0.065 0.653	-0.078 0.589	1.000	-0.091 0.532
<b>Sum of Part F (Harm/Loss)</b> <i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0.681** 0.000	0.481** 0.000	0.877** 0.000	0.817** 0.000	-0.091 0.532	1.000

\*\* Correlation is significant at the 0.01 level (2 tailed).

Table 9.14 demonstrates the results of the factor analysis that identified two components, 'stress' and 'control'.

**Table 9.14 Rotated Component Matrix for Rescaled Component**

Sum of Stress Characteristics Ratings	Rescaled Component One "Stress"	Rescaled Component Two "Control"	Eigenvalues % Variance
Sum A (Frequency)	0.913	.	65.089
Sum B (Challenge)	0.809	.	18.894
Sum C (Threat)	0.950	.	9.573
Sum D (Severity)	0.945	.	3.252
Sum E (Control)	.	0.993	1.812
Sum F (Harm/Loss)	0.849	.	1.330

**Theme four, question one:**

In order to investigate whether general and specific coping strategies exist, a frequency count of coping strategies for each question was required. Only coping strategies that were implemented by equal to or greater than 20% of participants were used in the analysis. The rationale for this was that the selection of the same strategy in response to any particular stressor by a fifth of the sample was deemed to be a significant finding. General and specific strategies were identified from the results. General coping strategies were identified as those strategies used by equal to or greater than 20% of participants in response to 6 of the 9 sources of stress. In contrast, specific coping strategies were identified as those strategies used by equal to or greater than 20% of participants in response to equal to or less than 3 of the 9 sources of stress.

From the frequency analyses it emerged that one coping strategy, 'communication', was used by equal to or greater than 20% of participants in response to all 9 sources of stress. Therefore this coping strategy was referred to as a general coping strategy. Table 9.15 provides further data revealing the myriad of stressors for which 'communication' was the most used and second most used strategy, and documenting the number of participants selecting 'communication' in response to each stressor.

**Table 9.15: Number and percentage of participants selecting 'communication' as most used or second most used coping response to each source of stress.**

<b>Stressors for which Communication was most used coping strategy</b>	<b>N</b>
Qtn 2: Coach Evaluation Issues	21 (42%)
Qtn 4: Quality Concerns	26 (52%)
Qtn 5: Technical Issues	30 (60%)
Qtn 8: Ethical Issues	20 (40%)
Qtn 9: Coaching Agendas	39 (78%)
<b>Stressors for which Communication was second most used strategy</b>	<b>N</b>
Qtn 1: Time Pressures in Coaching	15 (30%)
Qtn 6: Organisation and Planning Issues	15 (30%)
Qtn 7: Competition in Coaching	14 (28%)

Further analysis of frequency data revealed a number coping strategies were used in response to just a few specific sources of stress. Specifically, it emerged that two coping

strategies, 'rationalisation and action' and 'organise effectively' were used by equal to or greater than 20% of participants in response to just 3 sources of stress. Therefore these coping strategies were referred to as specific coping strategies. Table 9.16 documents the specific sources of stress linked to these coping strategies and the number and percentage of participants selecting each strategy.

**Table 9.16: Number and percentage of participants selecting 'organise effectively' and 'rationalisation and action' in response to specific sources of stress.**

<b>Sources of stress linked to the coping strategy 'organise effectively'</b>	<b>N</b>
Qtn 1: Time pressures in coaching	16 (32%)
Qtn 3: Travel concerns	11 (22%)
Qtn 6: Organisation and Planning Issues	15 (30%)
<b>Sources of stress linked to the coping strategy 'rationalisation and action'.</b>	<b>N</b>
Qtn 2: Coach Evaluation Issues	17 (34%)
Qtn 5: Technical Issues	12 (24%)
Qtn 7: Competition in Coaching	13 (26%)

**Theme Four Question Two:**

It was not possible to investigate links between stress appraisals (challenge, threat, harm/loss, control, severity frequency) and coping categories (problem-focused, emotion-focused, appraisal/re-appraisal, avoidance) due to the results gained from theme three question two. They revealed that the stress appraisals challenge, threat, harm/loss, severity and frequency were all measuring the same thing 'stress', and control was measuring something different. As a consequence, if a stressor was appraised as high in challenge, it was also appraised as high in threat, harm/loss, severity and frequency. Therefore, it was not possible to label any of the 9 stressors as mainly challenging or threatening or harmful etc. Instead, it was only possible to label each stressor in terms of overall measures of 'stress' and 'control'.

**Theme five, question one:**

Data analysis procedures used to investigate whether the most used coping strategy for each stressor was perceived to be effective were threefold. Firstly, the SPSS re-code function was used to identify the participants that used the most used coping strategy for

each stressor (question). Secondly, the SPSS recode function was then used to sum the effectiveness scores of those participants. Finally, the mean effectiveness scores were calculated for the most used strategy for each question.

Table 9.17 presents the mean effectiveness scores for the most used strategy for each source of stress. The findings reveal that the mean effectiveness scores for the most used strategy for each question range from  $m=5.00$  to  $m=6.29$ . Therefore it appears that the most used coping strategy for each source of stress was perceived to be effective.

**Table 9.17: Mean effectiveness scores for the most used coping strategy for each source of stress**

Question Number/Source of Stress	Most Used Coping Strategy	Mean Effectiveness Scores
Qtn 1: Time Pressures in Coaching	Organise Effectively	M=6.06
Qtn 2: Coach Evaluation Issues	Communication	M=6.29
Qtn 3: Travel Concerns	No Coping	M=5.00
Qtn 4: Quality Concerns	Communication	M=5.65
Qtn 5: Technical Issues	Communication	M=5.87
Qtn 6: Organisation and Planning Issues	Organise Effectively	M=5.80
Qtn 7: Competition in Coaching	No Coping	M=5.53
Qtn 8: Ethical Issues	Communication/No Coping	M=5.84
Qtn 9: Coaching Agendas	Communication	M=5.87

**Theme five, question two:**

In order to investigate whether some players view coping as effective most of the time (i.e., they have a positive view of coping), the following steps were taken. Firstly, effectiveness ratings of equal to or greater than 5 on the 7 point Likert scale were defined as 'positive perceptions of coping effectiveness'. The next step was to develop a new column labelled 'positive perceptions of coping effectiveness' and to use the SPSS recode function to re-code coping effectiveness scores of equal to or greater than 5 for all questions 1-9 for all participants. Finally, a frequency count on the re-coded column was required to determine the number of participants exhibiting positive perceptions of coping.



Results of the frequency count showed the number of participants rating coping effectiveness as equal to or greater than 5, and the number of questions they rated as greater than 5. These results, displayed in table 9.18, suggest that in general squash players perceive coping to be effective. In other words, they tend to have positive perceptions of coping. The table shows that the mean number of questions being rated at equal to or greater than 5 was 7.26 ( $m=7.26$ ), the minimum number of questions was 2 and the maximum was 9 ( $R=2-9$ ).

**Table 9.18: Numbers of participants rating coping effectiveness as  $\geq 5$  and number of questions in which coping effectiveness was rated  $\geq 5$ .**

Number of questions in which coping effectiveness was rated $\geq 5$	Number of participants rating coping effectiveness as $\geq 5$
2	2
3	1
4	4
5	3
6	2
7	10
8	9
9	19

**Theme five, question three:**

Conversely, in order to investigate whether coping was perceived to be ineffective by certain players most of the time (i.e., negative perceptions of coping), the following data analysis procedures were undertaken. Firstly, those participants rating coping effectiveness as equal to or less than 3 on the 7 point Likert scale were viewed as exhibiting 'negative perceptions of coping effectiveness'. Secondly, a new column was created in the SPSS file labelled 'negative perceptions of coping effectiveness' and the re-code function was used to re-code coping effectiveness ratings of equal to or less than 3 for all questions 1-9 and for all participants. Finally, a frequency count was run on the re-coded column to determine the number of participants with negative perceptions of coping effectiveness.

Results of the frequency count showed the number of participants rating coping effectiveness as equal to or less than 3, and the number of questions they rated as less than 3. These results are displayed in table 9.19 and in line with the results of theme five question two suggest that in general squash players do not have negative perceptions of coping effectiveness. The table shows that the mean number of questions being rated at equal to or less than 3 was 0.74 ( $m=0.74$ ), the minimum number of questions was 0 and the maximum was 5 ( $R=0-5$ ).

**Table 9.19: Numbers of participants rating coping effectiveness as  $\leq 3$  and number of questions in which coping effectiveness was rated  $\leq 3$ .**

Number of questions in which coping effectiveness was rated $\leq 3$	Number of participants rating coping effectiveness as $\leq 3$
0	31
1	8
2	7
3	2
4	1
5	1

**Theme five, question four:**

To test for significant links between coping effectiveness and coping frequency, it was necessary to calculate composite scores for coping effectiveness and coping frequency. These composite scores were then correlated using Pearson's correlation analysis. Principal component factor analysis was required to determine the number of components extracted.

Table 9.20 demonstrates a significant correlation at the 0.01 level between coping effectiveness and coping frequency. Tables 9.21 and 9.22 present the results of the factor analysis revealing only one component. Therefore, the data suggests that coping effectiveness and coping frequency are measuring the same construct 'coping'.

**Table 9.20:- Results of Pearson's Correlation**

	Coping Effectiveness	Coping Frequency
<b>Coping Effectiveness</b>		
<i>Pearson Correlation</i>	1.000	0.372**
<i>Sig. (2-tailed)</i>	.	0.008
<i>N</i>	50	50
<b>Coping Frequency</b>		
<i>Pearson Correlation</i>	0.372**	1.000
<i>Sig. (2-tailed)</i>	0.008	.
<i>N</i>	50	50

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Table 9.21:- Eigenvalues**

Component	Eigenvalues (% Variance)
1	68.579
2	31.421

**Table 9.22:- Component Matrix**

	Component 1
Coping Effectiveness	.828
Coping Frequency	.828

## 9.7 Discussion and Summary

The following section is split into two parts; a discussion and a summary. A discussion of the findings relevant to each investigative theme is offered. Both the theoretical and practical implications of this research are identified. A summary of the research questions, data analysis techniques and main findings are presented in table 9.23.

### *Discussion*

The results will be discussed under each of the five investigative themes.

#### **Theme One: Age/Gender as Mediating Variables of Stress and Coping**

Results demonstrated that no significant differences were found between, age and stress or gender and stress. However, a significant difference was found in the age x gender interaction data. In terms of the coping data, no significant differences were found

between age, gender and coping. Therefore these findings suggest that age and gender are not determinants of player's stress or coping during high performance squash coaching. This was an unexpected finding because levels of coaching support in England's World Class Performance Programme for squash are dependent upon a player's age and gender. Players of different ages and genders have unique coaching support systems and therefore it was considered probable that they would experience different sources of stress as a result. Findings suggest that this is not the case.

These findings have a number of implications to theory and future research. Firstly, they suggest it may not be necessary to control for age and gender influences on stress and coping in future research in squash coaching. Secondly, further investigations into age, gender and stress or age, gender and coping may not be pertinent areas for future research. Perhaps this explains the current lack of research in this area. In terms of practice, results imply that a sport psychologist working with elite squash players to manage stress during coaching would not be required to distinguish between players on a categorical (age/gender) basis.

**Theme Two:- Personality/Situation as Mediating Variables of Stress and Coping**

There were four research questions investigating this theme. Questions one and two investigated trait measures of stress and coping respectively. Findings revealed only a small minority, 3 of 50 (6%) participants experienced 'high trait stress'. Therefore this evidence does not support Spielberger's (1966) notion of 'trait stress' amongst the majority of elite squash players. Conversely, a significant proportion, 21 of 50 (42%) participants exhibited 'constant coping' i.e., they selected the same strategy in response to 5 of the 9 questions. Therefore this finding provides some support for the notion advocated by Moos (1974), Carver et al., (1989), Holahan and Moos (1987), Krohne (1988) and McCrae (1989), that people have tendencies to cope in particular ways. Specifically, Carver, Scheier and Weintraub (1989;270) suggest,

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*"...people do not approach each coping context anew, but rather bring to bear a preferred set of coping strategies that remains relatively fixed across time and circumstances".*

In summation, these findings suggest that although stable personality traits do not appear to greatly influence sources of stress experienced by elite squash players during coaching activities, they do influence the coping strategies used by 42% of the sample. This provides partial support for Bolger's (1990) assertion that personality mediates stress and coping.

Questions three and four investigated situational influences on stress and coping. Findings revealed that the mean stress and control scores were highest for 'technical issues in coaching', suggesting that this coaching situation was perceived to be most stressful yet highly controllable by most players. Results also revealed a number of coping strategies that were used in response to specific stressors, i.e. they were situation specific coping strategies. Therefore, the results of questions three and four provide evidence of situational factors influencing player's stress and coping during coaching activities. This provides support for Parkes (1986) argument that there is a need to further examine the role of situational variables.

Overall, these findings provide some evidence that both personality and situational variables do determine stress and coping. They imply that interactionist models of stress and coping may be more appropriate to use as theoretical frames for future research. Bouffard and Crocker (1992), for example, adopted a state-trait interaction model of coping in which stable coping dispositions were examined in the light of specific situational influences. Furthermore, generalizability theory (Shavelson & Webb, 1991) was used to determine the consistency of use of coping strategies. Results revealed by far the biggest proportion of variance (over 50% in most cases) was accounted for by 'person x situation' interactions. Therefore, it appears that interaction model's such as this can be particularly useful in measuring both stable and situational influences of coping. Perhaps

it would be useful to develop a similar interaction model to measure stable and situational influences of stress.

These findings also have a number of implications for practice that are worthy of discussion. Firstly, they suggest that situations are more likely than personal dispositions to be sources of stress amongst elite squash players. Therefore, sports psychologists working with elite squash players must be aware that stress during coaching is more likely to be manifest in the situation than the person. Consequently, facilitating players to select and employ appropriate coping strategies in response to certain situational demands may be a more effective sport psychology intervention than teaching players stress management or stress inoculation tools and techniques.

Secondly, results suggest that a significant proportion (42%) of elite squash players exhibit 'constant coping'. Therefore, a sport psychologist working with elite squash players must be aware of this coping phenomenon and must be able to identify a 'constant copier'. Once identified, sports psychologists must work with these players to provide explanations for a player's 'constant coping' behaviour. For example, it may be that the cause of 'constant coping' is that a player does not have a repertoire of coping mechanisms to draw upon. In this case the role of the sports psychologist must be to educate the player to develop such skills. The sport psychologist must also consider the perceived effectiveness and actual effectiveness of the constant strategy, before deciding on the most appropriate form of intervention.

Thirdly, results suggest that 'technical issues' are perceived to be the most stressful sources of stress. Therefore, a sport psychologist working in squash is likely to be required to work with elite players to develop specific coping strategies in response to 'technical issues'. Further intervention may include identifying the specific stressors associated with 'technical issues' and educating coaches to be 'stress sensitive' whilst delivering technical sessions. In this sense, the sport psychologist would act as mediator between coach and player.

**Theme Three:- Stress Appraisals, Links between Stress Source Characteristics**

There were two questions in this investigative theme. The first question involved investigating the number of sources of stress appraised as 'purely challenging', 'purely threatening' or 'purely harmful', results revealed that there were none. Therefore, findings support the notion advocated by Bjork and Cohen (1993), Campbell (1997), Lazarus and Folkman (1984) and McCrae (1984), which suggests that due to the dynamic nature of stress, it is not possible to label stressors as 'purely' challenging, threatening or harmful. Consequently, categorising stressors in terms of their characteristics (challenging, threatening or harmful stressors) as suggested by Bouffard and Crocker (1992) and Crocker and Bouffard (1990), was not possible using this data.

