Loughborough University

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

Likelihood of substance abuse for dyslexics may be influenced by socioeconomic background and metacognition

PLEASE CITE THE PUBLISHED VERSION

https://doi.org/10.1007/s11469-018-0044-0

PUBLISHER

Springer © The Authors

VERSION

VoR (Version of Record)

PUBLISHER STATEMENT

This work is made available according to the conditions of the Creative Commons Attribution 4.0 International (CC BY 4.0) licence. Full details of this licence are available at: http://creativecommons.org/licenses/ by/4.0/

LICENCE

CC BY-NC-ND 4.0

REPOSITORY RECORD

Wilcockson, Thomas D.W., Colleen M. McElhatton, and Angela J. Fawcett. 2019. “Likelihood of Substance Abuse for Dyslexics May Be Influenced by Socioeconomic Background and Metacognition”. figshare. https://hdl.handle.net/2134/37431.

International Journal of Mental Health and Addiction
https://doi.org/10.1007/s11469-018-0044-0

COMMENTARY

Likelihood of Substance Abuse for Dyslexics May Be Influenced by Socioeconomic Background and Metacognition

Thomas D. W. Wilcockson[1] · Colleen M. McElhatton[2] · Angela J. Fawcett[3]

Published online: 06 December 2018
© The Author(s) 2018

Abstract
Research into the relationship between dyslexia and substance abuse has led to inconsistent findings. Some research papers suggest that dyslexics are at increased risk of substance abuse (and related) problems, whilst some research would suggest the contrary. We suggest that these different observations can be accounted for by socioeconomic background and the effect of this on metacognition. There are also an increased number of other factors which may predominantly affect people from low socioeconomic backgrounds which could exacerbate substance abuse.

Keywords Dyslexia · Substance abuse · Socioeconomic background · Metacognition

We previously observed that dyslexic undergraduate students report less substance abuse than their non-dyslexic peers (Wilcockson et al. 2016). This finding was contrary to Yates (2012) who found the opposite, namely that dyslexia is overrepresented in a sample of substance-abusing prisoners. Macdonald et al. (2016) state that socioeconomic status is a key determinant factor that explains these inconsistencies between Wilcockson et al.'s and Yates's findings i.e. the effect of social class and deprivation may have a relationship with dyslexia and substance abuse. Macdonald et al. (2016) investigated this by measuring substance abuse in the homeless. They found that dyslexia was overrepresented in a sample of the homeless but also that dyslexics were more likely to use substances, be susceptible to self-harm, and reported an increased risk of suicide. These results are again in stark contrast to those reported by Wilcockson et al. (2016). Therefore, within this short report, we will consider why socioeconomic status may lead to a decrease of substance abuse for dyslexics from high socioeconomic backgrounds but an increase in substance

✉ Thomas D. W. Wilcockson
t.wilcockson@lancaster.ac.uk

[1] Department of Psychology, Lancaster University, Lancaster, UK

[2] Lancashire Care NHS Foundation Trust, Preston, UK

[3] Department of Psychology, Swansea University, Swansea, UK

abuse from lower socioeconomic-backgrounds. Note, we are assuming that the participants recruited from Wilcockson et al. (2016) all had high socioeconomic backgrounds. This may not be the case. However, for the purposes of this paper, where we will be comparing university students to prisoners (Yates 2012) and the homeless (Macdonald et al. 2016), we can broadly assume different socioeconomic backgrounds (also, note, the reverse is true and some prisoners and homeless may be from higher economic backgrounds). Nevertheless, why would there be differences in substance abuse between people with dyslexia from different socioeconomic backgrounds?

In our paper (Wilcockson et al. 2016), we were motivated by theories of cognition which would predict that dyslexia may actually provide an advantage over the likelihood of developing substance abuse problems. We reached this hypothesis due to an observation that dyslexics may be impaired in automaticity development (Nicolson & Fawcett 1990) and the importance that automaticity may play in substance abuse (Tiffany 1990). However, it is difficult to understand how these cognitive approaches to dyslexia and substance abuse could be affected by socioeconomic background. Instead, it is important to consider a broader picture. It may indeed be that dyslexics are less likely to engage in substance abuse initially as a result of automaticity deficits (cf. Wilcockson et al. 2016). But, if they do engage in substance abuse, then they are less able to stop taking substances.

One speculation we offered in our paper (Wilcockson et al. 2016) was that dyslexic individuals with higher socioeconomic status may be more motivated (and more successful) in finding ways to compensate for any disadvantages associated with dyslexia. We now suggest that metacognitive differences may exist between individuals from different socioeconomic backgrounds. Metacognition is the awareness and understanding of one's own thought processes. It is important for the knowledge of cognition (monitoring) and regulation of cognition (controlling) and may, therefore, help a person understand their own strengths and weaknesses regarding learning. A number of factors may lead to difficulties in metacognitive abilities, for example, metacognition has been found to be affected by socioeconomic status (see Pappas, Ginsberg & Jiang 2003). Early metacognition skills are an essential part of initial educational success. Metacognition enables an awareness of thinking and its uses (Kuhn 2000). Therefore, metacognition provides a sense of control over learning, which may be particularly important for dyslexics who are finding greater challenges with education when compared to their non-dyslexic peers. Without metacognition, an early learner would be less able to recognise mistakes (Garafalo and Lester 1985), be adaptable (Shrager and Siegler 1998), and show an awareness and expression of thought (Carr and Jessup 1995). High socioeconomic dyslexics would be better able to focus and control their early learning. These individuals would be likely to be more successful at avoiding activities which may negatively affect their education and success. Therefore, when at university they would be more aware that they need to stay in control and they would recognise that they should not allow themselves to lapse into substance abuse having evaluated the potential costs and benefits of addiction. Whereas, low socioeconomic dyslexics would not demonstrate such control over initial learning, which may later impact their abilities to avoid substance abuse.

