

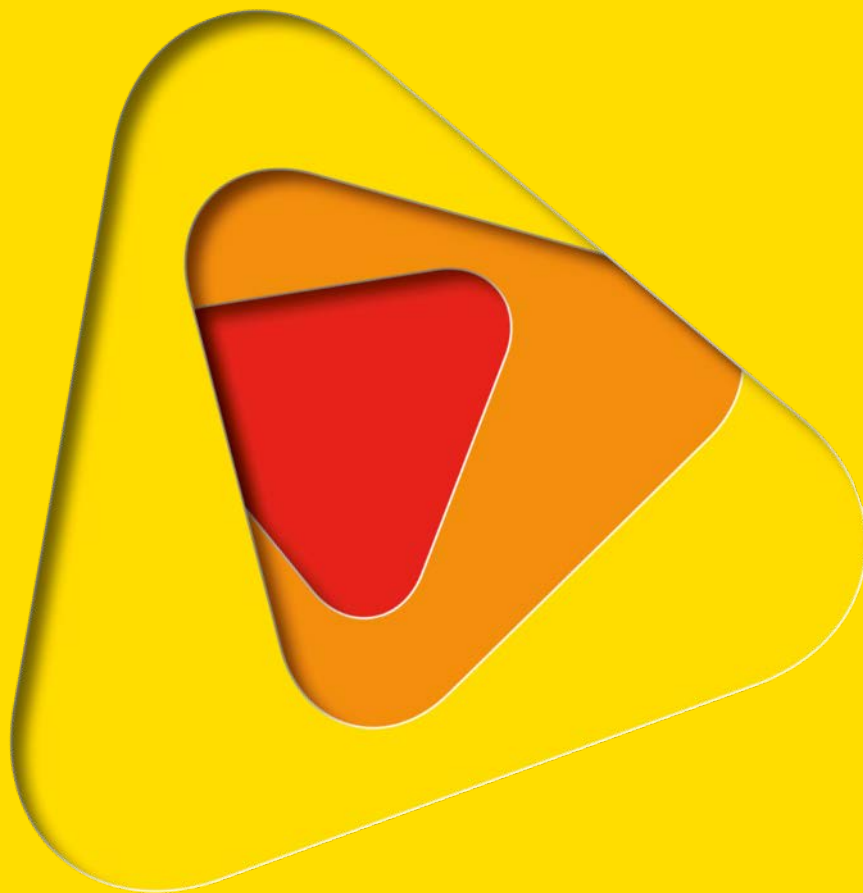


DEVELOPING A TARGETED RESILIENCE INTERVENTION FOR THE PRIMARY PREVENTION OF PTSD

Research proceedings from the Bushfire and Natural Hazards CRC
& AFAC conference
Adelaide, 1-3 September 2015

Petra Skeffington, Clare Rees, Trevor Mazzucchelli and Robert Kane
Curtin University

Corresponding author: petra.skeffington@curtin.edu.au





Version	Release history	Date
1.0	Initial release of document	03/09/2015



Australian Government
Department of Industry and Science

Business
Cooperative Research
Centres Programme

© Bushfire and Natural Hazards CRC 2015

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form without the prior written permission from the copyright owner, except under the conditions permitted under the Australian Copyright Act 1968 and subsequent amendments.

Disclaimer:

Curtin University and the Bushfire and Natural Hazards CRC advise that the information contained in this publication comprises general statements based on scientific research. The reader is advised and needs to be aware that such information may be incomplete or unable to be used in any specific situation. No reliance or actions must therefore be made on that information without seeking prior expert professional, scientific and technical advice. To the extent permitted by law, Curtin University and the Bushfire and Natural Hazards CRC (including its employees and consultants) exclude all liability to any person for any consequences, including but not limited to all losses, damages, costs, expenses and any other compensation, arising directly or indirectly from using this publication (in part or in whole) and any information or material contained in it.

Publisher:

Bushfire and Natural Hazards CRC

September 2015



INTRODUCTION

The current ‘best practice’ approach to trauma is to screen for pathology and provide treatment when required (Cloitre, 2009; Cornum, Matthews, & Seligman, 2011). This reactive paradigm is seen in the wealth of information and numerous studies regarding debriefing, early intervention responses following trauma and therapeutic approaches to stress and trauma pathologies. When Seligman (Seligman & Csikszentmihalyi, 2000) launched the Positive Psychology movement, academic interest in resilience increased. Positive Psychology literature abounds with research exploring components of resilience, comparing resilient individuals with less resilient individuals and, more recently, implementing resilience programs with children. Only in recent months have studies reflecting resilience training programs with adults appeared (Burton, Pakenham, & Brown, 2009, 2010; Cornum et al., 2011).