The second question investigated relationships between stress source characteristics. Correlation analysis revealed some high positive correlations amongst the stress source characteristics data. Factor analysis extracted just two components from the data. The first component included the dimensions challenge, threat, harm/loss, severity and frequency and was labelled 'stress'. The second component was 'control' and was measuring something statistically different. Therefore it appears that elite squash players make a distinction between the concepts of 'stress' and 'control', yet they do not distinguish between positive (challenge), negative (threat, harm/loss), severity or frequency conceptualisations of stress. Consequently, 'stress' is perceived to be a uni-dimensional construct quite distinct from 'control'.

In theoretical terms, these findings failed to provide evidence in support of the claims made by Lazarus and Folkman (1984), McCrae (1984) and Campbell (1997) that a positive relationship may exist between appraisals of challenge and control. Furthermore, these results also failed to confirm the tentative trends that emerged from the group data in phase one of this thesis, suggesting a negative relationship may exist between severity and control.

Since only two components 'stress' and 'control' were extracted from the factor analysis, it would appear that the 6 separate stress source characteristics used in this study were not

particularly meaningful to squash players. These characteristics of stress emerged from the general psychology literature and it may be that they are just not as relevant in sport. Another possibility is that certain qualitative differences may exist in the interpretation of these stress source characteristics by diverse populations. For example, the stress characteristic harm/loss may have a qualitatively different meaning to relatives of cancer patients than it does to squash player's losing a match. Whatever the explanation, future research is required to investigate whether these characteristics are useful as stress appraisal tools to other sporting populations, or whether stress in sport requires characterising using different criteria.

Finally, these findings suggest that elite squash players do not distinguish between positive and negative stress. Therefore, it could be argued that an education programme may be required to improve stress appraisal skills and to refine thinking routines. It may be that with time and education, squash players find the 6 stress source characteristics particularly useful as stress appraisal tools. Longitudinal studies may be beneficial to assess the effectiveness of such education programmes.

#### **Theme Four:- Links between Sources of Stress and Coping Strategies**

There were two questions involved in this theme. The essence of the first question was to identify general and specific links between sources of stress and coping strategies. Results revealed that the most generally used coping strategy was 'communication'. This strategy was used by at least 20% of the sample in response to all 9 sources of stress. Two specific coping strategies, 'organise effectively' and 'rationalisation and action', were used by at least 20% of the sample in response to just 3 sources of stress.

Authors such as McCrae (1992) have suggested that looking at common indicators across stressors may help to determine the most appropriate forms of coping. Although McCrae was referring to stress characteristics such as challenge, threat and harm/loss as indicators, a number of other common elements of stressors linked to the specific coping strategies were identified in this study. For example, the stressors 'time pressures', 'travel concerns' and 'organisation and planning issues' are all forms of lifestyle



concerns. Therefore, a specific problem-focused response, 'effective organisation', was implemented. Further, the sources of stress 'coach evaluation issues', 'technical issues' and 'competition in coaching' all involve concerns about receiving 'not okay' (Harris, 1969) messages during key transactions, and are generally negative stressors. Therefore, a problem-focused/re-appraisal strategy, 'rationalisation and action', was used in response. Overall, it appears that McCrae's (1992) suggestion to identify common indicators across stressors is useful in determining specific coping responses. However, the suggestion is not particularly useful in determining general coping strategies such as 'communication'. Instead it may be more useful to identify characteristics of the coping strategy that make it so versatile in dealing with a range of different stressors.

The purpose of the second question was to identify links between stress appraisals and categories of coping. For example, Bjork and Cohen (1993) found stressors appraised as high in challenge or control, tended to be dealt with using problem-focused coping, and stressors appraised as high in threat or harm/loss (i.e., negative stress appraisals), tended to be dealt with by using emotion-focused strategies. However, the results of theme three question two revealed that 5 of the 6 stress source characteristics (challenge, threat, harm/loss, severity and frequency) in this study were measuring just one component, 'stress', and the other stress source characteristic 'control', was measuring a second component. Therefore, it was not possible to identify stressors appraised as high in just one characteristic (except for control) due to the fact that they were so highly correlated. As a result, the only possibility would be to link appraisals of 'stress' or 'control' to categories of coping. This would defeat the object of the question and was therefore thought inappropriate.

These findings have a number of theoretical implications. Firstly, they suggest that it may not always be possible to use the stress source characteristics data to identify links between sources of stress and coping categories. For example, certain stressors will be appraised as high or low in terms of all characteristics, making it impossible to label the stressor as solely 'challenging' or 'threatening' etc. Furthermore, characterising a stressor as 'challenging' or 'threatening' etc. is potentially problematic in that it is highly

unlikely that a source of stress would be appraised as 'purely challenging' or 'purely threatening' etc. so the researcher must then define the appraisal levels acceptable for a stressor to be viewed as 'challenging', 'threatening' etc. In this respect, stress source characteristics are necessarily negotiable.

Secondly, attempts to characterise sources of stress and to categorise coping strategies require reductionist techniques that fail to acknowledge the dynamic nature and complexities of the stress-coping process. Although previous researchers in the general psychology literature (Bjork & Cohen, 1993; Lazarus & Folkman, 1984; McCrae, 1992) and the sport psychology literature (Bouffard & Crocker, 1992; Crocker & Bouffard, 1990) have defined stressors in terms of their characteristics and have identified links between these stress characteristics and coping categories, in doing so the researchers have isolated just one characteristic of a stressor for the focus of the investigation. For example, Bouffard and Crocker (1992) asked participants with a physical disability to recount a recent challenging situation from a physical activity setting, yet they failed to ask participants to identify threatening or harmful situations. In isolating potentially related variables, the complexities of the stress-coping process were left unexamined. Therefore, future research is required to investigate the complexities of the inter-relationships between stress and coping.

Thirdly, findings suggest that other methods of investigating links between sources of stress and coping strategies, such as identifying general and specific coping strategies, are helpful and worthy of further investigation in future research. A more detailed analysis of the characteristics of each type of strategy and an in depth understanding of general/specific coping selection in response to particular stressors is required.

#### **Theme Five:- Coping Effectiveness**

Four research questions were used to explore this investigative theme. Results of questions one to three revealed that squash players appear to have positive perceptions of coping. Question one found that the most used coping strategy for each source of stress was perceived to be effective (range = 5.00 – 6.29). Question two revealed that players

tend to perceive coping as effective no matter what the coping strategy or the stressor. In support of these findings, question three found that players did not tend to have ineffective perceptions of coping. Therefore in general, squash players report successful coping efforts. However, one drawback of self-report measures of coping outcomes is that although players may report coping as effective, coping may not actually be effective. There may be a mismatch between reality and appraisal (Lazarus & Folkman, 1984). These results suggest that this may be the case since positive perceptions of effectiveness irrespective of the stressor or coping strategy, is likely to lead to an unrealistic appraisal. In this sense it may be more useful for future research to investigate coping outcomes through behavioural observations rather than participants reports. Other ways to investigate coping outcomes may be via longitudinal research and analyses of ways in which players learn to cope with stress during coaching. For example, it may be that a particular stressor re-occurs over a period of time because a player copes ineffectively through 'mental disengagement'. As the process evolves, the player learns that a problem-focused response would be more appropriate and by implementing this strategy, they iradicate the source of stress. In this case, coping efforts and effectiveness evolved over time and this process was monitored.

The purpose of question four was to explore the relationship between coping effectiveness and coping frequency, and results revealed a significant correlation. Factor analysis extracted only one component suggesting that these two dimensions were measuring the same thing. Since only one component 'coping' was extracted from the factor analysis, it would appear that the 2 separate coping measures (effectiveness and frequency) used in this study were not particularly meaningful to squash players. These coping measures were adopted based on suggestions made by Bar-Tal, Lurie and Glick (1994) who investigated the effectiveness of coping strategies used by Israeli soldiers during the gulf war. They suggested that future research should consider extent and effectiveness measures. Although relevant in the general psychology literature, these measures may not be as relevant in sport. Future research is required to investigate whether these characteristics are useful characteristics of coping to other sporting populations, or whether different criteria are required to characterise coping in sport.

These findings have a number of implications to practice. Firstly, findings suggest that squash players tend to exhibit positive perceptions of coping effectiveness. Such positive perceptions may be unrealistic, for example, 'no coping' may not be effective in reality. Therefore it may be necessary for sport psychologists working with squash players to develop more objective observable measures of coping effectiveness in order to ensure that they are realistic. Further, sports psychologists may need to work with squash players to develop more accurate and realistic appraisals of coping outcomes. Secondly, findings suggested that squash players were not able to distinguish between coping effectiveness and coping frequency. This evidence suggests that squash players require sport psychology education to develop or refine their coping appraisal tools. Such education and development may lead to a greater understanding of coping effectiveness during squash coaching activities.

In conclusion, this study produced an array of unexpected findings regarding player's perceptions of stress and coping in high performance squash coaching. Future research of a more specific nature is required to further examine each of these unexpected findings. Although quantitative in nature, this study investigated a variety of research questions emerging from five major investigative themes. Therefore, results provided broad insights into the phenomena under investigation. Adopting such a broad approach facilitated a fuller understanding of the whole phenomena under investigation, and produced findings of applied value in addition to providing some evidence about inter-relationships between key concepts and variables on which to base future research of a 'pure' nature.

### ***Summary***

In summary, this study investigated the sources of stress and coping strategies of 50 elite squash players during high performance coaching activities. Data was collected via a postal questionnaire designed using the results of study one phase two. Five major investigative themes were identified from the results of phase one and the current literature, and a number of pertinent research questions were developed from each of the

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themes. Table 9.23 provides a summary of each of the research questions, the data analysis techniques and the findings.

A number of significant results were gained from this study. Firstly, results suggested that age and gender were not determinants of player's stress or coping during high performance squash coaching. Therefore, further investigations into age, gender and stress or age, gender and coping may not be pertinent areas for future research. These results imply that a sport psychologist working with elite squash players to manage stress during coaching would not be required to distinguish between players on a categorical (age/gender) basis.

Secondly, findings revealed that although stable personality traits did not greatly influence sources of stress experienced by elite squash players during coaching activities, they did influence the coping strategies used by 42% of the sample. Therefore, this evidence does not support Spielberger's (1966) notion of 'trait stress', yet it does provide some support for the notion advocated by Moos (1974), Carver et al (1989), Holahan and Moos (1987), Krohne (1988) and McCrae (1989), that people have tendencies to cope in particular ways.

Thirdly, findings revealed that the mean stress and control scores were highest for 'technical issues in coaching', suggesting that this coaching situation was perceived to be most stressful, yet highly controllable, by most players. Results also identified a number of coping strategies that were used in response to specific stressors, i.e. they were situation specific coping strategies. Therefore results provided some evidence of situational determinants of stress and coping. This supports Parkes (1986) argument that more research is required into the role of situational variables.

Fourthly, results found that elite squash players were not able to distinguish between positive and negative conceptualisations of stress. Consequently, the 6 stress source characteristics taken from the general psychology literature (challenge, threat, harm/loss, control, severity, frequency) were not particularly meaningful to squash players. Rather,

'stress' was perceived to be a uni-dimensional construct quite distinct from 'control'. Therefore, it could be argued that an education programme may be required to improve the stress appraisal skills and to refine thinking routines of elite squash players.

Fifthly, results revealed that the most generally used coping strategy was 'communication'. This strategy was used by at least 20% of the sample in response to all 9 sources of stress. Two specific coping strategies, 'organise effectively' and 'rationalisation and action', were used by at least 20% of the sample in response to just 3 sources of stress. Methods of investigating links between sources of stress and coping strategies, such as identifying general and specific coping strategies, are helpful and worthy of further investigation in future research. A more detailed analysis of the characteristics of each type of strategy and an in depth understanding of general/specific coping selection in response to particular stressors is required.

Sixthly, squash players appear to have positive perceptions of coping. Results revealed that no matter what the stressor, or the coping strategy, squash players perceived coping efforts to be effective. However, one drawback of self-report measures of coping outcomes is that although players may report coping as effective, coping may not actually be effective. There may be a mismatch between reality and appraisal (Lazarus & Folkman, 1984). In this sense it may be more useful for future research to investigate coping outcomes through methods other than participants reports.

Finally, results suggested that the 2 separate coping measures, effectiveness and frequency, used in this study, were not particularly meaningful to squash players. Instead, these two dimensions were perceived to be just one component of coping. This evidence suggests that squash players may require sport psychology education to develop or refine their coping appraisal tools. Such education and development may lead to a greater understanding of coping effectiveness during squash coaching activities.

In methodological terms, the questionnaire proved to be a useful tool for measuring stress and coping simultaneously. A major strength was the design of the questions based on

squash player specific data collected in study one. A limitation to the questionnaire was that it was designed specifically to use with the population of elite squash players, and due to this sport specificity, cannot be used in other sporting applications. However, the questionnaire template is helpful and can be adapted to other sporting populations.

In conclusion, this study provided significant insights into five major investigative themes identified in contemporary sport stress and coping research. The findings made a valuable contribution to current theoretical debates in the field and current high performance coaching practice within squash in England. The boundaries of this study were identified and a number of specific areas requiring future research were acknowledged.

