



UNIVERSITY
OF MANITOBA

Applied Health Sciences PhD Program
Faculty of Graduate Studies

Research Day
Thursday, May 4, 2017
Cibinel Boardroom, Active Living Centre

Schedule of Events

- 12:30-12:45** **Welcome and Overview** – Dr. Elizabeth Ready, Director, Applied Health Sciences PhD Program
- 12:45-2:30** **Oral Presentations** – Scott Kehler, PhD Candidate, Session Chair
- 12:45-1:00 Ashley Stewart-Tufescu
1:00-1:15 Tamara Taillieu
1:15-1:30 Andrew Robson
1:30-1:45 Jacqueline Lemaire
1:45-2:00 Laura Macdonald
2:00-2:15 Margherita Cameranesi
- 2:30-2:45** **Break**
- 2:45-4:00** **Poster Presentations – Located in the Agora**
- 4:00-4:30** **3MT Presentations** – Scott Kehler, PhD Candidate, Session Chair
Corey Sigurdson
Geoff Gelley
Laetitia Guillemette
Anuprita Kanitkar
Navjot Pachu
- 4:45-5:00** **Janis McGonigle Student Research Awards** – Dr. Brian MacNeil
Closing Remarks – Dr. Douglas Brown, Dean, Faculty of Kinesiology and Recreation Management
Dr. Reg Urbanowski, Dean, College of Rehabilitation Sciences
Acknowledgements – Dr. Elizabeth Ready

Parenting the *Rights* Way: Examining the Universality of a Rights-Oriented Parenting Program to Reduce Violence Against Children in Canada. Ashley Stewart-Tufescu, Joan Durrant, Christine Ateah, Leslie Barker & Jean Tinning

Canada's Human Development Index ranks 9th out of 188 countries, placing it into the 'very highly developed' category. Yet physical violence against children remains a serious issue. Thousands of cases of physical abuse are substantiated in Canada each year. Most of these incidents occur in the context of punishment, a finding that has fuelled efforts to change attitudes toward physical punishment and to promote constructive approaches to resolving parent-child conflict.

As part of these efforts, *Positive Discipline in Everyday Parenting* (PDEP) is increasingly being implemented through community-based organizations in Canada. PDEP is a rights-oriented parenting program with the aim of transforming parents' views of their role from control, coercion and punishment, to teaching, guidance and mentorship. PDEP is designed to be relevant across cultures, both through its focus on universal developmental themes and through delivery adaptations for a range of cultural and social contexts.

With its highly diverse population, Canada presents unique challenges to the effective delivery of parenting programs. This presentation will describe a study of PDEP's implementation and impact in Canada's three Prairie Provinces – Alberta, Manitoba and Saskatchewan – whose populations are multi-ethnic and wide-ranging in terms of education and English literacy. PDEP was delivered to 564 parents by facilitators delivering universal and targeted programming. The program was adapted when necessary for specific populations (e.g., immigrant/refugee parents, parents with low literacy) in consultation with community members. Facilitators administered either the 'standard' pre- and post-test questionnaires (n = 368) or a shorter version (n = 196), depending on parents' English fluency and education levels. Both sets of measures included items assessing changes in parents' attitudes toward physical punishment. Both groups consisted primarily of mothers (> 80%) over the age of 30 (> 64%) with one or two children (> 54%). While 43.2% of the 'standard' group had completed at least one university/college degree, none of the 'low literacy' group had done so. At posttest, large and significant decreases in support for physical punishment were seen on all items in both groups (p < .001 in all cases). PDEP has promise for shifting attitudes toward physical punishment among Canada's diverse population.

