

13th Annual Crossroads Interdisciplinary Student Health Research Conference

March 27 & 28, 2015

Dalhousie
University

Health and Human
Performance Graduate
Student Society

Keynote Speakers:
Lynn Langille,
Department of Health
and Wellness
March 27
Great Hall,
University Club

Jacqueline Gahagan,
Dalhousie University
March 28
Potter Family Auditorium,
Kenneth Rowe
Management Building



Friday	March 27
12:30pm	Registration, University Club Great Hall
1:00pm	Opening Remarks
1:15pm	Lynn Langille Keynote Speaker- Great Hall
2:15pm	Community Networking Fair
3:15pm	Workshop Session 1
4:15pm	Workshop Session 2
5:15pm	Breakout groups- facilitated discussion
6:30pm	Mixer Event- Appetizer type foods and drinks

Saturday	March 28
8:30am	Registration, Rowe Building
9:00am	Opening Remarks, Potter Family Auditorium
9:20am	Oral Presentations Session 1
10:40am	Health Break
11:00am-	Poster Session
12:30pm	
12:00pm	Lunch Break
1:00pm	Dr. Jacqueline Gahagan Keynote Speaker- Potter Family Auditorium
1:50pm	Oral Presentation Session 2
2:30pm	Health Break
2:50pm	Oral Presentation Session 3
3:50pm	Awards Presentation, Closing Remarks

Welcome to Crossroads 2015!

First and foremost, welcome to the 13th Annual Crossroads Interdisciplinary Health Research Conference! On behalf of the school of Health and Human Performance Graduate Student Society (HAHP GSS), we would like to thank all of you for attending our event. This conference has always been organized “by students, for students” studying any aspect of health: from kinesiology and health promotion to health administration and medicine and everything in between. The interdisciplinary nature of this conference promotes and encourages collaboration and networking between faculty, community representatives, and students. Designed as an adjudicated, peer-reviewed academic forum, Crossroads provides an important opportunity for undergraduate, masters, and PhD students to learn from each other, gain relevant experience, and showcase their work at a professional level. We hope that you enjoy your experience and we hope to see you again in the years to come!

Crossroads 2015 Organizing Team

Kyra Phillips, *co-President, HAHP GSS*

Lisa Fisher, *co-President, HAHP GSS*

Renee LeBlanc, *Treasurer, HAPH GSS*

Diane Ramsay, *Social/Sports Rep, HAHP GSS*

Marissa Ley, *Social/Sports Rep, HAHP GSS*

Julia Kontak, *First Year Rep, HAHP GSS*

Ella Vermeir, *Secretary, HAHP GSS*

Letter from the Director

On Behalf of the School of Health & Human Performance (HAPP) I wish to welcome you to the 13th annual Crossroads Conference. This unique student-run conference serves as a stepping stone for undergraduate and graduate students to learn and gain experience in presenting at a professional level. The interdisciplinary nature of the Crossroads conference provides an exciting opportunity for students and faculty engaged in health research across Canada to showcase their work while building relationships across the community.

While the School of Health and Human Performance fully supports the Crossroads Conference, it is important to note that the success of the event is entirely due to the work of the HAPP Graduate Student Society.

I hope you enjoy the 2015 Crossroads Conference and the hospitality of Dalhousie University and Halifax. I look forward to meeting you at the conference.

Sincerely,

Fred McGinn Ph.D
Director, School of Health and Human Performance

A handwritten signature in black ink, appearing to read "Fred McGinn".

Keynote Speakers

March 27: Lynn Langille is the Coordinator (Health Disparities) with the Public Health Branch of the NS Department of Health and Wellness (DHW). Her background is in anthropology and sociology, and she brings a social lens to her work in Public Health. Lynn has worked in health promotion and public health for more than 20 years, focusing on participatory research and collaboration that promotes inclusion, diversity, food security, and human development. She works with DHW and other government departments, District Health Authorities, Community Health Boards and other community-based organizations to advance health equity.