Table 9.23:- Summary of research questions, data analysis procedures and findings

Investigative theme/research question	Data Analysis	Findings
<p><b>Theme one, question one:-</b> Is there a significant difference between the stress scores of juniors compared to seniors or males compared to females?</p>	<ul style="list-style-type: none"> <li>• 2x2 MANOVA</li> <li>• Calculate composite stress score by summing parts A-F for each subject for each question =dependent variables</li> <li>• Age (junior/senior) and gender (male/female) = independent variables</li> </ul>	<ul style="list-style-type: none"> <li>• A significant overall multivariate effect was found in the age x gender interaction data (<math>p=0.13</math>).</li> <li>• Univariate data revealed no significant differences in age, gender or age x gender interactions for any of the sources of stress.</li> <li>• Multivariate tests are more powerful, therefore difference assumed.</li> </ul>
<p><b>Theme one, question two:-</b> Is there a significant difference between the coping strategies used by juniors compared to seniors or males compared to females?</p>	<ul style="list-style-type: none"> <li>• Create 8 new columns called 'sum of each coping strategy'</li> <li>• For each subject, count the frequency with which each of the coping strategies is used for qtns 1-9, frequency range =0-9</li> <li>• Use T-Tests to compare means of each of 8 columns, select age and gender as mediating variables.</li> </ul>	<ul style="list-style-type: none"> <li>• No significant differences were found between males/females or juniors/seniors in terms of coping selection (<math>p&lt;0.05</math>).</li> </ul>
<p><b>Theme two, question one:-</b> Do some players experience stress more frequently than others? Players responding high on stress frequency to most questions may have a higher 'trait' measure of stress?</p>	<ul style="list-style-type: none"> <li>• Use recode function to define high frequency stress as <math>\Rightarrow 5</math> on Part A responses to each question 1-9</li> <li>• Frequency count for each subject responding <math>\Rightarrow 5</math> on Part A qtns 1-9.</li> <li>• High trait <math>\Rightarrow 5</math> or more out of 9 questions with <math>\Rightarrow 5</math> response</li> </ul>	<ul style="list-style-type: none"> <li>• Only 3 out of 50 subjects scored <math>\Rightarrow 5</math> on 5 or more questions</li> <li>• Conc. – Evidence of high trait stress amongst the minority squash players in the sample.</li> </ul>
<p><b>Theme two, question two:-</b> Do some players have a higher tendency to implement one particular coping strategy in response to all stressors i.e., a 'constant copier'?</p>	<ul style="list-style-type: none"> <li>• Use data from T1Qtn2</li> <li>• Define 'constant copier' as player selecting same strategy in response to 5 or more questions.</li> <li>• Use 'count' command to count the number of subjects that have used the same strategy for <math>\Rightarrow 5</math> out of 9 questions</li> </ul>	<ul style="list-style-type: none"> <li>• Out of 50 subjects, 21 (42%) were identified as 'constant copiers' ie. Selecting the same strategy in response to 5 or more questions.</li> <li>• Out of the 21, 16 constant copiers selected 'communication' as the constant strategy and 5 selected 'no coping'.</li> <li>• Out of the 5 'no copiers', there were 4 juniors, 1 senior, 3 females, 2 males.</li> <li>• Out of the 16 'communicators', there were 11 seniors, 5 juniors, and 8 females and males.</li> </ul>



Investigative theme/research question	Data Analysis	Findings
<p><b>Theme two, question three:-</b> Are there any situations that are appraised as stressful by most players?</p>	<ul style="list-style-type: none"> <li>• Sum parts A,B,C,D, and F for each subject for each question (out of 35), call it 'stress'</li> <li>• Part E = 'control'</li> <li>• Compute the mean stress for each question by adding the individual scores and dividing by 50.</li> <li>• Compute the means for control</li> <li>• Compare means of stress and control for all 9 questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Means for stress included Q1 – 14.14, Q2 – 14.38, Q3 – 13.98, Q4 – 11.44, Q5 – 15.14, Q6 – 15.02, Q7 – 12.78, Q8 – 9.92, Q9 – 11.96.</li> <li>• Mean range stress = 9.92 – 15.14</li> <li>• Means for control included Q1 – 3.96, Q2 – 4.8, Q3 – 4.38, Q4 – 4.76, Q5 – 4.72, Q6 – 4.6, Q7 – 4.7, Q8 – 4.52, Q9 – 4.68</li> <li>• Mean range control = 3.9 – 4.8.</li> <li>• Conc – Technical issues is perceived to be most stressful in terms of uni-dimensional concept of stress. Also high perceptions of control over stress caused by technical issues were found. However, mean levels of stress were not high.</li> </ul>
<p><b>Theme two, question four:-</b> Are there any coping strategies that are used by most players to cope with a particular source of stress?</p>	<ul style="list-style-type: none"> <li>• Use data from TIQtn2</li> <li>• Frequency count for each coping strategy for each source of stress</li> <li>• Note strategies used by =&gt;20% of subjects in dealing with a particular stressor.</li> </ul>	<ul style="list-style-type: none"> <li>• Time pressures (communication, organise effectively)</li> <li>• coach evaluation issues (comm'n, rat. and action)</li> <li>• travel concerns (comm'n, org effectively, no coping)</li> <li>• quality concerns (comm'n, no coping)</li> <li>• technical issues (comm'n, rationalisation and action)</li> <li>• organisation/planning issues (communication, organise effectively)</li> <li>• competition in coaching (communication, rationalisation and action, no coping)</li> <li>• ethical issues (communication, no coping)</li> <li>• coaching agendas (communication).</li> </ul>
<p><b>Theme three, question one:-</b> Are there any sources of stress that are appraised as purely challenging, threatening or causing harm/loss?</p>	<ul style="list-style-type: none"> <li>• 'Purely' challenging, threatening or causing harm/loss was defined as all 50 participants rating 7 on the challenge, threat or harm/loss scales for any particular source of stress.</li> <li>• Calculate frequencies for ratings of challenge, threat and harm/loss for each question</li> </ul>	<ul style="list-style-type: none"> <li>• There were no sources of stress appraised as 'purely' challenging, threatening or causing harm/loss.</li> </ul>

Investigative theme/research question	Data Analysis	Findings
<p><b>Theme three, question two:-</b> Are there any links between the 6 stress source characteristics irrespective of the source of stress ?</p>	<ul style="list-style-type: none"> <li>• Correlate parts A-F across all 9 questions</li> <li>• If correlated, factor analysis to determine nature of correlation</li> </ul>	<ul style="list-style-type: none"> <li>• Highly positively correlated thus factor analysis required</li> <li>• 5 variables are measuring same thing, 1 variable, CONTROL, is measuring something different</li> <li>• Conc – squash players may not have cognitive ability to distinguish between positive/negative stress. They perceive it as a uni-dimensional construct.</li> </ul>
<p><b>Theme four, question one:-</b> Do general coping strategies exist i.e., strategies that are used to cope with all stressors, and do specific coping strategies exist i.e., strategies used to cope with particular stressors? General vs Specific coping hypothesis.</p>	<ul style="list-style-type: none"> <li>• Frequency count of coping strategies for each question</li> </ul>	<ul style="list-style-type: none"> <li>• <b>General strategies</b> – ‘Communication’ was the most used strategy for questions 2 (n=21), 4 (n=26), 5 (n=30), 8-(n=20) and 9(n=39), and the second most used strategy for questions 1(n=15), 6 (n=15) and 7(n=14). It is the coping strategy used in response to the most number of questions and by the most number of subjects.</li> <li>• <b>Specific Strategies</b> – ‘Organise effectively’ was used specifically to cope with time pressures (n=16), travel concerns (n=11) and organisational and planning issues (n=15). ‘Rationalisation and action’ was used specifically to cope with coach evaluation issues (n=17), technical issues (n=12) and competition in coaching (n=13).</li> </ul>
<p><b>Theme four, question two:-</b> Are there any links between stress appraisals and categories of coping?</p>	<ul style="list-style-type: none"> <li>• Not a relevant question due to results of theme three question two</li> <li>• Since 5 of 6 stress source characteristics are highly correlated, it’s impossible for stressors to be appraised as high in just one characteristic (except for control). Therefore cannot link stress appraisals to coping categories.</li> </ul>	<ul style="list-style-type: none"> <li>• Conc – This has implications for Lazarus &amp; Folkman’s (1984) ‘goodness of fit’ model, the assertions made by Bjork &amp; Cohen’s (1993) and McCrae (1992).</li> </ul>
<p><b>Theme five, question one:-</b> Is the most used coping strategy for each stressor perceived to be effective?</p>	<ul style="list-style-type: none"> <li>• Use recode to identify the subjects that used the most used strategy for each stressor</li> <li>• Use re-code to sum the effectiveness scores of those subjects</li> <li>• Calculate mean effectiveness scores</li> </ul>	<ul style="list-style-type: none"> <li>• Mean effectiveness scores for the most used strategy for each question were as follows, Q1 – 6.06, Q2 – 6.29, Q3 – 5.00, Q4 – 5.65, Q5 – 5.87, Q6 – 5.80, Q7 – 5.53, Q8 – 5.84, Q9 – 5.87.</li> <li>• Thus mean range for all questions is 5.00 – 6.29.</li> <li>• Conc – Most used strategy is perceived to be effective.</li> </ul>

Investigative theme/research question	Data Analysis	Findings
<p><b>Theme five, question two:-</b> Do some players tend to perceive coping as effective no matter what the strategy or the stressor i.e. do some players have positive perceptions of coping?</p>	<ul style="list-style-type: none"> <li>• Define positive perceptions of coping as <math>\Rightarrow 5</math> on coping effectiveness scale</li> <li>• Re-code coping effectiveness scores <math>\Rightarrow 5</math> for all questions 1-9 for all subjects</li> <li>• Run frequency count on re-coded column.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequency count showed the no. of subjects rating coping effectiveness as <math>\Rightarrow 5</math> and the number of questions they rated as 5+. Results showed 19 subjects rated all 9 qtns as <math>\Rightarrow 5</math> on coping effectiveness, 9 subjects rated 8 qtns as <math>\Rightarrow 5</math>, 10 subjects rated 7 qtns as <math>\Rightarrow 5</math> etc. (see freq. table)</li> <li>• Thus the mean no. of questions being rated at <math>\Rightarrow 5</math> was 7.26, the minimum no. of qtns being 2, the maximum being 9.</li> <li>• Conc. – Squash players appear to perceive coping as effective i.e., they have positive perceptions of coping.</li> </ul>
<p><b>Theme five, question three:-</b> Is coping perceived to be ineffective by certain players most of the time i.e., do some players have negative perceptions of coping?</p>	<ul style="list-style-type: none"> <li>• Define negative perceptions of coping as <math>\leq 3</math> on coping effectiveness scale</li> <li>• Re-code coping effectiveness scores <math>\leq 3</math> for all questions 1-9 for all subjects</li> <li>• Run frequency count on re-coded column.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequency count showed the no. of subjects rating coping effectiveness as <math>\leq 3</math> and the number of questions they rated as 3-. Results showed 31 subjects rated none of the qtns as <math>\leq 3</math> on coping effectiveness, 8 subjects rated 1 qtn as <math>\leq 3</math>, 7 subjects rated 2 qtns as <math>\leq 3</math> etc. (see freq. table)</li> <li>• Thus the mean no. of questions being rated at <math>\leq 3</math> was 0.74, the minimum no. of qtns being 0, the maximum being 5.</li> <li>• Conc. – Squash players do not really appear to have particularly ineffective perceptions of coping.</li> </ul>
<p><b>Theme five, question four:-</b> Are there any significant links between coping effectiveness and coping frequency?</p>	<ul style="list-style-type: none"> <li>• Calculate composite scores for coping effectiveness and coping frequency.</li> <li>• Correlate the composite scores</li> <li>• Principal component factor analysis was used to determine number of components extracted.</li> </ul>	<ul style="list-style-type: none"> <li>• A significant correlation between coping effectiveness and coping frequency was identified at the 0.01 level.</li> <li>• Factor analysis extracted only one component suggesting that squash players do not distinguish between coping effectiveness and coping frequency dimensions. The one component extracted was labelled 'coping'.</li> </ul>

# CHAPTER TEN

## SUMMARY, DISCUSSION AND CONCLUSIONS

### 10.1 Structure of the chapter

The aim of this chapter is to highlight the contributions made by this thesis. The chapter is structured into four parts. Part two provides a summary of the research undertaken in the thesis, offering an overview of the studies in phases one and two. Part three is a discussion of the overall findings and is sub-divided into four areas; theoretical contributions; practical implications; methodological considerations; future directions. Part four offers a brief conclusion to the thesis.

### 10.2 Summary

This thesis has investigated stress and coping in high performance squash coaching from both players' and coaches' perspectives. The research was undertaken in two main phases.

#### *Phase One*

Phase one investigated sources of stress and coping strategies in high performance squash coaching from the perspective of the coach. Specifically, retrospective interviews were undertaken with 18 high performance squash coaches. Participants were asked to identify sources of stress experienced during high performance coaching activities and coping strategies used to deal with such stressors. Further, coaches were asked to rate the stress source characteristics (challenge/threat/harm-loss/control/severity/frequency) of each stressor and effectiveness/frequency dimensions of each coping strategy. The interview transcripts were inductively content analysed (Patton, 1980).

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Results revealed 223 raw data themes for stress from which 12 general dimensions emerged; political and interpersonal pressures; coaching constraints and barriers; lifestyle concerns/issues; organisational concerns; mentoring responsibilities; team management; post match concerns; pre-event concerns; on-court concerns; self confidence; medical concerns; interpersonal relationships.

In terms of coping, 415 raw data themes were revealed from which 13 general dimensions emerged; rationalisation and action; communication; person management; vent thoughts and emotions; lifestyle management; escapism; provide support; organise effectively; planning and preparation; draw on an excellent mentality; mental disengagement; acceptance and perseverance; anxiety management.

Further, this research involved primary investigations into stress source characteristics, links between sources of stress and coping strategies, and coping characteristics. A number of interesting trends emerged from the data that required further examination in phase two.

In conclusion, this research produced 800 transcribed pages of qualitative data that was complemented by quantitative ratings of stress source and coping characteristics. Emphasis was placed on gaining an understanding from the participants' own perspectives. Therefore, the findings provided rich insights into the experiences of high performance squash coaches.

### *Phase Two*

Phase two extended the research undertaken in phase one by investigating players' perspectives of stress and coping in high performance squash coaching. Further, specific research questions were derived from the results of phase one and a further analysis of the literature. Phase two consisted of two research studies. The aim of the first study was to identify and understand the sources of stress and coping strategies used by elite squash players during coaching activities. Data was collected via telephone interviews (lasting

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approximately 20 minutes) with 11 elite squash players from the population of English lottery funded players at the time of study (84 in January 1999). Data was analysed using inductive content analysis (Patton, 1980) and the software package QSR NUDIST (version 4). Results revealed 110 raw data themes for stress, which collapsed into 9 general dimensions, and 117 raw data themes for coping, that collapsed into 8 general dimensions. The 9 general dimensions for stress were; time pressures; coach evaluation issues; travel concerns; technical issues; organisation and planning issues; quality concerns; competition in coaching; ethical issues; coaching agendas. The 8 general dimensions for coping included; rationalisation and action; communication; mental disengagement; no coping; plan and prepare; organise effectively; seek social and emotional support; draw on an excellence mentality.

The results of study one were used to design a closed questionnaire for study two. Five investigative themes emerged from the results of phase one and further analysis of the literature, and specific research questions were developed based on the five themes. The questionnaire was administered to 84 players on the English SRA's Performance Programme, and 50 were returned, a response rate of 60%. Data was input into SPSS and analysed using a variety of descriptive and inferential statistical techniques.

This study provided significant insights into 5 major investigative themes identified in contemporary sport stress and coping research. The findings made a valuable contribution to current theoretical debates in the field. Further, a number of implications for current high performance coaching practice within squash in England were recommended.

### **10.3 Discussion**

This section provides a discussion of the theoretical and methodological contributions made by this thesis. Practical implications are then considered. Finally, a number of recommendations for future research are discussed.

### ***Theoretical contributions***

This section identifies the theoretical contribution of this thesis by exploring those aspects of the findings that have confirmed existing knowledge categories as well as those that have amended existing concepts. Also outlined are novel conclusions drawn from the work that introduce new ideas, categories and concepts that further extend theory.

This thesis provided a comprehensive systematic review of the stress and coping in sport literature. Previous reviews of literature in stress and coping in sport have been traditional narrative reviews. Consequently, the systematic review documented in chapter 3 was the first in the area.

According to the systematic review of literature, research into stress and coping in sport post 1984 has investigated the experiences of athletes and officials during performance. Therefore, by investigating the stress and coping experiences of both players and coaches during coaching activities, this thesis makes theoretical contributions to the current literature in sport. Furthermore, the research undertaken in this thesis is the first to investigate stress and coping in the sport of squash. The specific contributions are outlined and discussed below:

#### ***(i) Sources of stress***

Inductive analysis derived 12 sources of stress experienced by high performance squash coaches (documented in chapter 5) and 9 sources of stress experienced by elite squash players during coaching activities (detailed in chapter 8). On examination, these 21 dimensions grouped naturally into 'political', 'performance management', 'organisational' and 'social psychological' sources of stress (table 10.1). 'Political' sources of stress are associated with contextual power and influence processes. 'Organisational' sources of stress are concerns with administration, pre-planning and disruption to routine. 'Performance management' sources of stress are associated with technical competence and on court performance improvement issues. Finally, 'social

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psychological' sources of stress are concerned with interpersonal relating and personal and social concerns.