Given this backdrop of research in resilience building and PTSD prevention, future research is needed to explore whether a resilience training intervention can prevent or reduce PTSD and other post-trauma pathology following exposure to a PTE. Research has confirmed the effectiveness of resilience training in increasing protective factors in individuals in university (Steinhardt & Dolbier, 2008) and work (Burton et al., 2010) settings. There are also research claims that resilience training programs have decreased the incidence of pathology in a military setting (Cornum et al., 2011) and improved adjustment in military (Cohn and Pakenham, 2008) and police (Arnetz et al., 2009) settings. There is not currently sufficient evidence to support a claim that resilience training can be effective in the primary prevention of PTSD and this review of the research has identified a lack of experimental tests of theory-based, targeted, primary prevention interventions for PTSD.

Some professions, by their nature, will be exposed to trauma. Fire and emergency service work is widely recognised as a stressful occupation, with fire-fighters often exposed to potentially traumatic situations. This presentation will outline a PhD level program of research that aimed to explore the possibility of teaching resilience and psychological flexibility to adults in high-trauma professions. Phase 1 of this project was to develop a program aimed at the primary prevention of Post-Traumatic Stress Disorder (PTSD) and comprised a literature review, needs assessment and ongoing consultation with the target organisation (the Department of Fire and Emergency Services, DFES, in Western Australia). Phase 2 of this project was the implementation and evaluation of the program via a randomised control trial with a 12-month follow up.

OBJECTIVES

The objectives of this research project are as follows:

1. Determine the frequency of exposure to trauma and the presence (or absence) of symptoms of depression, anxiety, stress, problematic alcohol use and PTSD within the target profession.
2. Create an evidence-based, targeted intervention, grounded in literature and research and aimed at interrupting cognitive mechanisms that have been shown to contribute to symptoms of PTSD.
3. Refine the intervention in consultation with a target organisation, such that it becomes tailored to the needs and requirements of individuals working within the targeted high-risk profession.
4. Evaluate the intervention using a longitudinal, experimental design.



METHOD

The proposed research was conducted in two phases. The first phase comprised the development of a program aimed at the primary prevention of PTSD. The second phase comprised a longitudinal randomised control trial evaluation of the developed program. The developed program was a 4-hour intervention delivered during recruit training, aimed at the primary prevention of PTSD. The development of this program included a systematic review of the literature and prior intervention programs to distil the key points and inform preliminary program development in consultation with key members of (and stakeholders in) the target population for further refinement of the program. This also included a cross-sectional survey of 210 DFES career fire-fighters, to ensure that the population will be an appropriate target for the intervention.

The intervention aimed to target individuals who were at elevated risk of developing PTSD, given their membership to a profession with high incidence of exposure to potentially traumatic events. A traumatic experience is part of the diagnosis of PTSD by definition (APA, 2004) and increased exposure to PTEs has been identified as a risk factor for PTSD (Maguen et al., 2008; McCloskey & Walker, 2000; Ozer, Best, Lipsey, & Weiss, 2003; Stephens & Miller, 1998; Violanti, 2006). A minimum of 60 participants were recruited from the DFES recruit training school, with some recruit schools receiving training-as-usual (control condition) and other recruit schools receiving the 4-hour Mental Agility and Psychological Strength (MAPS) training program (intervention condition). All participants were tracked for their first 12-months as DFES career fire-fighters and measures of trauma exposure (TSS), PTSD symptoms (PCL-C), stress, depression, anxiety (DASS-21), perceived social support (SSQ) and preferred coping style (Brief COPE) were administered.

ANALYSIS

A pre-intervention/ post-intervention/ follow up control group design with clustered random allocation of participants to groups will be used. Recruits within DFES are naturally grouped into 'schools', where a school is a cohort that completes training together. For this reason, random allocation of single subjects to treatment or control groups was not feasible. Rather, 'schools' were randomly allocated to treatment or control.

The 'control' group is the 'Training as Usual' (TAU) group; this group was treated identically to the intervention group, proceeding through all components of DFES training, but did not participate in the intervention program. Due to the limited time and resources available within the DFES professional training program, an attention placebo control group was not a viable option. Both the intervention and TAU groups engaged in an equal number of overall professional training hours. All participants were measured on the outcome variables immediately prior to the intervention. Immediately following the intervention, all participants are measured once again on the outcome variables; and then again 6 months post-intervention, and for one final time 12 months post-intervention.