Risk Factors, Clinical Presentations, and Functional Impairments for Generalized Anxiety Disorder in Military Personnel and the General Population in Canada. Tamara L. Taillieu, PhD Candidate¹; Tracie O. Afifi, PhD^{2,3}; Sarah Turner, MSc^{2,3}; Kristene Cheung, PhD Candidate⁴; Janique Fortier, BA²; & Jitender Sareen, MD, FRCPC^{2,3,4}

Affiliations: ¹Applied Health Sciences PhD Program, University of Manitoba; ²Dept of Community Health Sciences, University of Manitoba; ³Dept of Psychiatry, University of Manitoba; ⁴Dept of Psychology, University of Manitoba

Introduction: Generalized anxiety disorder (GAD) is a mental disorder characterized by excessive and uncontrollable worry over a wide variety of topics. Given the unique characteristics of a military environment, there may be important differences in the clinical presentation of GAD between military personnel and civilians.

Method: Data were from two nationally representative surveys collected by Statistics Canada: the Canadian Community Health Survey on Mental Health (2012) and the Canadian Forces Mental Health Survey (2013). Cross tabulations and logistic regression models were computed to examine differences in sociodemographic risk factors, comorbid mental conditions, clinical presentations, and functional impairments associated with past 12-month GAD between Canadian Armed Forces (CAF) Regular Force personnel and the Canadian general population (CGP).

Results: The prevalence of past 12-month GAD was significantly higher in the CAF (4.7%) than the CGP (3.0%; Adjusted Odds Ratio [AOR] = 2.23, 95% Confidence Intervals [CI] = 1.80, 2.78). Comorbid mental disorders were strongly associated with past 12-month GAD in both military personnel (Odds ratios [ORs] ranged from 4.02 to 20.93) and civilians (ORs ranged from 3.26 to 30.04).

Although the content area of worries and GAD symptoms endorsed were similar in both populations, CAF personnel were significantly more likely to endorse specific types of worries (i.e., worried about success at school/work, social life, mental health, being away from home or loved ones, social phobias, and war or revolution; AORs ranged from 1.89 to 5.93), and specific symptoms of GAD (i.e., restless, keyed up, or on edge and more irritable than usual; AORs = 3.18 and 2.47, respectively) than their civilian counterparts, even after adjusting for sociodemographic covariates and comorbid mental disorders. Finally, CAF personnel with past 12-month GAD reported significantly higher functional impairment at home than civilians with past 12-month GAD.

Conclusion: GAD is a substantial public health concern associated with significant impairment and disability among military personnel and civilians. Clinicians need to recognize that the clinical presentation of GAD may be different in military personnel compared to civilians. Better recognition of GAD in clinical settings may result in improved assessment and treatment for GAD in both military and civilian populations.

Parents of Preschool Children Newly Diagnosed With Autism Spectrum Disorder: The Effectiveness of a Self-Directed On-Line Parent Training and Support Program on Parent and Child Outcomes. Andrew Robson, Faculty of Applied Health Sciences, University of Manitoba.

Parents of preschool children newly diagnosed with Autism Spectrum Disorder (ASD) need basic easily accessible training and support, to help them in supporting their child's development while they wait for up to a year for formalized autism treatment. The purpose of this study is to develop and evaluate an on-line self-directed training and support program for parents of preschool children newly diagnosed with ASD. A Bioecological Systems Theory predicts that if parents receive support and training they will have increased knowledge and reduced levels of stress, enabling better child outcomes. The experimental study has a randomized, masked, waitlist control design comparing an intervention treatment group (n = 30) to a waitlist control group (n = 30). The intervention consists of an on-line multi-media parent training program, with content specific to parent implemented, naturalistic, treatment, and an on-line parent support forum specific to parents in the training program. Parent outcome measures include the Parenting Stress Index –Short Form, the Family Support Scale, and parent ASD knowledge and treatment fidelity measures. Child outcome measures include the Expressive Communication Measure, and an observational measure of child engagement. Post intervention differences between groups on all seven measurements will be analysed using an ANCOVA. Correlations between initial parent stress and change in parent stress through treatment, on parent knowledge and treatment fidelity and child measures of communication and engagement will be examined. This study is the first to examine the interaction effects between stress and on-line training for parents of preschool children with ASD.