Further, for dyslexics from low socioeconomic backgrounds, there are also a multitude of complex and intertwining social and environmental factors which may affect their substance abuse. These may include limited access to social activities, appropriate

support, and information about dyslexia in education. This, in turn, is likely to have an impact on many aspects of an individual's life and wellbeing. Individuals from a lower socioeconomic background may consequently not perform as well in a school setting and experience fewer successes and rewards to reinforce and encourage active participation in their studies. Therefore, this is likely to have an impact on self-esteem and a feeling of exclusion from school life (Markos and Strawser 2004). Individuals who have had this negative experience of education are more likely to seek a feeling of inclusivity and success through different means. This can lead to poor school attendance and involvement with antisocial peers who may share a common interest in feeling excluded from society, which may also lead to increased exposure to drugs and alcohol. Such group inclusion may be highly reinforcing and increase feelings of self-worth and in turn, the individual may model their behaviour on antisocial peers in terms of taking substances. The use of alcohol and drugs may also be an effective way for an individual to cope with their issues in the short term through avoidance and an increased sense of self-esteem. If this is used as a means of coping, particularly if used from a young age, it is more likely to develop as a maladaptive coping strategy and in turn problematic drug use (cf. Alexander-Passe 2006).

Poor educational attainment due to alienation in a traditional education setting will also mean that individuals from lower socioeconomic backgrounds may be more vulnerable to unemployment (see Macdonald 2009, 2012). This will have a negative impact on mental health and increase the likelihood of a person using drugs and alcohol as a way to cope. Indeed, a combination of factors relating to problematic drug use and dyslexia could take effect in a person's life if that individual has not had the same opportunities to receive appropriate support at crucial times in their lives (Macdonald 2009, 2012). Macdonald (2009) highlights the importance of socioeconomic background for dyslexics. They suggested that lower socioeconomic background can cause higher levels of 'disabling barriers' which could interfere with the educational attainment. These barriers are less apparent in higher socioeconomic background participants who have better access to resources and environments which are more accommodating for people with dyslexia. Therefore, appropriate support would appear to be important for metacognitive abilities to fully develop within dyslexia which may then affect subsequent substance abuse behaviours.

It would appear that dyslexics from higher socioeconomic backgrounds may have increased metacognition skills which enable them to focus on school attainment. Moreover, due to their improved metacognition skills, they avoid using substances as this may be considered detrimental to academic achievements. On the contrary, dyslexics from low socioeconomic backgrounds may not have the metacognitive skills which would help them succeed in school and a multitude of potential pitfalls may exacerbate their eventual relationship with substance uses.

Overall, the implications of the above would seem to be that dyslexic substances abusers may require substance abuse intervention strategies which are different from those which may currently be in place. Careful consideration of factors such as school experiences and access to appropriate support and how this may have an impact on an individual's coping strategies, self-esteem, and mental health would need to be taken into account. We hope that this paper has demonstrated the potential of this topic for both research and practice. We look forward to reading further innovations and insights regarding this important topic.

Acknowledgements TW is supported in part by an EPSRC grant (EP/M006255/1) and CME works in a clinical capactity for the NHS. However, the EPSRC nor the NHS had a role in study design, collection of data, interpretation of the data, writing the manuscript, or the decision to submit the paper for publication.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

Alexander-Passe, N. (2006). How dyslexic teenagers cope: an investigation of self-esteem, coping and depression. *Dyslexia, 12*(4), 256–275.

Carr, M., & Jessup, D. L. (1995). Cognitive and metacognitive predictors of mathematics strategy use. *Learning and Individual Differences, 7*(3), 235–247.

Garafalo, J., & Lester, F. K. (1985). Metacognition, cognitive monitoring, and mathematical performance. *Journal for Research in Mathematics Education, 16*(3), 163–176.

Kuhn, D. (2000). Metacognitive development. *Current Directions in Psychological Science, 9*(5), 178–181.

Macdonald, S. (2009). Windows of reflection from adults with dyslexia: conceptualising dyslexia using the social model of disability. *Dyslexia, 15*(4), 347–362.

Macdonald, S. (2012). Biographical pathways into criminality: understanding the relationship between dyslexia and educational disengagement. *Disability & Society, 27*(3), 427–440.

Macdonald, S. J., Deacon, L., & Merchant, J. (2016). 'Too Far Gone': dyslexia, homelessness and pathways into drug use and drug dependency. insights on learning disabilities. 13(2), 117–134.

Markos, P. A., & Strawser, S. (2004). The relationship between learning disabilities and homelessness in adults. *Guidance & Counselling, 19*(2), 46–56.

Shrager, J., & Siegler, R. S. (1998). SCADS: a model of children's strategy choices and strategy discoveries. *Psychological Science, 9*(5), 405–410.

Tiffany, S. T. (1990). A cognitive model of drug urges and drug-use behavior: role of automatic and nonautomatic processes. *Psychological Review, 97*(2), 147–168.

Wilcockson, T. D., Pothos, E. M., & Fawcett, A. J. (2016). Dyslexia and substance use in a university undergraduate population. *Substance Use & Misuse, 51*(1), 15–22.

Yates, R. (2012). Bad mouthing, bad habits and bad, bad, boys: an exploration of the relationship between dyslexia and drug dependence. *Mental Health and Substance Use, 6*(3), 184–202.