**Table 10.1: 'Political', 'performance managerial', 'organisational' and 'social psychological' sources of stress identified by squash coaches (phase one) and squash players (phase two).**

<b>Political</b>	<b>Organisational</b>	<b>Performance Management</b>	<b>Social Psychological</b>
Political and interpersonal pressures (coaches)	Organisation and planning issues (players)	Technical issues (players)	Ethical issues (players)
	Time pressures (players)	Competition in coaching (players)	Coach evaluation issues (players)
	Travel concerns (players)	Quality concerns (players)	Interpersonal relationships (coaches)
	Organisational concerns (coaches)	Medical concerns (coaches)	Self confidence/ efficacy (coaches)
	Lifestyle concerns (coaches)	On court concerns (coaches)	Post match concerns (coaches)
	Coaching constraints and barriers (coaches)	Pre-event concerns (coaches)	Mentoring responsibilities (coaches)
		Team management (coaches)	
		Coaching agendas (players)	

Conceptualising sources of stress in this way provides new understanding and has immediate implications for practice.

In attempting to understand sources of stress identified in sport, Campbell (1997) used the categories 'competition' and 'non-competition'. This classification proved useful when applied to the sources of stress identified in previous studies recognised in the systematic review (chapter 3). Further, the sources of stress identified by high performance squash coaches (chapter 5) and those identified by elite squash players (chapter 8) were analysed using this dichotomy, and an interesting finding emerged. The sources of stress identified by coaches were both 'competition' and 'non competition' in nature whereas those identified by players revealed that stressors in coaching were all 'non-competition' in nature. Therefore Campbell's (1997) classification was applied in a



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single sport, pinpointing similarities and differences between sources of stress experienced by players and coaches during squash coaching.

Further analysis of sources of stress identified by athletes and officials in previous studies of stress and coping with the stressors identified by coaches and players during high performance squash coaching activities revealed that there are very few similarities. This suggests that players experience different sources of stress during coaching than they do during performance. Also, coaches' experience different sources of stress to those experienced by players (either during coaching or performance) or officials. This reinforces the importance of sport specific and context specific stress research.

Whilst analysing the similarities and differences between the sources of stress identified in previous studies of sources of stress in sport (chapter 3), a further set of categories were developed. Careful analysis and understanding of the data suggested that sources of stress in sport are manifest internally in the 'person' or externally in the 'environment/situation'. Further analyses revealed that 'person' stressors were both 'physical' and 'psychological', and that common characteristics of 'psychological' stressors were 'cognitive', 'behavioural' or 'affective'. 'Environment/situation' sources of stress were manifest outside of the individual and were either 'social', 'economic' or related to 'lifestyle'. In order to investigate the usefulness of this classification, it was applied to the sources of stress identified by coaches in phase one and players in phase two. Although this classification proved a particularly helpful analytic tool, further developments were necessary. Specifically, in phase one, another category, 'person-psychological-social', was required to describe those stressors originating in coaches' social interactions. This classification revealed that a significant number of the source of stress dimensions were categorised as 'environment/situation-social' stressors, suggesting that high performance squash coaches experience social environments, social interactions and social situations as stressful. The identification of this key dimension (person/environment) and the refinements of its sub-categories, comprise a conceptual schema available for application in future studies. Furthermore, immediate practical applications can be made using these categories.

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In comparing the sources of stress identified by coaches in phase one with the sources of stress identified in previous studies recognised in the systematic review (chapter 3), a further classification was developed. Some of the findings from phase one confirmed sources of stress unearthed in previous studies, whilst other sources of stress were specifically related to high performance coaching (see chapter 5). This suggests that sources of stress may be best thought of in two ways. Firstly, as being endemic from engagement in sporting activity, and hence universal or 'general' in nature. Secondly, as pertaining to particular variables associated with the local context, and therefore 'specific' in nature.

*(ii) Stress Appraisal*

Cognitive appraisal is defined as the process by which individuals interpret what is happening in their environment and the implications it has for personal well-being (Gage, 1992; Lazarus & Folkman, 1984, 1987; Smith & Lazarus, 1993). Lazarus and Folkman (1984) identified 3 types of primary appraisal of a stressful event; challenge, threat and harm or loss. Further, Bjork and Cohen (1993) advocated the usefulness of measuring control, severity and frequency dimensions of stress. In order to undertake a comprehensive investigation into the stress appraisals of elite wheelchair basketball players, Campbell (1997) used all 6 dimensions. Specifically, she developed 7-point Likert scales for each of the 6 dimensions, and asked players to rate the degree to which a particular source of stress was challenging, threatening, harmful/loss, controlled, severe and the frequency with which it occurred. Campbell's (1997) study was the first to measure stress source characteristics data in sport.

Campbell's (1997) template was adopted in phase one of this thesis to measure the stress appraisals of high performance squash coaches. Therefore, this was the second study in sport to measure stress source characteristics data using this template. The findings from this study confirmed the usefulness of measuring all 6 dimensions. Further, they confirmed Campbell's (1997) finding that each source of stress generates a range of appraisals such that a stressor may be appraised as high in more than one dimension. For

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example, a stressor may be rated as high in challenge, threat and severity. This can be explained by Lazarus and Folkman's (1984) theory of stress which advocates that a particular source of stress experienced over a period of time may generate a range of appraisals due to continually altering environmental and personal motives.

The stress source characteristics data from phase one revealed a number of interesting findings. However, due to the relatively small-scale nature of the study ( $n=18$ ), the quantitative data produced findings that must be viewed as tentative, and were used to highlight areas of interest for further research in phase two. Firstly, the majority of stressors were rated more challenging than threatening, although a number of sources of stress showed little disparity between appraisals of challenge, threat or harm/loss. Secondly, sources of stress rated as high in severity tended to be rated lower in control and vice versa, suggesting that a negative relationship may exist between these two variables. Finally, the top three ratings of harm/loss were exactly the same as the top three ratings for threat, suggesting that a positive relationship may exist between appraisals of threat and harm/loss. These trends were further explored in phase two.

The same template was incorporated into a closed questionnaire in phase two, and was administered to a much larger sample of elite squash players ( $n=84$ ). Therefore, phase two was the first study in sport psychology to measure the 6 stress sources characteristics using a questionnaire. A number of statistical tests (Pearson's correlation followed by principle components factor analysis) on the data revealed significant findings. Specifically, analyses of the relationships between stress source characteristics revealed high positive correlations, and factor analysis extracted two components from the data, 'stress' and 'control'. Measures of challenge, threat, harm/loss, severity and frequency, were statistically similar and therefore formed the first component labelled 'stress'. Measures of 'control' were statistically different and therefore formed the second component. Such results indicate that elite squash players distinguish between 'stress' and 'control' rather than between positive (challenge), negative (threat, harm/loss) and control, severity and frequency conceptualisations. Therefore these results fail to provide support for the usefulness of Campbell's (1997) 6-dimension template.

Additionally, results revealed that not one of the stressors was appraised as 'purely' challenging, threatening or harmful. This provides further evidence to raise questions regarding the appropriateness of several studies in sport psychology which have categorised stressors as being either challenging or threatening (Bouffard & Crocker, 1992; Crocker & Bouffard, 1992).

Whilst this thesis has contributed significantly to the development of research into stress appraisals in sport, some of the findings from phase one (coaches) and phase two (players) have provided mixed messages. Consequently, future research is essential to ascertain further indications of the usefulness of the 6-dimension template for sporting applications and to investigate stress appraisals of other types of sport participants within other sports.

### *(iii) Coping Strategies*

Inductive analysis also derived 13 coping strategies used by high performance squash coaches (documented in chapter 6) and 8 coping strategies used by elite squash players during coaching activities (detailed in chapter 8). On examination, these 21 dimensions were naturally subsumed into the existing coping categories 'problem-focused', 'emotion-focused' (Lazarus & Folkman, 1984), 'appraisal re-appraisal' (Billings & Moos, 1984; Cox & Ferguson, 1991), and 'avoidance' (Endler & Parker, 1990). Table 10.2 denotes this, and confirms the utility of these existing categories in use in a sports related application.

In both phase one (coaches) and phase two (players), findings revealed that problem-focused coping was the most predominantly used category of coping (measured in terms of total number of raw data themes). This finding provides further support for previous research (Bjork & Cohen, 1993; Campbell, 1997; Crocker & Graham, 1995; Endler & Parker, 1990; Folkman & Lazarus, 1985; Madden et al., 1989).

**Table 10.2: Coping strategies identified in phase one (coaches) and phase two (players) falling into major coping categories.**

<b>'Problem-focused'</b> <i>(Lazarus &amp; Folkman, 1984)</i>	<b>'Emotion-focused'</b> <i>(Lazarus &amp; Folkman, 1984)</i>	<b>'Appraisal re-appraisal'</b> <i>(Billings &amp; Moos, 1984; Cox &amp; Ferguson, 1991)</i>	<b>'Avoidance'</b> <i>(Endler &amp; Parker, 1990)</i>
Communication (coaches & players)	Person management (coaches)	Rationalisation and action (coaches & players)	Escapism (coaches)
Planning and preparation (coaches & players)	Vent thoughts and emotions (coaches)	Acceptance and perseverance (coaches)	Mental disengagement (coaches & players)
Lifestyle management (coaches)	Provide support (coaches)		No coping (players)
Organise effectively (coaches & players)	Anxiety management (coaches)		
Draw on an excellent mentality (coaches & players)	Seek social and emotional support (players)		

Table 10.2 highlights many of the coping strategies identified by players (phase two) were similar to those identified by coaches (phase one). Further, analysis of coping strategies identified by athletes in previous studies identified in the systematic review (chapter 3), revealed many similarities with those identified by both coaches and players. Conversely, only a few coping strategies were identified that were specific to high performance squash coaching i.e., no similar strategies were identified as similar in other previous studies. These 'coaching specific' coping strategies were 'communication', 'organise effectively', 'person management' and 'vent thoughts and emotions'.

*(iv) Links between sources of stress and coping strategies*

The importance of investigating links between sources of stress and coping strategies has been highlighted by a number of researchers in general psychology. For example, McCrae (1992) suggested looking at common indicators across stressors that may help to determine the most appropriate forms of coping, and Bjork and Cohen (1993) further developed this idea by examining ways in which 293 undergraduates coped with threats, losses and challenges. A number of studies in sport psychology (Gould et al., 1993a, 1993b, 1997a, 1997c) have loosely examined links between stressors and coping

responses, demonstrating the relevance of this investigative theme within the sporting literature. Further, Campbell (1997) investigated links between sources of stress and coping strategies of elite wheelchair basketball players and found that specific behaviours are required to deal with specific problems whilst general behaviours can be used to deal with more general stressors.

Phase one of this thesis adopted similar techniques to those advocated by Campbell (1997) to investigate the specificity and generality of coping strategies of high performance squash coaches. A number of general and specific coping strategies for high performance squash coaches were identified (see chapter 6). However, both Campbell's (1997) study and phase one were small scale ( $n < 20$ ), resulting in a lack of statistical strength in the data. As a consequence, phase two investigated links between sources of stress and coping strategies of 50 elite squash players. The larger sample in phase two served to increase the reliability of the findings. The most generally used coping strategy was communication, implemented by at least 20% of the sample, in response to all 9 sources of stress. A number of specific links between stressors and coping strategies were identified that were used by at least 20% of the sample in response to just 3 sources of stress each (see chapter 9).

The process of identifying general and specific coping strategies proved fruitful in both phases of the research, reinforcing the usefulness of this level of analysis for contributing to existing sport specific knowledge and practical application.

#### (v) *Coping Outcomes*

Coping effectiveness has been measured in terms of outcome, by determining the extent of use of coping (Billings & Moos, 1984, 1985; McCrae & Costa, 1986; Spitzer, Bar-Tal & Golaner, 1993), and by assessing the 'goodness of fit' (Hardy et al, 1996; Lazarus & Folkman, 1984). However, more recently, Bar-Tal, Lurie and Glick (1994) investigated the effectiveness of coping strategies used by male and female Israeli soldiers during the gulf war by measuring perceptions of effectiveness. Further, they suggested that future research should consider using both extent and effectiveness measures. Therefore,

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Campbell (1997) developed these ideas within sport, measuring effectiveness and frequency dimensions of coping strategies identified by elite wheelchair basketball players. Players were asked to rate the effectiveness and frequency of coping strategies they identified, using a Likert scale (1-7).

This template was adopted in phase one of this thesis. Findings suggested that these dimensions were useful in providing insight in to perceptions of coping outcomes of high performance squash coaches. Both general and specific coping strategies were perceived to be effective and regularly implemented. However, due to the small-scale and largely qualitative nature of the study, the findings were not conclusive.

Consequently, it was necessary to measure perceptions of coping effectiveness and frequency of elite squash players using larger scale quantitative methods combined with statistical analyses in phase two. Therefore, Campbell's (1997) template was incorporated into the questionnaire designed in phase two. Results revealed that squash players have positive perceptions of coping and tend to perceive coping as effective no matter what the coping strategy or the stressor. Furthermore, correlation analyses revealed highly significant correlations between coping effectiveness and coping frequency dimensions, indicating that that players were not able to distinguish between these constructs. Factor analysis revealed just one component, which was labelled 'coping'.

Whilst this thesis has further developed research into coping outcomes in sport by measuring perceptions of coping effectiveness and frequency using items in a sport-specific context-specific closed questionnaire, the findings were unexpected and have resulted in the creation of further research questions. Consequently, there is a need for future research to ascertain the usefulness of measuring perceptions of coping effectiveness and frequency in this way using other sporting populations. Further, the potential for a mismatch between reality and perception of coping effectiveness, must be addressed, and other types of measures such as behavioural, must be considered.

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(vi) *Age/Gender as determinants of stress and coping*

The systematic review (chapter 3) found that post 1984, there were no studies within the sports domain that investigated either age, gender and sources of stress or age, gender and coping. Therefore, phase two of this thesis was the first study in sport to investigate both age and gender as determinants of stress and coping. The questionnaire responses were coded in terms of age and gender and data was analysed using various statistical tests (2x2 MANOVA and multiple t-tests). Findings were conclusive; no significant differences between a player's age or gender and stress experienced during coaching activities were found; no significant differences between a player's age or gender and coping strategies used during coaching activities were found. Therefore, future research is necessary to determine whether this is the case for other sports participants in other sports.

(vii) *Personality/situation as determinants of stress and coping*

This investigative theme addressed fundamental theoretical and conceptual issues in stress and coping research. Lazarus and Folkman (1984) offer a transactional approach to stress and coping, which states that stress and coping is a dynamic complex process. In contrast, personality theorists offer dispositional explanations, suggesting that individuals have stable (i.e., trait) levels of stress (Speilberger, 1966), and tendencies to cope in particular ways (McCrae, 1989; Moos, 1974; Carver et al., 1989; Holahan & Moos, 1987). Other researchers (Parkes, 1986; Terry, 1994) have studied the role of both stable, situational and environmental factors in stress and coping. Phase two of this thesis contributed to these theoretical debates by investigating both dispositional and situational explanations of elite players experiences of stress and coping during coaching activities.

Findings provided little support for stable personality dispositions as a determinant of players' experience of stress during coaching. High trait stress was observed in only 6% of the sample. In contrast, 42% of the sample, were identified as 'constant copers', providing some evidence for the trait/dispositional approach to coping.



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Further, a number of 'situations' were identified as more stressful than others, for example, findings revealed that most players appraised 'technical issues' as high in stress. Moreover, a number of coping strategies were identified that were specific to particular sources of stress, providing evidence of situation specific coping.

Consequently, this research provided some evidence of stable and situational stress and coping within the sporting context. Future research of a more precise nature is necessary to further investigate these issues within sport.