HYPOTHESIS TESTING

The hypotheses for this project (not listed due to space constraints) predict a Group x Time interaction for the T1 to T2 section of the T1 to T3 outcome trajectory. Specifically, each hypothesis predicts that this section of the trajectory will increase at a greater rate for the intervention group than the control group. This prediction is best tested with multi-level mixed effects linear regression (Bryk & Raudenbush, 1987; Dimitrov & Rumrill, 2003; Hofmann & Asmundson, 2008). GLMM will analyse the outcome data within the context of a hierarchical design in which Time (T1, T2, T3) is



nested within Participants, Participants are nested within schools, and schools are nested within group (intervention, control).

GLMM has several advantages over traditional statistical procedures for analysing behavioural change. Firstly, GLMM does not rely on participants providing data at every assessment point; it uses all the data present at each assessment point thereby reducing the impact of subject attrition on statistical power. Moreover, GLMM can deal with unequally spaced data collection points, is robust to unequal group sizes, does not require equal variances at each measurement occasion, or an equal covariance between all pairs of time points, and is able to account for correlations that occur between repeated measurements. Relative to other techniques, GLMM is able to more accurately estimate group means when group sample sizes are small.

This project is currently in the final stages of data collection and so preliminary results cannot be included in this proposal. Full results will be available by the time of the proposed presentation in September 2015.

DISCUSSION

There is a clear need for prevention research of this nature however it is often limited by practical concerns and barriers, including organisational restrictions, time constraints within training programs and differing priorities across stakeholder groups. The barriers encountered during this program of research will be discussed, including recommendations for how to avoid similar barriers in the future.

The bulk of the discussion will be guided by the results, which are not yet available. Future directions for similar research and practice will be discussed in light of the current results.



REFERENCES

- Bryk, A., & Raudenbush, S. (1987). Applications of hierarchical linear models to assess change. *Psychological Bulletin, 101*(1), 147-158.
- Burton, N., Pakenham, K., & Brown, W. (2009). Evaluating the effectiveness of psychosocial resilience training for heart health, and the added value of promoting physical activity: a cluster randomized trial of the READY program. *BMC Public Health, 9*, 427-435.
- Burton, N., Pakenham, K., & Brown, W. (2010). Feasibility and effectiveness of psychosocial resilience training: A pilot study of the READY program. *Psychology, Health & Medicine, 15*(3), 266-277. doi: 10.1080/13548501003758710
- Cloitre, M. (2009). Effective psychotherapies for PTSD- A review and critique. *CNS Spectrums, 14*(1), 32-43.
- Cornum, R., Matthews, M. D., & Seligman, M. E. P. (2011). Comprehensive Soldier Fitness: Building resilience in a challenging institutional context. *American Psychologist, 66*(1), 4-9. doi: 10.1037/a0021420
- Dimitrov, D., & Rumrill, P. (2003). Pretest-posttest designs and measurement of change. *Work-A Journal of Prevention, Assessment and Rehabilitation, 20*, 159-165.
- Hofmann, S. G., & Asmundson, G. J. G. (2008). Acceptance and mindfulness-based therapy: New wave or old hat? *Clinical Psychology Review, 28*(1), 1-16. doi: 10.1016/j.cpr.2007.09.003
- Maguen, S., Turcotte, D. M., Peterson, A. L., Dremisa, T. L., Garb, H. N., McNally, R. J., & Litz, B. T. (2008). Description of risk and resilience factors among military medical personnel before deployment to Iraq. *Military Medicine, 173*(1), 1-9.
- McCloskey, L. A., & Walker, M. (2000). Posttraumatic stress in children exposed to family violence and single-event trauma. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(1), 108-115.
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin, 129*(1), 52-73. doi: 10.1037/0033-2909.129.1.52
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive Psychology: An Introduction. *American Psychologist, 55*(1), 5-14.
- Stephens, C., & Miller, I. (1998). Traumatic experiences and PTSD in the New Zealand Police. *Policing: An International Journal of Police Strategies and Management, 21*(1), 178-191.
- Violanti, J. M. (2006). The Police: Perspectives on Trauma and Resiliency. *Traumatology, 12*(3), 167-169. doi: 10.1177/1534765606296998