Community Health Assessment Through an Income-related Health Equity Lens: A Retrospective Case Study from Three Manitoban Regional Health Authorities. Jackie Lemaire¹, Ph.D. Candidate, Shahin Shooshtari^{2,3}, Ph.D., Benita Cohen⁴, Ph.D., and Randy Fransoo^{3,5}, Ph.D.

¹Applied Health Sciences Ph.D. Program, University of Manitoba; ²Dept of Family Social Sciences; ³Dept of Community Health Sciences, University of Manitoba; ⁴Faculty of Nursing, University of Manitoba, ⁵Manitoba Centre for Health Policy and the Canadian Institute for Health Information.

Purpose: The community health assessment (CHA) process in Manitoba has not been reviewed from an income-related health equity (IRHE) perspective to date. The purpose of this presentation is to discuss:

- 1) how the regional health authorities (RHAs) incorporated an income equity lens in their process; and
- 2) the facilitating and impeding factors for incorporating such a lens.

Method: This research used case study methodology. Three cases (i.e., RHAs) were selected due to their diversity. Data collection involved document reviews and individual interviews with CHA staff and senior management/board members using a semi-structured interview guide. Interview data were audio-recorded and transcribed verbatim. NVivo was used to manage, code, and analyze the transcripts. Categorical aggregation was used to establish themes from the data guided by an ecological model from the National Collaborating Centre for Determinants of Health.

Results: The results of this research show that the RHAs did not apply an explicit IRHE lens to their community health assessment process, although it was recognized by almost all participants as important work. Within and across case analysis of the data through the use of themes will be used to summarize the data in this presentation.

Conclusions: Several recommendations are made towards an income equity-focused CHA, which could result in more useful and valuable information to assist in regional and provincial health strategic planning activities. In addition, the focus and generation of knowledge on income-related health equity through the CHA process will raise the profile on the social determinants of health, which is clearly an area deserving greater awareness and attention.

*Former advisors include Dr. Gustaaf Sevenhuysen and the late Dr. Patricia Martens –their contributions are always recognized.

Dental and Dental Hygiene Students Lived Experience of Learning Environment and Curriculum. Laura MacDonald, AHS PhD (Candidate).

There is a need to emancipate thinking about health from a disease prevention viewpoint when the intent is to engage in health promotion. Forty years ago, a question, “What creates health?” led to the concept of salutogenesis and the Salutogenic Model regarding the relationship between life events and resources and life orientation that enabled people to have a health-promoting way of being. Paradoxically, health professional students experience learning environments and curricula that can tax their sense of health. Several professions have a practice standard requiring practitioner health-of-self, and further, an expectation that programs promote student health. The problem is the hegemonic prevention paradigm is ever-present in how programs approach student health. This leads to students knowing their health by way of absence of disease—not a health promotion perspective. Health promotion is about enabling, mediating, and advocating for health for all. This study is aimed at understanding lived experiences of dental and dental hygiene students at single institution with respect to the learning environment and respective curricula. Three questions are posed: 1) Which paradigm has guided program decision-making; 2) What are students’ perceptions regarding program traits which enable, mediate, and advocate for student health; and 3) What are students’ perception of the lived program experience? A two-study, mixed method, sequential exploratory design is proposed. Study #1 involves a historical program document analysis using a directed content matrix. This informs Study #2, a two-phased design. First, focus groups with students across the curricula while be invited to share what they believe to be health-promoting traits of the programs. The themes from the focus group and the findings of the document analysis are transformed into a student survey. Additionally, the survey includes the Sense of Coherence Scale, the operational construct of Salutogenic Model, and a single-item self-rated health statement. The survey constitutes the 2nd phase. Pragmatism guides this inductive and deductive inquiry. Study design satisfies both health promotion strategies and the emerging, emancipating health promotion research criteria. Higher education is called to be health-promoting. Understanding students lived experience is important to knowing how programs can and/or are health-promoting resources for students.