*(viii) Lazarus and Folkman's (1984) transactional approach to stress and coping*

Generally, the findings from this thesis support Lazarus and Folkman's (1984) view that stress and coping is a dynamic unfolding process. Diverse appraisal patterns of players and coaches, a myriad of sources of stress and coping strategies coupled with a complexity of links between the two all combine broadly to support the transactional process approach.

Additionally, the findings from phase one highlight the importance of using Lazarus and Folkman's (1984) definition of stress that enables cognitive appraisals to be both positive (challenging) and negative (threatening/harm/loss). However, the findings from phase two suggest that elite squash players do not distinguish between positive and negative sources of stress, implying that a 'uni-dimensional' definition of stress may be more appropriate. Consequently, future research is necessary to further investigate these contrasting findings.

### ***Practical Implications***

The practical implications of the findings from each investigative theme are now considered.

#### ***(i) Sources of stress***

- It would be helpful to disseminate the findings to coaches and players via a number of workshops, in order to heighten awareness of potential stressors during coaching.
- Categorising stressors by source into 'organisational', 'political', 'performance management' and 'social psychological' provides sport psychologists, players and coaches with a set of categories within which to locate stressors. In this sense it provides a valuable diagnostic and classificatory device to aid understanding. Further, it offers a rationale for specific actions to address and reduce the impact on performance of identified sources of stress.
- Sport psychologists working with elite squash players and high performance squash coaches to reduce stress during coaching need to be aware of specific stressors pertaining to both groups.
- Considering the extent to which the aetiology of stressors lie within the 'person' or the 'environment/situation' is useful for sports psychologists working with coaches and players. Locating stress sources in this way facilitates appropriate and targeted intervention. For example, dealing with issues of self confidence require intervention at the level of the individual such as mental skills training. On the other hand, dealing with 'environmental/situational' issues such as economic, social or lifestyle stressors requires interventions focusing mainly on these contextual concerns.

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- With regard to institutional accreditation, phase one of the research suggests that there is a need for coaches to develop both management and counselling skills, in order to better deal with stress sources pertaining to these areas.
  - Skills in effectively undertaking the semi-structured retrospective diagnostic interview would prove useful for sports psychologists working with a variety of sports participants in order to identify, codify and articulate source of stress.

(ii) *Stress appraisal*

Generally speaking, this research suggests stress appraisal undertaken by players to be inadequate at the level of construct variety and cognitive complexity. Intervention to develop skills in these areas requires the establishment of routine thought patterns for everyday use. Pentland and Reuter (1994) usefully distinguish between routines as “effortful accomplishments” and routines as “automatic responses”. Whilst, both of these levels of analysis are useful, undoubtedly it is the establishment of the latter (routines as automatic responses) which is the overall objective for sport psychologists working with players. Enacting cognitive appraisal *as a matter of routine* will automatically change appraisals over time and the factors that may influence them. In essence, facilitating the player in learning to learn is a key objective for the sport psychologist. Particular interventions which sport psychologists may wish to consider in initiating change and development in players towards this end may include:

- *Raising awareness* – The first stage is to raise player awareness of both the role of stress appraisal in determining the cognitive, behavioural and emotional responses, and the role of cognitive appraisal in influencing coping selection. The aim of increasing awareness of appraisal patterns is to encourage players to understand the importance of existing categories used in their appraisals.
- *Education Programme* – Such programmes are required to improve stress appraisal skills and to refine thinking routines of elite squash players. For example, developing

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the cognitive skills required to distinguish between positive and negative stress is essential.

*(iii) Coping strategies*

- Education programmes for both high performance coaches and players in which findings regarding the various types of coping are disseminated. The aim of the sports psychologist would be to highlight differences between adaptive and maladaptive coping responses.
- Results suggest high performance squash coaches and elite players require a diverse repertoire of coping skills from the four coping categories; problem-focused; emotion-focused; appraisal re-appraisal; avoidance. There is a need, as suggested by other sport psychologists (Campbell, 1997; Crocker & Graham, 1995; Hardy et al., 1996; Mace et al., 1986) to go beyond teaching traditional emotion-focused strategies (e.g., relaxation) since it cannot be assumed that individuals possess coping strategies in other coping categories.
- Specifically, both players and coaches require a myriad of problem-focused coping skills, since these are the most used strategies. Therefore, sport psychologists are required to assist players and coaches in developing diversity in problem-focused coping.

*(iv) Links between sources of stress and coping strategies*

- Sport psychologists are required to facilitate high performance squash coaches and elite squash players in identifying adaptive and maladaptive responses in linking specific methods of coping to specific stress sources.

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- High performance coaches and elite players require facilitation to develop a range of highly effective multipurpose coping strategies that can be used across a range of situations e.g. communication.

(v) *Coping outcomes*

- Sports psychologists working with elite squash players and coaches may use effectiveness and frequency data to determine maladaptive coping. For example, in phase one of this research, a mismatch between ratings of effectiveness and frequency indicated maladaptive coping. Once detected, sport psychologists are in a position to implement appropriate intervention strategies.
- A sport psychologist working with squash players exhibiting constant positive perceptions of coping effectiveness such as those identified in phase two, might wish to determine the extent to which such appraisals are realistic. A mismatch between reality and perception would require further investigation and analysis.
- Phase two of the research identified the inability in players to distinguish between coping effectiveness and coping frequency. This suggests the need for education workshops to raise awareness and educate players in the necessary cognitive skills and routines. Further, such workshops may enable players to develop increasingly realistic coping appraisals.

(vi) *Age/gender as determinants of stress and coping*

- Phase two indicated that there were no significant differences between players in terms of age/gender and stress or age/gender and coping. Therefore, a sport psychologist working with elite squash players to manage stress in coaching would not be required to distinguish between players on a categorical basis.

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(vii) *Personality/situation as determinants of stress and coping*

- Findings from phase two revealed some evidence of 'person' and 'environmental/situational' influences on stress and coping. For example, 'trait stress' was identified in 6% and 'constant coping' was identified in 42% of the sample, and 'technical issues' was viewed as higher in composite 'stress' than other situations. This evidence suggests that both 'person' and 'environmental/situational' factors play a part. Therefore intervention strategies need to be aimed at both the person such as stress management and stress inoculation tools, and the environment/situation such as programme management and planning.
- A significant minority of the sample in phase two were identified as 'constant copers'. When dealing with elite squash players, sport psychologists should remain aware of this, have the tools to identify it, seek explanations for it, and tailor appropriate individual interventions.
- Equally, players' experienced certain situations as inherently stressful, particularly addressing technical issues was identified in this category. Therefore there is a requirement upon sport psychologists to raise the awareness of coaches to these issues and to teach coaches to be stress sensitive when delivering these sessions.

***Methodological Considerations***

This section identifies a number of methodological contributions made by this thesis. Strengths and limitations to the methodological approach are then documented.

***Contributions***

It is unusual to find large-scale studies of elite athletes in sports psychology research because by definition elite numbers are limited and researchers often have restricted access due to heavy training and competition programmes etc. Therefore, the large sample of elite squash players used in phase two is unusual in sport psychology research.

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A further methodological contribution was made in phase two. A closed questionnaire was designed using sources of stress and coping strategies identified by a sample of elite squash players. Further, Campbell's (1997) template which measured the 6 stress source characteristics (challenge/threat/harm-loss/control/severity/frequency) was incorporated into the questionnaire. In addition, based on Campbell's (1997) template, coping effectiveness and frequency dimensions were also included. Therefore, this questionnaire was the first quantitative yet sport specific measure of stress, appraisal and coping.

### *Strengths*

The methodological approach adopted in this thesis involved "giving up epistemology for technique" (Bryman, 1988). In other words, the decisions over whether to use quantitative or qualitative approaches was based on the suitability of each particular method in relation to each particular research question involved, rather than being determined by the personal values and beliefs of the researcher. Privileging technique over epistemology facilitated the justification and use of multiple and appropriate research methods and ensured a task-based approach to the research. Adopting such a pragmatic orientation supported the use of qualitative methods to define key constructs and the use of quantitative methods to measure them and their inter-relationships. Whilst placing more demands on the researcher in relation to epistemological choice, this approach offered more opportunity for concept and theory development, in contrast to focusing singularly on prediction and measurement.

A further methodological strength was the universal nature of the samples in both phases of the research. Specifically in terms of phase one, the coaching sample included all English regional, national and professional private coaches as well as a small number of national coaches of overseas countries. In terms of phase two, the sample of players included all 84 players on the England Squash World Class Performance Programme.

Furthermore, another strength was the willingness of the respondents to engage with the research. On reflection, there is little doubt that the quantity and quality of the data obtained was aided greatly by the researcher being a credible member of the squash

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playing community. Although difficult to justify and quantify in detail, the data obtained, appeared to benefit from the researcher's credibility. For example, the response rate of the questionnaire administered in phase two study two was approximately 60%. Likewise everyone approached to participate in phase two study one agreed without hesitation. Further, only two of seventeen English regional, national and private coaches approached did not agree to participate in phase one of the research. All overseas national coaches approached agreed to participate. In terms of data quality, measures are necessarily subjective, but good examples of respondent engagement at a qualitative level were reflected in the length of interviews in phase one (averaging 90 minutes) resulting in 800 transcribed pages for coding and analysis.

Universality of sample, high proportions of respondents making up the study sample, and high quality data, all contributed to increased validity of the studies.

Two further methodological strengths need to be noted. Firstly, the unitary focus of the study in squash gives depth understanding of stress and coping of players and coaches in a single sport. A single sport focus facilitated continuity from phase one to phase two of the study, thus providing a natural progression in the research process. Secondly, much of the study was conducted in a 'natural' setting investigating the stress and coping experiences of elite squash players and coaches operating in the sporting environment rather than in a contrived laboratory setting, thus enhancing the ecological validity of the research.

#### *Limitations*

Although the role of the researcher facilitated the development of significant trust and openness in data collection, the difficulties associated with self-report and retrospection apply to the research undertaken in phases one and two. For example, the lack of objective measurement, post hoc rationalisation, the inability to recall and the consequent embellishment of data, the impact of the demand characteristics of the interview, all play a part in limiting the research. In general, the difficulties associated with the social desirability of responses (Fogarty, 1995) and memory decay (Wagenaar, 1986), have



been well documented in previous studies and apply equally in this current work. It is interesting to note that whilst agreeing with this line of thinking, Lazarus (1999) is rather more circumspect and reflective,

*“Although the recognition that self report can be distorted and does not provide information about what a person truly thinks, wants or feels, it does suggest the need for a continuing search for evidence to confirm one or another interpretation....nor are the problems any less daunting with the use of physiological and behavioural data” (1999;84).*

A further limitation is that although depth studies provide insight into one sport, by definition they have limited general application for use in studying other sports. This thesis is both squash specific and elite in its focus on both players and coaches, and whilst findings may offer interesting insights to research and practice in other sports, they should not be viewed as transferable.

Although not strictly a limitation to the study, it should be noted that this work was undertaken principally using a nomothetic approach. There has been recent interest in bridging scientific, practitioner, and clinical perspectives using temporal process based approaches (see for example *American Psychologist*, June 2000), for example,

*“The dominance in behavioural sciences of the nomothetic approach, in which lawful relations among variables across individuals are examined, has shifted investigators’ attention away from temporally unfolding relations among variables within an individual, best captured by the ideographic approach (Allport, 1937).” (Tennen, Affleck, Armeli & Carney, 2000;626)*

Whilst access to study participants in this thesis was exceptional in terms of quality it was limited in a longitudinal sense. Time intensive ideographic design, whilst theoretically an option, was not viable given its need for systematic time series data which could not be obtained from a geographically dispersed and dynamic sample. Tennen et al (2000)

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claim that one benefit of undertaking a process oriented ideographic approach to design is the minimisation of recall error. Consequently, a cost of the nomothetic design chosen is the limitation imposed by recall error as noted earlier.

### ***Future Research Directions***

This section considers four areas of future research; stress and coping in squash; stress and coping in coaching; stress and coping in sport; methodological considerations.

#### ***Future research in stress and coping in squash***

This study has focused entirely upon players' and coaches' experiences of stress and coping during coaching activities. Therefore, in order to extend current research in stress and coping within the sport of squash, future research may consider investigating:

- The sources of stress and coping strategies of elite squash players during *performance*.
- The sources of stress and coping strategies of other types of squash participants such as markers and referees.
- Emotional responses to stress in squash; a players', referees' and coaches' perspective.

#### ***Future research in stress and coping in coaching***

Essentially, this research was U.K. based. It focused on stress and coping during high performance coaching activities. Consequently, in order to extend current research in stress and coping during coaching, researchers may consider:

- Undertaking a comparative study of stress and coping experiences of players and coaches from a number of different countries.

- 
- Investigating the sources of stress and coping strategies of non-elite players and participation coaches (non high performance) in squash.
  - Conducting a comparative study of the sources of stress and coping experiences of high performance players and coaches with those of non-elite players and participation coaches.
  - Further, a key finding from phase one was the identification of sources of stress resulting from fulfilling multiple coaching roles. Consequently, future research might beneficially be focused on investigating sources of stress resulting from multiple role expectation of the coach.
  - This thesis investigated stress, appraisal and coping. Therefore, future research investigating emotional responses to stress in coaching may extend current knowledge.

#### *Future research in stress and coping in sport*

Necessarily, this thesis, as an initial study of stress and coping in squash, has been exploratory in nature. It has explored 7 investigative themes and profiled a broad landscape of the area. Consequently, detailing is now required in order to extend current research in stress and coping in sport. Future research should consider:

- Using Lazarus and Folkman's (1984) transactional definition of stress, therefore enabling sources of stress to be identified as both positive (challenging) and negative (threatening, harm/loss). Further research in this area is required to determine whether most sports participants distinguish between positive and negative stress.
- Investigating the usefulness of measuring the 6 stress source characteristics (challenge/threat/harm-loss/control/severity/frequency) in understanding stress appraisal.

- Examining appraisal patterns of sources of stress over time in order to understand factors that may influence appraisal, temporal influences on appraisals, and the impact of appraisal on performance.
- Investigating the extent to which sources of stress are a function of 'person' variables such as age, gender, personality etc. and to what extent they are a function of 'environment' variables such as culture, type of sport etc.
- The impact of individual difference variables such as, personality, age, gender, race and competitive level, on sources of stress, stress appraisal and coping.
- The impact of situational variables and context on stress, appraisal, emotion and coping.
- Investigating the influence of personality, age, gender, competitive level, or type of sport, on relationships between stress sources and coping strategies.
- Investigating personality influences on stress and coping such as the predominance of 'trait' stress and 'constant coping' or 'coping styles'.
- The usefulness of perceptions of coping effectiveness and frequency measures of coping outcomes.
- Developing behavioural measures of coping outcomes.
- Comparing effective and ineffective copers to determine whether effective copers use different strategies, larger numbers of strategies, automated strategies etc.

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*Methodological/measurement considerations for future research*

In order to contribute to methodology in stress and coping in sport, research may consider:

- Undertaking a 'daily process approach' (Tennen et al., 2000) to investigate stress and coping. Specifically this involves adopting ideographic research designs in order to investigate intra-individual (within individual) differences over long periods of time. Traditional research in stress and coping in sport has adopted nomothetic research designs, which examine relationships among variables across individuals. Therefore, in the interest of bridging scientific, practitioner and clinical perspectives, the 'daily process' approach advocates that future longitudinal research is essential.
- Further development and validation of measurement tools such as the questionnaire (phase two). Such tools are necessary in order to enable researchers to investigate, understand and measure the complex and dynamic stress-coping processes. Specifically, a measurement tool that investigates stress, appraisal, coping and emotions as a dynamic, interactive process is required.