March 28: Jacqueline Gahagan, PhD (Medical Sociology) is a Full Professor (Health Promotion) and Head of the Health Promotion Division at Dalhousie University. Jacqueline is also the Director of the Gender and Health Promotion Studies Unit (GAHPS Unit), and holds research associate positions with the European Union Centre of Excellence, the Health Law Institute, the Beatrice Hunter Cancer Research Institute, and the Atlantic Health Promotion Research Centre. Jacqueline has been involved in HIV/AIDS advocacy, activism and research for over two decades and was awarded the Queen Elizabeth II Diamond Jubilee Medal in recognition of her work in the field. Professor Gahagan's program of health promotion research focuses on mixed methods and intersectional approaches aimed at addressing health inequities. Her currently funded research projects include an examination of the breast and gynecological cancer experiences among LBQ women and trans people, promoting resilience among LGBTQ youth, gender- and equity-based analyses of HIV and Hepatitis C prevention policies and programs for youth, end-of-life preparedness among older LGBTQ populations, and access to and uptake of HIV testing innovations such as point-of-care-testing among socially marginalized populations.

Adjudicators

Dr. Fred McGinn
Dr. David Westwood
Dr. Dan Stevens
Maureen Summers
Terrilyn Chiasson
Dr. Matthew Numer
Shaun Black
Dr. Lois Jackson
Dr. Lori Weeks

Dr. Rob Gilbert
Dr. Laurene Rehman
Dr. Karen Gallant
Lesley Barnes
Dr. Debbie Martin
Dr. Brad Meisner
Dr. Sara Kirk
Dr. Jessie-Lee McIsaac
Dr. Andrea Bishop

March 27, Workshop Facilitators

Dr. Janet Curran completed her doctoral studies at Dalhousie University in Interdisciplinary Studies and her postdoctoral work in knowledge translation research with Dr. Jeremy Grimshaw in the Clinical Epidemiology Program at the Ottawa Hospital Research Institute. Her research is focused on identifying barriers and facilitators to practice and policy change in pediatric and emergency practice settings. Dr. Curran uses mixed methods and behaviour change theories as a basis for designing and evaluating behaviour change interventions.

Dr. Rob Gilbert's work focuses primarily on the development of tools for assessing knowledge of the principles of Evidence-based Medicine and skills essential to applying those principles among health care providers. This interest in knowledge translation blends well with his applied research initiatives that have, through clinical trial, investigated purported outcomes of selected popular practices in addictions. He has conducted randomized control trials that investigated the effects of auricular acupuncture and massage therapy on withdrawal related anxiety and is currently concluding a study that evaluated the efficacy of Community Reinforcement and Family Training with the loved ones of problem gamblers. In recent years Robs efforts have also focused on the development of educational resources and programs that support the training of selected occupational clusters within Canada's substance abuse workforce. He is currently working on the creation of a toolkit to guide the identification and implementation of context specific evidence-based prevention programs for middle/junior high schools. Finally Rob has worked to develop a network for knowledge exchange, pertaining to drug use trends and emerging evidence-based practices, for service providers in Nova Scotia's addictions community. He also serves as a co-investigator on an interprovincial project to build collaboration among addictions researchers, decision makers and practitioners with interest in relationship therapy.

Dr. Sara Kirk is a Canada Research Chair in Health Services Research hails from the UK where she worked as a registered dietitian before moving into nutrition and health research and teaching at the University of Leeds and Leeds Metropolitan University, UK. She moved to Canada in 2007 to take up her CRC position within the School of Health Administration at Dalhousie University. She also holds cross-appointments with the School of Health and Human Performance and the IWK Health Centre. The focus of her research is on the management and prevention of obesity. She is particularly interested in how obesity is managed within the health setting, as well as in understanding the contribution of the “obesogenic” environment to the development of obesity.