Linking a History of Child Abuse to Adult Health Among Canadians: A Structural Equation Modelling (SEM) Analysis.

Cameranesi M.¹, Piotrowski C. C.¹ & Lix L.¹

¹University of Manitoba

Background: A history of childhood abuse has been linked to serious and long-lasting problems in both male and female adults. In Canada, nearly 9 million children every year experience abuse at the hands of a family or non-family member, with Manitoban children who are especially at risk.

Method: Using the Life Course Health Development (LCHD) framework, we developed two theoretical models concerning this linkages, and using a structural equation modelling (SEM) technique, path analysis, we tested the empirical fit of the two models in a population-based representative sample of Canadian adults (N = 21,958). Model 1 included direct pathways by which three types of childhood abuse – exposure to IPV, physical abuse, and sexual abuse affected adult physical and mental health, as well as indirect pathways by which perceived social support and everyday life stress mediated these associations. Model 2 included only indirect effects.

Results: Global fit testing indicated that the mediating model including only indirect associations between childhood abuse experiences and adult health best fitted the data (Global fit indices: SRMS = .03, GFI = .993, AGFI = .97, and NFI = .96). Local fit testing supported the hypothesized associations between exogenous and endogenous variables: Childhood exposure to IPV, physical abuse, and sexual abuse predicted high everyday life stress and reduced social support in adulthood, which in turn predicted poorer self-rated adult physical and mental health. Some sex differences were found.

Discussion: Our findings are in line with some of the most recent research on the long lasting effects of child abuse on physical and mental health of survivors, showing that social support can function as a buffer against the development of psychopathological and physical symptoms in individuals exposed to early trauma and that one of the possible mechanisms through which such symptoms can arise is the stress system.

Is Active Recovery During Cold Water Immersion Better Than Active or Passive Recovery in Thermoneutral Water for Post-Recovery High Intensity Exercise Performance? Daryl Hurie

Passive recovery in cold water beneficially decreases core temperature, however simultaneous muscle cooling impairs subsequent sprint performance. Since active recovery clears lactate and increases muscle temperature, we will test the hypothesis that active recovery in cold water (15°C) improves post-recovery high intensity exercise performance.

Nursing student attitudes toward transgender persons

Performance Optimization in Elite Circus Artists. Adam Decker

Elite circus artists train for many hours each week. The training is physically and mentally demanding and can result in mental exhaustion and physical injury. This new project monitors the physical and mental changes that occur in performers in one year of training. The study population will be students at École nationale de cirque in Montreal, Canada.

Combat Trauma and Intimate Partner Relationships: A Review And Analysis. Melissa Weavers

Posttraumatic stress disorder (PTSD) symptoms have been consistently linked to a range of negative family functioning outcomes. Combat veterans with PTSD have a higher likelihood of multiple divorces, verbal and physical aggression, sexual dysfunction, impairments in emotional expressiveness, and emotional numbing symptoms associated with relationship dissatisfaction. Recent work has supported the notion that trauma not only affects the primary victim but also those to whom they are intimately connected. However, there has been lack of attention given to the course of combat trauma and couple distress specifically the mechanisms by which symptoms and distress are maintained or exacerbated. This review addresses this gap in the literature by providing a critical review of empirical work on the interaction between combat trauma and intimate relationships. In addition, theoretical perspectives that attempt to explain mechanisms of how trauma influences family functioning, including caregivers burden, ambiguous loss, reintegration, secondary traumatization, couple adaptation to traumatic stress model, and cognitive-behavioral interpersonal model are critically reviewed. The need for a bidirectional causal framework is emphasized; however, limitations of these perspectives necessitate further research. To this end, Conservation of Resources Theory (Hobfoll, 1988, 1989) is presented as a promising framework for the investigation of the cyclical intersection of combat trauma symptomology and couple distress, using the avoidance cluster symptoms as a specific example. Recommendations for future research utilizing this framework are outlined.