### **10.3 Conclusions**

This thesis has furthered the development of understanding and theory in a number of ways. Firstly, it has undertaken the first systematic review of literature in stress and coping in sport. This scholarly contribution has identified the current state of knowledge in this field by providing both descriptive and thematic accounts. Descriptive criteria such as 'type of study participant', 'age of participants', 'level of sport participant', 'country of study' etc. outlined the shape of existing contributions to stress and coping in sport. Thematic criteria identified a number of investigative themes such as 'sources of stress', 'measurement of stress', 'coping strategies', 'coping styles' etc., and detailed specific evidence supporting the current state of knowledge in these areas. On the basis of this systematic review, a number of research questions were determined.

Secondly, the thesis has made two methodological contributions. In the first instance, this work has provided one of the few large-scale studies of elite athletes in sport psychology. By incorporating in the sample almost the whole population of English elite squash players and high performance coaches, it has provided a comprehensive view of stress and coping experienced during coaching activities. A further minor methodological contribution was the development, in phase two, of the questionnaire, based upon sport specific findings from an earlier qualitative study and which incorporated Campbell's (1997) template for measuring stress sources and coping characteristics.

Finally, this research has made a series of intellectual contributions, which have both theoretical and applied value. In addition to scholarship and methodology, substantive findings were made in each of the 7 investigative themes. In essence, the main contribution of this research has been to create an overall picture of the landscape in stress and coping in high performance squash coaching. It remains for further research to detail this overview.

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**APPENDIX A**  
**PHASE ONE DOCUMENTS**

Dept. of P.E., Sports Science,  
and Recreation Management,  
Loughborough University,  
Leicestershire,  
LE11 3TU.  
01509 263171.

Dear Coach,

**Interview guide for high performance squash coaches**

Thank you for agreeing to be one of the 18 members of this interview study of high performance squash coaches. In this project I want to get to know about the sources of stress you experience as a high performance coach and how you cope with them. I am particularly interested in finding out about any general sources of stress associated with coaching activity at elite level and specific sources of stress experienced whilst coaching at major events such as world or European championships.

Coaching activities occur both on and off the court and include training and competition related activities as well as mentoring and lifestyle management. I am interested in understanding your experiences of the whole coaching process, that is all your coaching interactions. This includes experiences of county, regional and national coaching as well as private coaching. I am also interested to know about sources of stress in different coaching situations, such as squads, teams and individual coaching.

Hopefully, the information I have enclosed will help you to have an understanding about what I mean by the terms stress and coping. These terms are the things that I would like you to talk to me about. Therefore, it is important that you understand what I mean by them.

The information from this study will be used in 2 ways:

1. It will be used for my own studies
2. The general findings will be written up and presented to other people in the field.

I want to emphasise that all the information you provide will remain completely confidential. The results and information will be presented in the form of selected quotes from the interview and you will remain completely anonymous. You will simply be given a subject number. If you have no objections I will use a tape recorder so that

information brought out of the interview is clear and accurate. In addition, if you don't mind, I will take notes about the sources of stress you experience so that I can ask you later in the interview about how you cope with them.

As a participant in the study, you have several definite rights. Your participation in the interview is entirely voluntary, you are free to decline to answer any questions or stop the interview at any point. There are no right or wrong answers to the questions I will be asking. I am keen to find out what you have to say as a high performance squash coach. I therefore hope you will feel comfortable to answer questions in an honest and straightforward manner. If there are any questions that you do not feel comfortable answering, I would rather you declined to comment than to tell me what you think that I or others may want to hear. Let me reinforce that it is *you* that I am interested in, so please answer the questions based on what *you* feel and think. If you have any questions as we go along, please ask them and ask for clarification if there is anything you are unsure of.

One thing to keep in mind throughout the interview is that I am interested in your experiences as a high performance coach. So please when answering questions think of the time period when you first began to work with elite players to the present day. It is this time period that I am particularly interested in. Please take as much time as you need to reflect back over your time as a high performance coach to answer the questions that I ask you.

Thank you once again for agreeing to take part in the interview. Please ensure that you read the enclosed information prior to the interview and if there are any questions, or anything you don't understand, please don't hesitate to ask prior to the interview.

Yours Sincerely,

Jennifer Tranfield.

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## STRESS

### A. Definition of Stress

I will just clarify what I mean by stress:

*“Stress is a relationship between the person and the environment that the person appraises as **TAXING** or **EXCEEDING** his or her resources and possibly endangering his or her well-being”.*

Sources of stress can cause you to experience both positive and negative thoughts, feelings, and emotions.

### B. Positive Sources of Stress

**Challenging:** You may view particular sources of stress as allowing you the opportunity to feel you have **succeeded/achieved** at something (**a real challenge**), even though you know it will stretch/tax your resources/capabilities. Examples of these types of sources of stress could be:

- You have the chance to work hard with a player every day for the next six months, but you have to make 100% commitment to improve all aspects of your performance.
- If you prepare well, and set out your training programme with your player, they could win a big tournament

### C. Negative Sources of Stress

**Threatening:** You may view some sources of stress as taxing, may be even exceeding your resources/capabilities. These sources of stress you may view **negatively** as you feel **threatened or worried** about how things **may turn out**. Examples of these sources of stress could be:

- You are working with the world number three who could win the world championship, you don't want to give the wrong advice and ruin chances.
- You have to write an article in the squash magazine that may be criticised by other players and coaches.

**Harm/loss:** Sometimes we experience stress as a result of something happening. You may in the past have experienced a source of stress that caused you to feel hurt,

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disappointed, or it may have been that you lost something you valued. Examples of these sources of stress could be:

- One of the players you've been working with for a period of time leaves you to go and work with another coach.

**Note:**

1. You would view both threatening and harm/loss sources of stress negatively. It may be that some situations you initially perceive as threatening and then as they unfold you view them as harmful - or vice versa, something happens and as a result you experience harm or loss (eg. fallen out with a coach) and as a result it causes you to perceive situations in the future as threatening (eg. future relationships with players).

2. It would be possible to view a particular source of stress as both positive and negative ie. challenging and threatening/harm-loss.

To make sure you are clear about what I mean by each of these terms I will give you a definition:

**D. Appraisal Definitions:**

**Challenging** – a situation that you see as stretching/taxing your resource/capabilities, however, you see *opportunities to achieve, be successful* or to *develop personally*.

**Threatening** – a situation that you see as holding some *potential for threat or danger* that you are *worried* about how things may turn out.

**Loss/harm** – a situation where you have *experienced hurt* or *disappointment* or *lost* something that you valued.

**E. Control/Severity/Frequency Dimensions**

For each source of stress you identify, you will be asked to rate (on a scale of 1-7), the degree of control you felt you had, the severity of it and finally, the frequency that it occurs.

## **COPING WITH SOURCES OF STRESS**

I am interested to know how you cope/coped with the various sources of stress you have identified.

### **A. Definition of Coping**

Firstly, I would just like to clarify what I mean by coping:

*“Coping is efforts we make either in terms of our behaviour or thoughts to deal with/manage with the specific external or internal demands that we have appraised as taxing or exceeding our resources”.*

Basically coping is what you did, or still do, to deal with sources of stress. Examples would be: talk to other people, try to solve the problem, try to focus purely on what you have to do, ignore the source of stress etc. The examples given are **coping strategies** that individuals may use to deal with particular sources of stress. Please note that you may use several types of coping strategies to deal with one particular source of stress.

### **B. Effectiveness of coping mechanism**

You will be asked to rate the effectiveness of the coping strategy on a scale of one to seven where one is ‘not at all’ and seven is ‘extremely’ effective.

### **C. Frequency of use of coping mechanism**

You will be asked to rate the frequency with which you use the coping strategies on a scale of one to seven where one is not at all and seven is all the time.

Dept. of P.E, Sports  
Science and Recreation Management,  
Loughborough University,  
Loughborough, Leics,  
LE11 3TU.  
Nov. 1997.

Dear John,

**Coaching Questionnaire**

Many thanks for agreeing to take part in the interview. Just to confirm, I will see you at Grantham Squash Club on Saturday at 11.30am. The interview should take about 90 minutes. I look forward to meeting you.

As part of the SRA's Sport Psychology Project, the research staff at Loughborough are trying to assist in the development of a 'Performance Coaching Award' which will eventually replace the current SRA Part 4 qualification.

The first stage of this process is to try to develop a commonly accepted definition of a high performance squash coach. Obviously, your input into the development of such a definition is vital. Therefore, I would be very grateful if you could complete the following questionnaire and return it to me at the interview.

Many thanks for your time and cooperation.

Yours Sincerely,

Jenny Tranfield.

## Coaching Questionnaire

Before completing this questionnaire, please take a few minutes to reflect on your coaching career. Reflect from your first coaching encounter to the present day as a high performance coach.

1. Whilst reflecting over your career, try to split it into 3 main stages of development (coaching time periods), the last stage being your time as a high performance coach, and make a note of the general time period (years/months) of each stage:-

Stage	Time Period
One	
Two	
Three	

2. For each time period you have mentioned, please enter into the table below, the length of time you were coaching:-

Stage	No. of hours per day off court coaching	No. of hours per day on court coaching	No. of days per week coaching	No. of weeks per year coaching
One				
Two				
Three				



3. Using the table below, please indicate the characteristics of your coaching at each stage (eg. coaching style, coaching values and beliefs, focus of coaching {individual, group, both}, coaching content {technical, tactical, physical, mental, other, all of these}):-

Stage	Characteristics
One	
Two	
Three	

4. Please complete the following table:-

Stage	Your Age	Your Coaching qualifications	Your Coaching Fee	Names of clubs you coached at	Standard of players you worked with	Your playing standard
One						
Two						
Three						

5. In your opinion, what distinguishes high performance squash coaches from other squash coaches?

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**Thank you for your time and cooperation.**

(Please return this questionnaire to Jenny Tranfield at the interview.)

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STRESS AND COPING  
IN  
HIGH PERFORMANCE SQUASH COACHES

INTERVIEW GUIDE

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Tel No: \_\_\_\_\_  
Interview Date: \_\_\_\_\_  
Start Time: \_\_\_\_\_  
Finish Time: \_\_\_\_\_

**INTERVIEW PLAN**

**SECTION 1  
INTRODUCTION**

**SECTION 2  
GENERAL INFORMATION**

**SECTION 3a  
SOURCES OF STRESS**

**SECTION 3b  
COPING WITH STRESS**

**SECTION 4  
CONCLUSION**

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## SECTION 1 INTRODUCTION

Hello, I'm Jenny Tranfield from the Dept. of Physical Education, Sports Science and Recreation Management at Loughborough University. Thank you for agreeing to be one of the members of this interview study of high performance squash coaches. In this project I want to get to know about the sources of stress you experience as a high performance coach and also how you cope with them. I am particularly interested in finding out about **general sources** of stress associated with being a high performance coach and also about the sources of stress you experience related to **competition** (ie. before, during and after competition) and also more specifically the time spent away at **major events** eg. World/European Championships, British Closed, British Open etc.

The information I sent to you hopefully helped you to have an understanding about what I mean by the terms stress and coping. These terms are the things that I would like you to talk to me about. Therefore, it is important that you understand what I mean by the terms - do you have any questions, would you like me to clarify anything or explain anything to you?

The information from the study will be used in 3 ways:

1. It will be used for my own studies.
2. The general findings will be written up and presented to other people in the field.
3. If you wish, it will be used to help you cope with the stress you experience as a high performance coach.

I want to emphasise that all the information you provide will remain completely confidential. The results and information will be presented in the form of selected quotes from the interview and you will remain completely anonymous. You will simply be given a subject number. If you have no objections I will use a tape recorder so that information brought out of the interview is clear and accurate. In addition, if you don't mind, I will take notes about the sources of stress you experience so that I can ask you later in the interview about how you cope with them.

As a participant in the study, you have several definite rights. Your participation in the interview is entirely voluntary, you are free to decline to answer any questions or stop the interview at any point. There are no right or wrong answers to the questions I will be asking. I am keen to find out what you have to say as a high performance squash coach. I therefore hope you will feel comfortable to answer questions in an honest and straightforward manner. If there are any questions that you do not feel comfortable answering. I would rather you declined to comment than to tell me what you think that I or others may want to hear. Let me reinforce that it is *you* that I am interested in, so please answer the questions based on what *you* feel and think. If you have any questions as we go along, please ask them and ask for clarification if there is anything you are unsure of.

<p style="text-align: center;"><b>SECTION 2</b> <b>GENERAL INFORMATION</b></p>
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One thing to keep in mind throughout the interview is that I am interested in your experiences as a high performance coach. In order to focus your mind on this period, I would like to discuss your responses to the coaching questionnaire that I enclosed with the interview documents.

Please take as much time as you need to reflect back over your time as a squash coach and to describe to me the three main phases of career progression from your first experiences of squash coaching to the time when you began working with elite players.

Thank you for telling me about the progression of your coaching career. Please when answering the questions in the interview, think of the time period when you first began to work with elite players to the present day. It is this time period that I am particularly interested in. Okay, it is time to get started.

**SECTION 3a**  
**SOURCES OF STRESS**

I am interested in the whole of your experience related to being a high performance coach ie. outside of competition and in the competition environment. Therefore, to make it easier I will ask you to look at your whole experience in two separate areas:

**1. General experiences**

General experiences that have or still may be sources of stress to you as a high performance coach, for example; finance, family, employment, association hierarchy etc.

**2. Competition experiences**

Competition experiences that have or still may be sources of stress. This section will ask you to think about the whole competition experience (pre, during, and post competition) and also more specifically about the time spent away at major events eg. World and European Championships.

Firstly, I will just clarify what I mean by stress:

*“Stress is a relationship between the person and the environment that the person appraises as **TAXING** or **EXCEEDING** his or her resources and possibly endangering his or her well-being.”*

Sources of stress can cause you to experience both positive and negative thoughts, feelings, and emotions.

**Positive Sources of Stress**

**1. Challenging:** You may view particular sources of stress as allowing you the opportunity to feel you have **succeeded/achieved** at something (**a real challenge**), even though you know it will stretch/tax your resources/capabilities. Examples of these types of sources of stress could be:

- \* You have the chance to help a player to beat a long term rival
- \* If you prepare a player well, they could win a big tournament
- \* You have a couple of months of hard work to do with a team or a player, however, you know that if you put your heart and soul into it their performances will really improve.



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### Negative Sources of Stress

**2. Threatening:** You may view some sources of stress as taxing, may be even exceeding your resources/capabilities. These sources of stress you may view **negatively** as you feel **threatened or worried** about how things **may turn out**. Examples of these sources of stress could be:

- \* You are working with the World number 3 who could win the world championships. You don't want to give her the wrong training advise and ruin her chances.
- \* You have to write an article in the squash magazine which may be criticised by other coaches and players in the system.

**3. Harm/loss:** Sometimes we experience stress as a result of something happening. You may in the past have experienced a source of stress that caused you to feel hurt, disappointed, or it may have been that you lost something you valued. Examples of these sources of stress could be:

- \* One of the players you have been working with for a period of time leaves you to go and work with another coach.
- \* Significant others (parents, players) blame you for the poor performance of a player you coach.

#### Note:

1. You would view both threatening and harm/loss sources of stress negatively. It may be that some situations you initially perceive as threatening and then as they unfold you view them as harmful - or vice versa, something happens and as a result you experience harm or loss (eg. fallen out with a player) and as a result it causes you to perceive situations in the future as threatening (eg. future relationships with players).

2. It would be possible to view a particular source of stress as both positive and negative ie. challenging and threatening/harm-loss.

Do you have any questions you would like to ask? Is there anything you would like me to explain?

