Notice of the Final Oral Examination
for the Degree of Doctor of Philosophy

of

RAQUEL GRAHAM

MSc (University of Victoria, 2016)
BA (University of British Columbia, 2012)

“Associations Between Physical Activity and Posttraumatic Stress Disorder: A Systematic Review and Daily Diary Study”

Department of Psychology

Friday, August 14, 2020
1:00 P.M.
Remote Defence

Supervisory Committee:
Dr. Scott Hofer, Department of Psychology, University of Victoria (Supervisor)
Dr. Brianna Turner, Department of Psychology, UVic (Member)
Dr. Eli Puterman, School of Kinesiology, UBC (Outside Member)

External Examiner:
Dr. Shevaun Neupert, Department of Psychology, North Carolina State University

Chair of Oral Examination:
Dr. Paul Schure, Department of Economics, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

There is growing evidence to suggest an inverse association between physical activity and symptoms of posttraumatic stress disorder (PTSD). However, the mechanisms are not well understood and much of the research in this area stems from cross-sectional studies, thereby limiting what is known about these relationships at the intra-individual level. Chapter 1 of this dissertation is a systematic review examining the literature on the association between physical activity and PTSD in a variety of study designs (i.e., cross-sectional, longitudinal, and intervention). Chapters 2 and 3 used data from a 7-day daily diary study of 15 participants with a diagnosis of PTSD. In this study, participants completed twice daily surveys on mobile phones and wore Fitbit accelerometers measuring physical activity and sleep. Chapter 2 used multilevel modeling to examine the within-person and between-person associations between physical activity and symptoms of PTSD, sleep, positive and negative affect, and coping. Multiple operationalizations of physical activity were used (i.e., self-report and accelerometer-measured) in order to explore and better understand which metrics are most strongly related to psychosocial factors. Results from Chapter 2 add to the literature by providing evidence of within-person associations between physical activity and PTSD symptoms over the course of the day, such that on days when participants are more physically active than usual, they also report fewer symptoms of PTSD that evening. Chapter 3 discusses the utility of using N-of-1 study designs with an emphasis on the benefits of using frequent repeated measurements in clinical practice. Three case examples are presented to illustrate the intra-individual variability that is observed in symptoms of PTSD, affect, and health behaviours. These examples provide rationale for the use of intensive measurement designs in order to fully capture and understand how and when variables fluctuate over time, and offer suggestions for future research and clinical practice.