Motor Control and Learning Theories in the Study of Balance: A Scoping Review. Saleh Aloraini

Gaining a better understanding of balance control will improve the practices of balance therapy. Numerous studies in field of motor behavior have conducted experiments related to control of balance. The purpose of this study is to conduct a scoping review of studies related to control of balance within the field of motor control and learning.

The incidence and Long-Term Effects of Concussion. Morissette M P, Prior H, Wade J, Leiter J; Pan Am Clinic Foundation and Manitoba Centre for Healthy Policy, Winnipeg, Manitoba

Concussion epidemiology is based heavily on estimations, and the long-term manifestations of concussion remain elusive. The aims of this study were to identify the incidence of concussion in Manitoba between 1990 and 2014, and to determine the long-term effect(s) of concussion.

Nursing Students Attitudes Toward Transgender Persons. Fiona Smith

Four hundred forty-four nursing and psychiatric nursing students in Western Canada completed an on line survey about their knowledge, attitudes and behavior toward transgender persons. Attitudes toward homosexual persons and persons with mental illness were also surveyed. The relationships between these, and with participants' individual characteristics, were explored with statistical analysis.

Is Response Shift in Health-Related Quality of Life of Older Men Associated with Participation in Activities?

Maryam Alshammari, Robert B. Tate, Donna Collins, & Ruth Barclay

AIMS: Currently, there is limited knowledge about predictors of response shift (RS) in health-related quality of life (HRQOL) with aging. The aim was to examine the association between experiencing RS and participation in different activities.

METHODS: We analyzed data from the Manitoba Follow-up Study (MFUS), the oldest Canadian study of cardiovascular disease and aging. A cohort of 3,983 young men who were recruits to the Royal Canadian Air Force during WWII has been followed with routine medical examinations and questionnaires. The Successful Aging Questionnaire includes items regarding HRQOL, as well as

items regarding participation in different activities such as visiting family, using a computer, and others. After identifying individual and item-level RS in HRQOL over a one-year period (2010-2011), odds ratios with 95% confidence intervals for those who showed RS, and their participation in activities in the past month, were calculated.

RESULTS: In 2011, the mean age of 360 older male individuals was 89.7 years (SD 2.9). Generally, older men who showed RS in HRQOL are more likely not to participate in activities. Furthermore, those who showed RS in the physical domain are more likely not to participate in physical activities; for example, older men who showed RS in the 'good physical health' item were four times more likely to not participate in playing sports or games. In addition, we found that older men who showed RS in the social item 'helping family/friends' are more likely not to participate in other social group activities (cards, bingo, etc.), church-related activities, and community volunteer work.

CONCLUSIONS: Participation in different activities was found to be associated with experiencing RS in HRQOL. Taking this information into account alongside the time, type, direction, and domains of RS will be helpful to advance the understanding of individuals' HRQOL, which will provide tailored, practical choices and opportunities for older adults. Future studies need to develop user-friendly, adaptable tools to identify RS at individual and item level, incorporating participation.

Effects of a Single Bout of Training with a Novel Mechano-sensory Rehabilitation Bike on Paired-reflex Depression of the Soleus H-reflex in Individuals With Incomplete Spinal Cord Injury. Niyousha Mortaza

Effects of training with a mechano-sensory rehabilitation bicycle in five individuals with incomplete spinal cord injury was assessed. Participants completed two sessions of motorized cycling with and without mechanical stimulation on the sole of feet. The results of spinal reflex assessment(H-reflex) showed trends toward H-reflex normalization in participants with spasticity.