1. So, bearing in mind the definition of stress, could you think back over the various aspects of your high performance coaching experiences and describe any **general** sources of stress.....

Each source:

Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

**PROBE (x2)** - what made it a source of stress? Who or what did it involve?

2. For each source of stress you have identified I would like you to think about how you would view it in terms of being challenging, threatening, or harm/loss. To make sure you are clear about what I mean by each of these terms I will give you a definition:

#### **Appraisal Definitions:**

**Challenging** - a situation that you see as stretching/taxing your resources/capabilities, however, you see **opportunities to achieve, be successful** or to **develop personally**.

**Threatening** - a situation you see as holding some **potential for threat or danger** that you are **worried** about how things may turn out.

**Loss/harm** - a situation where you have **experienced hurt or disappointment** or lost something that you valued.

Are you clear what I mean by these definitions? Would you like me to explain anything? Do you have any questions you would like to ask?

So, for each general source of stress you have identified I would like you to rate the degree to which you think it is,/or was; challenging, threatening, harm/loss. It may be that you experience problems rating certain sources of stress on one or more of the scales - this does not matter, please just say.

After this I will then ask you to rate for each source of stress the degree of control you felt you had, the severity of it, and finally the frequency that it occurs.

a). How **challenging**

1	2	3	4	5	6	7
(not at all)						(extremely)



---

This section will follow the same format as the last section. However, this time I am going to ask you to identify sources of stress that you have, or still experience as a high performance squash coach in a competitive situation. I will ask you to think about sources of stress pre, during and post competition, and also more specifically about the time spent at a major event:

**(i). Pre competition ie., from when you knew you were selected to take a team or squad to a competition or to accompany a player that you coach, or from when a competition becomes a major focus of the training of one of your players, to the point where the competition begins eg. the opposition looks good, your coaching has not been going well, transport and accommodation arrangements, facilities at the venue etc.**

**(ii). During competition ie., from the start of the match until the end eg. bad refereeing, pep talks between games.**

**(iii). Post competition ie., from immediately finishing your race or match to a few hours/days after eg. press coverage, parents, the team/squad/individual played badly.**

1. Bearing in mind the definition of stress we talked about earlier, could you think back over aspects of your high performance coaching experiences and describe any sources of stress specifically related to the competition. To make it easier could you start initially with those that have, or still do occur pre competition and then move progressively on to during competition and then post competition.

a). Each pre competition source:

Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

**PROBE (x2)** - what made it a source of stress? who or what did it involve?

b). Each during competition source:

Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

**PROBE (x2)** - what made it a source of stress? who or what did it involve?

c). Each post competition source:

Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

**PROBE (x2)** - what made it a source of stress? who or what did it involve?

2. For each competition source of stress you have identified could you please rate



**SECTION 3b**  
**COPING WITH SOURCES OF STRESS**

I am interested to know how you cope/coped with the various sources of stress you have identified. Firstly, I would just like to clarify what I mean by coping:

*Coping is efforts we make either in terms of our behaviour or thoughts to deal with/manage with the specific external or internal demands that we have appraised as taxing or exceeding our resources.*

Basically coping is what you did, or still do, to deal with sources of stress. Examples would be: talk to other people, try to solve the problem, try to focus purely on what you have to do, ignore the source of stress etc. The examples given are **coping strategies** that individuals may use to deal with particular sources of stress. Please note that you may use several types of coping strategies to deal with one particular source of stress.

1. For each general source of stress you identified, could you please tell me what you did or still do, to deal with it.

a). Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

b). **Probes (x2)** - who or what did/does it involve? Exactly what did/do you do?

c). How **effective** was/is the strategy?

1	2	3	4	5	6	7
(not at all)						(extremely)

**Probe:** what made it this effective?

d). How frequently would/do you use this strategy?

1	2	3	4	5	6	7
(not at all)						(all the time)

**Probe:** Are there any factors that influence the frequency of use of this strategy?



---

**SECTION 4  
CONCLUSION**

Almost finished, just a few last questions to close the interview:

1. Did you enjoy the interview?
  2. Were you able to tell your experiences fully?
  3. Did I lead you or influence your responses in any way?
  4. The interview was all about the sources of stress you experience as a high performance squash coach and how you cope with them. Do you think we missed out any important factors relating to the above areas, which you would like to add?
  5. Do you have any comments about the interview?
- 6a) Finally, do you think up and coming high performance squash coaches need to know about stressors they may experience Yes/No ? - Why?
- b) What advise would you give them to deal with being a high performance squash coach?

**Many thanks for your time and for sharing with me your experiences.**



**APPENDIX B**  
**PHASE TWO DOCUMENTS**

# Squash Rackets Association

Patron: HRH The Prince Philip, Duke of Edinburgh, KG KT

President: J P Barrington, MBE


25 May 1999

Dear Player

I would be grateful if you could assist Jenny Tranfield in her research project aimed at improving the effectiveness of coaches and coaching in England. Ultimately, the work now being conducted will assist the SRA in the future training of coaches at national and international standard which will enhance the coaching service that you receive.

If you would like any further information on the outcome or nature of the research, please contact Jenny or myself. I look forward to your co-operation.

Yours faithfully



**Matt Hammond**  
National Performance Director

Headquarters:

P.O. Box 1106, London W3 0ZD.

Tel: 0181 746 1616 Fax: 0181 746 0580

E. Mail: [SRA@squash.uk.com](mailto:SRA@squash.uk.com). Website: [www.squash.uk.com](http://www.squash.uk.com).

Registered in U.K., No.2411107 VAT No.233 4749 61 This company is limited by guarantee.

Registered Office: WestPoint, 33/34 Warple Way, Acton, London W3 0RG.



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Dept. of P.E., Sports Science,  
and Recreation Management,  
Loughborough University,  
Leicestershire,  
LE11 3TU.  
01509 228450.

Dear Player,

**Interview guide for high performance squash players**

Thank you for agreeing to be one of the 11 members of this pilot study of high performance squash players. This interview is intended to be short (lasting approximately 20 mins) in which I aim to discover the sources of stress you experience as a high performance player during coaching activity, and also how you cope with them. The purpose of this pilot study is to gain information directly from elite players, and to use it to develop a questionnaire/survey to administer to all performance plan players.

I am particularly interested in finding out about any sources of stress associated with coaching activity at elite level. Coaching activities occur both on and off the court and include training and competition related activities as well as mentoring and lifestyle management. I am interested in understanding your experiences of the whole coaching process, that is all your coaching interactions. This includes experiences of county, regional and national coaching as well as private coaching. I am also interested to know about sources of stress in different coaching situations, such as squads, teams and individual coaching.

Hopefully, the information I have enclosed will help you to have an understanding about what I mean by the terms stress and coping. These terms are the things that I would like you to talk to me about. Therefore, it is important that you understand what I mean by them.

The information from this study will be used in 2 ways:

1. All interviews will be transcribed and content analysed so that general themes which are common to all the scripts will emerge.
2. These general findings will be used to develop a survey/questionnaire which will be administered to all players on the performance plan (including you!!).

---

I want to emphasise that all the information you provide will remain completely confidential. The results and information will be presented in the form of selected quotes from the interview and you will remain completely anonymous. You will simply be given a subject number. If you have no objections I will use a tape recorder so that information brought out of the interview is clear and accurate. In addition, if you don't mind, I will take notes about the sources of stress you experience so that I can ask you later in the interview about how you cope with them.

As a participant in the study, you have several definite rights. Your participation in the interview is entirely voluntary, you are free to decline to answer any questions or stop the interview at any point. There are no right or wrong answers to the questions I will be asking. I am keen to find out what you have to say as a high performance squash player. I therefore hope you will feel comfortable to answer questions in an honest and straightforward manner. If there are any questions that you do not feel comfortable answering, I would rather you declined to comment than to tell me what you think that I or others may want to hear. Let me reinforce that it is *you* that I am interested in, so please answer the questions based on what *you* feel and think. If you have any questions as we go along, please ask them and ask for clarification if there is anything you are unsure of.

One thing to keep in mind throughout the interview is that I am interested in your experiences as a high performance player. So please when answering questions think of the time period when you first began to play internationally (as a junior or senior) to the present day. It is this time period that I am particularly interested in.

In order to reduce time during the interview, I would appreciate it if you could make a few notes beforehand on sources of stress you experience during coaching activity and ways in which you cope. During the interview, you can talk to me about the things you have listed.

Thank you once again for agreeing to take part in the interview. Please ensure that you read the enclosed information prior to the interview and if there are any questions, or anything you don't understand, please don't hesitate to ask prior to the interview.

Yours Sincerely,

Jennifer Tranfield.

---

## STRESS

### A. Definition of Stress

I will just clarify what I mean by stress:

*“Stress is a relationship between the person and the environment that the person appraises as **TAXING** or **EXCEEDING** his or her resources and possibly endangering his or her well-being.”*

Sources of stress can cause you to experience both positive and negative thoughts, feelings, and emotions.

### B. Positive Sources of Stress

**Challenging:** You may view particular sources of stress as allowing you the opportunity to feel you have **succeeded/achieved** at something (**a real challenge**), even though you know it will stretch/tax your resources/capabilities. Examples of these types of sources of stress could be:

- \* You have the chance to work hard with a coach every day for the next six months, but you have to make 100% commitment to improve all aspects of your performance.
- \* If you prepare well, and set out your training programme with your coach, you could win a big tournament
- \* You have a couple of months of hard work to do, and your coach tells you that if you put your heart and soul into it, your performance will really improve.

### C. Negative Sources of Stress

**Threatening:** You may view some sources of stress as taxing, may be even exceeding your resources/capabilities. These sources of stress you may view **negatively** as you feel **threatened or worried** about how things **may turn out**. Examples of these sources of stress could be:

- \* You have the possibility of winning the world championships, and you are unsure whether to listen to your coaches training advise as you think it is too hard and it may ruin your chances.

- \* Your coach tells you that to reach the next step up, you need to take 3 months out from competition to change your technique, but that it will benefit you in the future.

**Harm/loss:** Sometimes we experience stress as a result of something happening. You may in the past have experienced a source of stress that caused you to feel hurt, disappointed, or it may have been that you lost something you valued. Examples of these sources of stress could be:

- \* Your coach who you have been working with for a period of time takes on another player who you compete against.
- \* You perceive your coach to be less committed to you than his/her other performance players.

**Note:**

1. You would view both threatening and harm/loss sources of stress negatively. It may be that some situations you initially perceive as threatening and then as they unfold you view them as harmful - or vice versa, something happens and as a result you experience harm or loss (eg. fallen out with a coach) and as a result it causes you to perceive situations in the future as threatening (eg. future relationships with players).

2. It would be possible to view a particular source of stress as both positive and negative ie. challenging and threatening/harm-loss.

---

## COPING WITH SOURCES OF STRESS

I am interested to know how you cope/cope with the various sources of stress you have identified.

### **A. Definition of Coping**

Firstly, I would just like to clarify what I mean by coping:

*“Coping is efforts we make either in terms of our behaviour or thoughts to deal with/manage with the specific external or internal demands that we have appraised as taxing or exceeding our resources.”*

Basically coping is what you did, or still do, to deal with sources of stress. Examples would be: talk to other people, try to solve the problem, try to focus purely on what you have to do, ignore the source of stress etc. The examples given are **coping strategies** that individuals may use to deal with particular sources of stress. Please note that you may use several types of coping strategies to deal with one particular source of stress.

**STRESS AND COPING IN  
HIGH PERFORMANCE SQUASH COACHING;  
A PLAYERS' PERSPECTIVE**

**INTERVIEW GUIDE**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Tel No: \_\_\_\_\_  
Interview Date: \_\_\_\_\_  
Start Time: \_\_\_\_\_  
Finish Time: \_\_\_\_\_



**INTERVIEW PLAN**

**SECTION 1  
INTRODUCTION**

**SECTION 2  
SOURCES OF STRESS**

**SECTION 3  
COPING WITH STRESS**

**SECTION 4  
SUMMARY**

---

## SECTION 1 INTRODUCTION

Hello, I'm Jenny Tranfield from the Dept. of Physical Education, Sports Science and Recreation Management at Loughborough University. Thank you for agreeing to be one of the members of this interview study of elite squash players. In this project I want to get to know about the sources of stress you experience as a high performance player during your coaching activities and also how you cope with them.

The information I sent to you hopefully helped you to have an understanding about what I mean by the terms stress and coping. These terms are the things that I would like you to talk to me about. Therefore, it is important that you understand what I mean by the terms - do you have any questions, would you like me to clarify anything or explain anything to you?

The information from the study will be used in 3 ways:

1. It will be used for my own studies.
2. The general findings will be written up and presented to other people in the field.
3. If you wish, it will be used to help you cope with the stress you experience during your coaching activities.

I want to emphasise that all the information you provide will remain completely confidential. The results and information will be presented in the form of selected quotes from the interview and you will remain completely anonymous. You will simply be given a subject number. If you have no objections I will use a tape recorder so that information brought out of the interview is clear and accurate. In addition, if you don't mind, I will take notes about the sources of stress you experience so that I can ask you later in the interview about how you cope with them.

As a participant in the study, you have several definite rights. Your participation in the interview is entirely voluntary, you are free to decline to answer any questions or stop the interview at any point. There are no right or wrong answers to the questions I will be asking. I am keen to find out what you have to say as a high performance squash coach. I therefore hope you will feel comfortable to answer questions in an honest and

straightforward manner. If there are any questions that you do not feel comfortable answering, I would rather you declined to comment than to tell me what you think that I or others may want to hear. Let me reinforce that it is *you* that I am interested in, so please answer the questions based on what *you* feel and think. If you have any questions as we go along, please ask them and ask for clarification if there is anything you are unsure of.

Okay, let's get started.

---

<b>SECTION 2</b> <b>SOURCES OF STRESS</b>
--

Firstly, I will just clarify what I mean by stress:

*Stress is a relationship between the person and the environment that the person appraises as **TAXING** or **EXCEEDING** his or her resources and possibly endangering his or her well-being.*

Sources of stress can cause you to experience both positive and negative thoughts, feelings, and emotions.

#### **Positive Sources of Stress**

**1. Challenging:** You may view particular sources of stress as allowing you the opportunity to feel you have **succeeded/achieved** at something (**a real challenge**), even though you know it will stretch/tax your resources/capabilities. Examples of these types of sources of stress could be:

- You are working hard with your coach to change your technique.
- You have a couple of months of hard work to do with your coach and you know that if you put your heart and soul into it you will really improve.

#### **Negative Sources of Stress**

**2. Threatening:** You may view some sources of stress as taxing, may be even exceeding your resources/capabilities. These sources of stress you may view **negatively** as you feel **threatened** or **worried** about how things **may turn out**. Examples of these sources of stress could be:

- Your coach decides to start working with one of your main rivals.
- Your coach tells you that you have to change your technique or you won't improve

**3. Harm/loss:** Sometimes we experience stress as a result of something happening. You may in the past have experienced a source of stress that caused you to feel hurt, disappointed, or it may have been that you lost something you valued. Examples of these sources of stress could be:

- Your coach emigrates to New Zealand to become the national coach and you are lost without him.
- Your coach insults you for a poor performance.
- You leave your coach to work with someone new.

**Note:**

1. You would view both threatening and harm/loss sources of stress negatively. It may be that some situations you initially perceive as threatening and then as they unfold you view them as harmful - or vice versa, something happens and as a result you experience harm or loss (eg. fallen out with a coach) and as a result it causes you to perceive situations in the future as threatening (eg. future relationships with coaches).
2. It would be possible to view a particular source of stress as both positive and negative ie. challenging and threatening/harm-loss.

