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Running head: EYE MOVEMENTS AND THE MISINFORMATION EFFECT

The Effect of Eye Movements on Traumatic Memories and the Susceptibility to  
Misinformation: A Partial Replication

A thesis presented in partial fulfilment of the requirement for the degree of

Master of Arts

in

Psychology

at Massey University, Manawatū, New Zealand

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2018

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### Abstract

The issue of whether certain techniques used in psychotherapy might increase false memories is a major source of contention between cognitive and practising psychologists. Recently, a study by Houben, Otgaar, Merckelbach, and Roelofs (2018) found that bilateral eye movements used in Eye Movement Desensitisation and Reprocessing (EMDR) therapy increase susceptibility to misleading information. EMDR is a popular treatment for posttraumatic stress disorder and is primarily thought to reduce the vividness and emotional intensity of traumatic memories. Individuals who undergo EMDR therapy may be more susceptible to misinformation that is inadvertently introduced by the therapist due to reductions in memory vividness. Despite strong theoretical links between eye movements and false memories, few studies have investigated this effect. The current study addressed this issue by attempting to replicate the study by Houben et al. (2018). This study also investigated the working memory account underlying EMDR by comparing eye movements to an alternative dual-task. An initial pilot study comprising a reaction time task established that attentional breathing taxed working memory most comparably to bilateral eye movements. The main study predicted that eye movements would increase susceptibility to misinformation and that eye movements and attentional breathing would lead to comparable reductions in memory vividness and emotionality. 94 students ( $M_{\text{age}} = 25.74$ ,  $SD_{\text{age}} = 9.68$ ) were recruited to participate in the study at Massey University, Manawātū, New Zealand. Participants viewed a five-minute video depicting a serious car accident. Afterwards, they were randomly assigned to perform either eye movements, attentional breathing, or a control task while simultaneously recalling the car accident. Participants rated the vividness and emotionality of their memory before and after performing the tasks. All participants then received misinformation about the video before completing a

recognition test. Results indicated that the misinformation effect was not replicated, with no effect of eye movements on susceptibility to false memories. Findings also suggested that eye movements and attentional breathing were ineffective in reducing the vividness and emotional intensity of the trauma memory. The present study raises questions about the validity of materials and procedures used to instil the misinformation effect. Limitations of the study and key areas for improvement are considered for further investigation.

### Acknowledgements

Behind the scenes of this research has been the unwavering support, encouragement, and guidance from many people. This page is dedicated to those who have contributed to my academic endeavours this year. First and foremost, I am incredibly honoured to have been supervised by Dr Michael Philipp. Your expertise, support, and enthusiasm has motivated me to continue developing my abilities as a researcher, writer, and psychologist-to-be. I am especially grateful for all of the opportunities that have been afforded to me while under your guidance— completing my own research is something I never dreamed of until becoming involved with the Social Cognition Lab. A huge thank you goes to my co-supervisor, Katie Knapp— your knowledge, advice, and reassurance has been invaluable for me this year. I would like to acknowledge Professor Maryanne Garry from the University of Waikato for providing the inspiration for this research and sharing her expertise.

A very special mention goes to my mum, Leanne, my dad, Andrew, and my brother, Jacob. I am tremendously fortunate to have a family that is so understanding of the stresses that postgraduate study can bring. You have always supported me in whatever I do, and I cannot express how grateful I am for this. I know you admire my work ethic and determination— these are qualities I have learned from you all in your own successful careers. Without your love, support, guidance, and great sense of humour I know I wouldn't be the person I am today. Thank you also to my friends, especially Rebe, Cassie, Ross, and Api for your reassurance and the much-needed banter and humour in amongst the stress. Cassie, you have gone beyond the call of duty as my friend this year— from proof-reading my work to the many coffee runs— I am appreciative of all of your support. Lastly, thank you to each of my participants, I (quite literally) could not have done this without you.

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