Rural Indigenous Athletes & Varsity Sport: An Exploration of Factors Influencing Participation in Manitoba, with Implications Beyond. Kosmenko, N.¹, Halas, J.², & Strachan, L.² Applied Health Sciences¹, Kinesiology and Recreation Management² University of Manitoba^{1,2}

Acculturative stress is a barrier to rural Indigenous students' post-secondary education. University-level (i.e., varsity) sport may help overcome this barrier by providing feelings of community. To facilitate greater post-secondary recruitment and retention of Indigenous athletes, this research seeks to identify factors influencing Indigenous athletes' participation in varsity sport in Manitoba.

Families' Experiences Living with Acquired Brain Injury: A Narrative Inquiry Study. Jane Karpa

Acquired Brain Injuries (ABIs) are experienced worldwide. While ABIs occur with individuals, families' lives are dramatically affected. This poster provides an overview of a PhD research project that will examine families' experiences living with ABI; emphasizing reasons for using the method of narrative inquiry with families' experiences living with ABI.

Social Determinants of Immigrant Women's Mental Health – Mahin Delara

Migration is a population movement with enormous challenges for immigrant women that influence their mental health. Mental health is a social issue and its determinants need to be recognized for health policy making. This paper reviews and consolidates findings from the existing literature on social determinants of immigrant women's mental health within a socioecological framework. Findings of this review revealed that mental health of immigrant women is an outcome of several interacting determinants at social, cultural, and health care system levels and hence calls for many different ways to promote it. Recommendations for mental health promotion of immigrant women with respect to research, education, practice, and policy are explored.

The Experiences of Fathers of Children with Special Healthcare Needs – Corey Sigurdson

To further our understanding of the perspectives and conditions under which men experience parenting a child with a special healthcare need

Impact of Non-Operative Care Utilization on Post-Thoracolumbar Spine Surgery Outcomes: A National Perspective Using the Canadian Spine Outcomes and Research Network (CsoRN) Registry – Geoff Gelley

CSORN data registry demonstrates that pre-operative therapy for degenerative spinal conditions improves post-surgical pain, disability, and quality of life.

Children's Cardiometabolic Health: Could Prevention Start Before Birth? – Laetitia Guillemette

Exposure to maternal diabetes, an emerging risk factor for cardiometabolic complications, lets us explore opportunities for early cardiovascular prevention.

Computer Game Based Rehabilitation Platform for Hand and Arm Impairments in Children with Neurodevelopmental Disorders – Anuprita Kanitkar

Neurodevelopmental disorders (NDD), such as cerebral palsy (CP) and other childhood onset disabilities result in deficits in the performance of fine and gross motor skills of the upper extremity. These impairments can result in reduced pace of development and may require long-term training to improve skills and foster participation in activities previously not accessible to the children. There is a need for innovation to manage rehabilitative efforts to improve compliance and accessibility. An emerging, promising approach to engaging children in therapy is to incorporate computer games in which a range of learning elements with interactive motor and cognitive challenges help children to positively engage in exercise. For this purpose, we have developed and validated an innovative, engaging computer game-based telerehabilitation platform (GTP), which is designed to:

1. Increase accessibility to high-quality therapy with a telerehabilitation platform and tools designed for in-home use, and supported by a clinician specialist
2. Strengthen accountability with an automated telemonitoring system that provides objective, electronic outcome measures of manual dexterity; psychomotor skills and fine and gross motor skills
3. Provide engaging exercise programs through fun game-based activities to increase focus of attention and foster participation

The primary objective of the proposed research project is to provide evidence for the therapeutic value and feasibility of the GTP delivered in the home of children with CP. A secondary objective is to examine the trajectory of change in electronic measures of manual dexterity over the time course of the intervention with the use of a telemonitoring module that automatically records child performance during each home therapy session.

The proposed study will evaluate the feasibility of study procedures such as recruitment, intervention delivery, participant retention, and measurement tools. Semi-structured interviews will be conducted with parents of the children.

Sedentary Behaviour in University Students – Navjot Pachu

My research focuses on examining psychological factors and intervention strategies to reduce sedentary behaviour in university students.