Do you have any questions you would like to ask? Is there anything you would like me to explain?

1. So, bearing in mind the definition of stress, could you think back over the various aspects of your high performance coaching experiences and describe any sources of stress.....

Each source:

Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

PROBE (x2) - what made it a source of stress? Who or what did it involve?

2. For each source of stress you have identified I would like you to think about how you would view it in terms of being challenging, threatening, or harm/loss. To make sure you are clear about what I mean by each of these terms I will give you a definition:

**Appraisal Definitions:**

**Challenging** - a situation that you see as stretching/taxing your resources/capabilities, however, you see **opportunities to achieve, be successful or to develop personally.**

**Threatening** - a situation you see as holding some **potential for threat or danger** that you are **worried** about how things may turn out.

**Loss/harm** - a situation where you have **experienced hurt or disappointment or lost** something that you valued.

Are you clear what I mean by these definitions? Would you like me to explain anything?  
Do you have any questions you would like to ask?

3. Are there any other sources of stress you have experienced as an elite player within coaching activities?

Clarification  
Probe

---

**SECTION 3**  
**COPING WITH SOURCES OF STRESS**

I am interested to know how you cope/cope with the various sources of stress you have identified. Firstly, I would just like to clarify what I mean by coping:

*Coping is efforts we make either in terms of our behaviour or thoughts to deal with/manage with the specific external or internal demands that we have appraised as taxing or exceeding our resources.*

Basically coping is what you did, or still do, to deal with sources of stress. Examples would be: talk to other people, try to solve the problem, try to focus purely on what you have to do, ignore the source of stress etc. The examples given are **coping strategies** that individuals may use to deal with particular sources of stress. Please note that you may use several types of coping strategies to deal with one particular source of stress.

1. For each source of stress you identified, could you please tell me what you did or still do, to deal with it.

a). Ask for **clarification** - I am not sure I understand what you mean, would you go over that again?

b). **Probes (x2)** - who or what did/does it involve? Exactly what did/do you do?

---

**SECTION 4  
CONCLUSION**

Almost finished, just a few last questions to close the interview:

1. Did you enjoy the interview?
  2. Were you able to tell your experiences fully?
  3. Did I lead you or influence your responses in any way?
  4. The interview was all about the sources of stress you experience as an elite player during coaching activities, and how you cope with them. Do you think we missed out any important factors relating to the above areas, which you would like to add?
  5. Do you have any comments about the interview?
- 6a) Finally, do you think up and coming elite players need to know about stressors they may experience during coaching activities? Yes/No ? - Why?
- b) What advise would you offer them?

**Many thanks for your time and for sharing with me your experiences.**



---

Dept. of P.E., Sports Science and Recreation Management,  
Loughborough University,  
Leicestershire,  
LE11 3TU.  
0797 700 6048 (mobile)  
01509 228450 (office).

**Stress and Coping in High Performance Squash Coaching Activity**  
**Questionnaire Guide**

Dear Player,

This questionnaire is designed to investigate sources of stress experienced by squash players within high performance squash coaching activity, and the coping strategies used by players to deal with the stress. This study is unique in that it is the first of its kind to investigate *players' perceptions* of squash coaching activity.

The questionnaire is designed using the results of a pilot study in which 12 performance plan players were selected randomly and interviewed. The results of the pilot study revealed nine basic sources of stress that players experience in coaching. All I want to know is whether or not you find the same things stressful.

The questionnaire should take about 20-30 minutes to complete. Your responses are completely anonymous and therefore information you offer cannot be traced back to you. I am interested in *your* experiences of stress and coping in squash coaching. There are no right or wrong answers, and I would rather you decline to answer questions than tell me what you think I, or others may want to hear. Therefore it is important to me that you respond as honestly as possible.

The questionnaire is 10 pages long and has 10 questions. In order to answer the questions, you may find it helpful to follow the 5 step procedure carefully for all 10 questions.

I have enclosed a stamped addressed envelope and would really appreciate it if you could complete the questionnaire and return it to me as soon as possible. I aim to receive all completed questionnaires by Friday 2<sup>nd</sup> July 1999 so that I can undertake the data analysis immediately.

I will be working closely with Kirsten Barnes and Chris Harwood to feedback the results and implications to you during the summer training camps.

I really appreciate your time and effort in completing the questionnaire.

Many Thanks,

Jenny Tranfield.

---

## Instructions

### Coaching Activity

This questionnaire is about the stress that *you* experience as a *squash player* during coaching activity. The term *coaching activity* refers to 'all activities and interactions undertaken by a player and a coach that aim to facilitate the player's squash performance'. Therefore coaching activities occur both on and off court and can take place at any time in person or over the phone, email or fax.

### 5 Step Procedure

In order to complete the questionnaire, it may be helpful to follow the steps outlined below.

#### **Step One – Read and understand the source of stress**

Go to question one and read through the information provided on the sources of stress. The examples should help you understand the meaning.

#### **Step Two – Complete the stress grids**

Parts (a) to (f) require you to rate the characteristics of the stress, for example in terms of how threatening it is to you. For each part of the question, the scales are provided. Place a tick in the appropriate box to show your rating.

#### **Step Three – Complete the table**

The table in part (g) indicates possible coping strategies for dealing with the source of stress. Examples of each strategy are provided to aid understanding. Select the strategy that you would use most often to cope with the stress.

#### **Step Four – Complete the coping grids**

Parts (h) and (i) require you to rate the effectiveness and frequency in which you use the coping strategy. The scales are provided for each question. Please indicate your selection by placing a tick in the appropriate box.

#### **Step Five – Repeat steps 1-4 for the other 9 questions**

Any problems or misunderstandings, please do not hesitate to give me a call on 0797 700 6048.

Good luck, and once again, many thanks,

Jenny Tranfield.

**Questionnaire**

*'Stress and coping in coaching – a players perspective'*

**Player Details**

**Please complete the following by circling your details as appropriate:-**

**Playing Category:-**

*Junior*

*Senior*

**Gender:-**

*Male*

*Female*

**Nationality:-**

*English*

*Other*

**Question One**  
**'Time pressures in coaching'**

Time pressure in coaching has been identified as a source of stress by a selected sample of players on the performance plan. Time pressure in coaching refer to both the *coach's time constraints* and *the players time constraints*. For example, the availability of the coach and the coach's commitment to prioritizing sessions with elite performers rather than club members would be constraints of the coach. Player time constraints may include outside pressures such as work, school, family etc., which interfere with time for coaching. In order to complete questions 1(a) to 1(f), please place a cross through the appropriate box.

Q1(a) How often are time pressures a source of stress to you?

1	2	3	4						
Not at all									→

Q1(b) How challenging is the stress caused by time pressures?

1	2	3	4						
Not at all									→

Q1(c) How threatening is the stress caused by time pressures?

1	2	3	4						
Not at all									→

Q1(d) How severe is the stress caused by time pressures?

1	2	3	4						
Not at all									→

Q1(e) How much control do you have over the stress caused by time pressures?

1	2	3	4						
None									→

Q1(f) How harmful is the stress caused by time pressures to you?

1	2	3	4						
Not at all									→

Q1(g) Please select one coping strategy from the table below which demonstrates how you would deal with time pressures in coaching activities. If you would use more than one strategy, just choose the most common one. Indicate your selection by placing a cross through the appropriate grey box.

COPING STRATEGY	EXAMPLES OF COPING STRATEGY
COMMUNICATION	Talk to coach, explain your point of view, discuss it with coach, tell him how you feel etc.
RATIONALISATION AND ACTION	Put it in perspective and use it for motivation, learn from it and move on etc.
PLAN AND PREPARE	Develop contingency plans, prepare in detail for performance etc.
ORGANISE EFFECTIVELY	Use your time constructively, prioritise, write things down.
SEEK SOCIAL AND EMOTIONAL SUPPORT	Seek advice from someone you trust, pour your heart out, have a hug, gain a sympathetic ear etc.
IMPLEMENT MENTAL SKILLS	Relaxation techniques, take control, self belief, be disciplined, concentrate, focus etc.
MENTAL DISENGAGEMENT	Detach yourself from the situation, block out stress, listen to music etc.
NO COPING	Carry on regardless, do nothing, just get on with it, live with it.

Q1(h) How effective is that coping strategy in dealing with the stress caused by time pressures?

1	2	3	4						
Not at all									→

Q1(i) How often do you use this strategy to cope with with time pressures?

1	2	3	4						
Not at all									→

**PLEASE GO TO QUESTION TWO**

**Question Two**  
**'Coach Evaluation Issues'**

Coach evaluation of players has been identified as a source of stress by a selected sample of players on the performance plan. Coach evaluation issues refer to moments within coaching activity when a coach makes judgements about a player's performance. For example, situations in which a coach reveals a player's weaknesses or a player has to demonstrate strengths to a coach, resulting in coach feedback to players regarding their performance. In order to complete questions 2(a) to 2(f), please place a cross through the appropriate box.

Q2(a) How often are coach evaluation issues a source of stress to you?

1	2	3	4						
Not at all									

Q2(b) How challenging is the stress caused by coach evaluation issues?

1	2	3	4						
Not at all									

Q2(c) How threatening is the stress caused by coach evaluation issues?

1	2	3	4						
Not at all									

Q2(d) How severe is the stress caused by coach evaluation issues?

1	2	3	4						
Not at all									

Q2(e) How much control do you have over the stress caused by coach evaluation issues?

1	2	3	4						
None									

Q2(f) How harmful is the stress caused by coach evaluation issues to you?

1	2	3	4						
Not at all									

Q2(g) Please select one coping strategy from the table below which demonstrates how you deal with coach evaluation issues. If you would use more than one strategy, just choose the most common one. Indicate your selection by placing a cross through the appropriate grey box.

COPING STRATEGY	EXAMPLES OF COPING STRATEGY
COMMUNICATION	Talk to coach, explain your point of view, discuss it with coach, tell him how you feel etc.
RATIONALISATION AND ACTION	Put it in perspective and use it for motivation, learn from it and move on etc.
PLAN AND PREPARE	Develop contingency plans, prepare in detail for performance etc.
ORGANISE EFFECTIVELY	Use your time constructively, prioritise, write things down.
SEEK SOCIAL AND EMOTIONAL SUPPORT	Seek advice from someone you trust, pour your heart out, have a hug, gain a sympathetic ear etc.
IMPLEMENT MENTAL SKILLS	Relaxation techniques, take control, self belief, be disciplined, concentrate, focus etc.
MENTAL DISENGAGEMENT	Detach yourself from the situation, block out stress, listen to music etc.
NO COPING	Carry on regardless, do nothing, just get on with it, live with it.

Q2(h) How effective is that coping strategy in dealing with the stress caused by coach evaluation issues?

1	2	3	4						
Not at all									

Q2(i) How often do you use this strategy to cope with coach evaluation issues?

1	2	3	4						
Not at all									

**PLEASE GO TO QUESTION THREE**













**Question Eight**  
**'Ethical Issues'**

Ethical issues in coaching have been identified as a source of stress by a selected sample of players on the performance plan. Ethical issues in coaching refer to a player's concerns about the integrity of their coach. For example a player's worries about a coach's confidentiality when working with their rivals. In order to complete questions 8(a) to 8(f), please place a cross through the appropriate box.

**Q8(a) How often are ethical issues within coaching activity a source of stress to you?**

1	2	3	4						
Not at all									

**Q8(b) How challenging is the stress caused by ethical issues in coaching?**

1	2	3	4						
Not at all									

**Q8(c) How threatening is the stress caused by ethical issues in coaching?**

1	2	3	4						
Not at all									

**Q8(d) How severe is the stress caused by ethical issues in coaching?**

1	2	3	4						
Not at all									

**Q8(e) How much control do you have over the stress caused by ethical issues in coaching?**

1	2	3	4						
None									

**Q8(f) How harmful is the stress caused by ethical issues in coaching to you?**

1	2	3	4						
Not at all									

**Q8(g) Please select one coping strategy from the table below which demonstrates how you deal with ethical issues in coaching activities. If you would use more than one strategy, just choose the most common one. Indicate your selection by placing a cross through the appropriate grey box.**

COPING STRATEGY	EXAMPLES OF COPING STRATEGY
COMMUNICATION	Talk to coach, explain your point of view, discuss it with coach, tell him how you feel etc.
RATIONALISATION AND ACTION	Put it in perspective and use it for motivation, learn from it and move on etc.
PLAN AND PREPARE	Develop contingency plans, prepare in detail for performance etc.
ORGANISE EFFECTIVELY	Use your time constructively, prioritise, write things down.
SEEK SOCIAL AND EMOTIONAL SUPPORT	Seek advice from someone you trust, pour your heart out, have a hug, gain a sympathetic ear etc.
IMPLEMENT MENTAL SKILLS	Relaxation techniques, take control, self belief, be disciplined, concentrate, focus etc.
MENTAL DISENGAGEMENT	Detach yourself from the situation, block out stress, listen to music etc.
NO COPING	Carry on regardless, do nothing, just get on with it, live with it.

**Q8(h) How effective is that coping strategy in dealing with the stress caused by ethical issues in coaching?**

1	2	3	4						
Not at all									

**Q8(i) How often do you use this strategy to cope with ethical issues within coaching activity?**

1	2	3	4						
Not at all									

**PLEASE GO TO QUESTION NINE**



**Question Ten**  
**'Any other source of stress'**

Are there any other sources of stress within coaching activity that you experience that have not been mention in questions 1-9? If so, please state what they are and give examples, then complete the grids below:-

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

In order to complete questions 10(a) to 10(f), please place a cross through the appropriate box.

Q10(a) How often does the other source of stress occur?

1	2	3	4						
Not at all									

Q10(b) How challenging is the other source of stress?

1	2	3	4						
Not at all									

Q10(c) How threatening is the other source of stress?

1	2	3	4						
Not at all									

Q10(d) How severe is the other source of stress?

1	2	3	4						
Not at all									

Q10(e) How much control do you have over the other source of stress?

1	2	3	4						
None									

Q10(f) How harmful is the other source of stress?

1	2	3	4						
Not at all									

Q10(g) Please select one coping strategy from the table below which demonstrates how you deal with this other stress in coaching activities. If you would use more than one strategy, just choose the most common one. Indicate your selection by placing a cross through the appropriate grey box.

COPING STRATEGY	EXAMPLES OF COPING STRATEGY
COMMUNICATION	Talk to coach, explain your point of view, discuss it with coach, tell him how you feel etc.
RATIONALISATION AND ACTION	Put it in perspective and use it for motivation, learn from it and move on etc.
PLAN AND PREPARE	Develop contingency plans, prepare in detail for performance etc.
ORGANISE EFFECTIVELY	Use your time constructively, prioritise, write things down.
SEEK SOCIAL AND EMOTIONAL SUPPORT	Seek advice from someone you trust, pour your heart out, have a hug, gain a sympathetic ear etc.
IMPLEMENT MENTAL SKILLS	Relaxation techniques, take control, self belief, be disciplined, concentrate, focus etc.
MENTAL DISENGAGEMENT	Detach yourself from the situation, block out stress, listen to music etc.
NO COPING	Carry on regardless, do nothing, just get on with it, live with it.

Q10(h) How effective is that coping strategy in dealing with this other stress?

1	2	3	4						
Not at all									

Q10(i) How often do you use this strategy to cope with this other stress within coaching activity?

1	2	3	4						
Not at all									

**PLEASE PLACE THE COMPLETED QUESTIONNAIRE IN THE PRE-PAID ENVELOPE AND POST IT ASAP  
ONCE AGAIN. MANY THANKS FOR YOUR TIME AND CO-OPERATION**

