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**A Pilot Study: High Intensity Intermittent Training to combat
chronic stress in the New Zealand Police.**

A master's thesis presented in partial fulfilment of the requirements for the degree
of Masters of Sport and Exercise.

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Rebecca Jane Kurtovich

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Abstract

Background: Stress is increasingly being reported to be associated with immunosuppression, disease progression and psychological illness (Sergeyev & Miller, 2004). Police are considered to be employed in a highly stressful occupation and due to this are at a heightened risk for developing negative chronic stress related disorders (de Terte & Stephens, 2014). There are known strategies to combat stress such as exercise. However, in moderately active individuals a more vigorous exercise programme is needed to reduce the effects of stress. High intensity intermittent training (HIIT) could be a potential stress reducing mechanism especially due to its success in treating obesity, weight loss and cardiac issues (Gibala, Little, MacDonald, & Hawley, 2012; Schoenfeld & Dawes, 2009).

Aim: To see the effects of HIIT on chronic stress indices in the New Zealand Police.

Method: Using three single case studies, this study employed a 10-week HIIT intervention measuring markers of stress such as Perceived Stress Scale scores, cortisol levels and associated blood immune markers at baseline and post-intervention.

Results: Chronically stressed police officers displayed high perceived stress scale scores and compromised immune functioning due to decreased cortisol secretion and increased eosinophil count. Post-intervention decreased perceived stress, normalised cortisol levels and reduced immune inflammation markers.

Conclusion: High Intensity intermittent training decreases perceived chronic stress while also providing further evidence for the relationship between systemic inflammation and mental disease.

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Approval for this study was via the Massey University Ethics Committee for the experiments carried out and described in this thesis.

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