Dr. Sean MacKinnon is currently an instructor in the Department of Psychology and Neuroscience at Dalhousie University. Sean was born and raised in Cape Breton, Nova Scotia. He spent his freshman year in the lower mainland of British Columbia, studying at the University College of the Fraser Valley. He later fell in love with Kelly Barrie and moved back to Cape Breton to live with her. They married on May 15, 2010. Sean continued his education at Cape Breton University, earning his undergraduate degree in psychology (BA Hons) under the supervision of Peter D. MacIntyre. Sean also attended Wilfrid Laurier University and received his MA in social psychology in 2008 under the co-supervision of Christian H. Jordan and Anne E. Wilson. Sean completed his PhD in Psychology at Dalhousie University under the supervision of Dr. Simon B. Sherry in 2012. Sean's research interests lie within the realm of social/personality psychology, and he is most interested in issues centering on well-being, self-concept, relationship processes, and personality as a risk factor for psychopathology. His dissertation work examined the relationship between perfectionism, life narratives and well-being in freshman university students.

Dr. Jessie-Lee McIsaac has a PhD in Public Health from the University of Alberta and is a post-doctoral fellow funded by KT Canada and CIHR at the Applied Research Collaborations for Health and the Atlantic Health Promotion Research Centre. She has a background in health promotion and policy interventions related to chronic disease prevention and skills in case study research, qualitative methodologies and knowledge translation strategies. Jessie-Lee coordinated the CLASS II project during her PhD and her postdoctoral research will focus on advancing school health promotion strategies by aligning the practice and science of KT to facilitate meaningful exchange between research and policy systems.

Oral Presentation

Oral Presentation Abstracts

Title: Expansion of the Ontario Breast Screening Program: An Analysis of Government Decision-Making

Author: Neil G. Barr, McMaster University, Health Policy PhD Program

Background: In the province of Ontario, breast cancer is the most common form of malignancy. All organized breast screening programs in Canada offer free mammograms to women at average-risk of cancer between the ages of 50 and 69, yet the eligibility for women outside this age range differs across the provinces/territories.

Purpose: This study analyzes the provincial government's decision to expand the Ontario Breast Screening Program (OBSP) to include women aged 30-49 at high-risk for developing cancer, when spending cuts to a host of public services were planned.

Methods: A document analysis was carried out consisting of a review of government documents/websites, interest group position papers/websites, media outlets, and peer-reviewed articles to describe and explain the sequence of events that resulted in the program's expansion. The analysis examines how ideas (values and research evidence) and interests (government and non-government actors) contributed to the Ontario government's decision to provide dedicated funding to support the initiative.

Results: This analysis indicates that a combination of factors were at play in supporting the government's decision, including research evidence, pressure from interest groups, widespread media coverage of high-risk breast cancer cases, and a desire to appease the public regarding concerns over screening guidelines.

Conclusion: The timing of the decision to expand the OBSP appears to have been strongly influenced by lobbying efforts from non-governmental organizations and the public. During an election year, publicly announcing funding for enhanced breast cancer screening may have been an attempt by the Liberal government secure votes for re-election by supporting a popular health issue.

Title: Urban Indigenous mothers' perceptions of breastfeeding and its influences on infant feeding practices: An exploratory study.

Authors: Zoé Bordeleau-Cass (BSc Health Promotion) and Dr. Debbie Martin, Dalhousie University

Background: Canadian Indigenous peoples are a young and growing population, and report high fertility rates. However, rates of breastfeeding, which has been recognized as an ideal infant feeding practice, remain relatively low. The established relationship between a lack of breastfeeding practice and high chronic disease rates plays a role in shaping the future health of this population. Urban Indigenous mothers may access information about breastfeeding practices through diverse sources, which may include traditional childbearing and breastfeeding teachings alongside conventional public health messaging.

Purpose: The study aims to understand mothers' perceptions of breastfeeding as well as the influence of these perceptions on their infant feeding practices. Further inquiry can be made into the effectiveness and relevancy of existing breastfeeding programs, and whether they account for Indigenous traditions, customs, values, and norms.

Methods: Focus group interview data will be collected from four to six urban Indigenous mothers that have breastfed their child within the past three years. Qualitative interview transcript data will be analyzed through content analysis procedures.

Results: This study is anticipated to shed light on the perceptions of breastfeeding and how it influences infant feeding practices for Indigenous mothers in Halifax, Nova Scotia.

Conclusions: This proposed research project will provide insights into breastfeeding practices and breastfeeding information received by a group of Indigenous mothers living in Halifax, a Canadian urban community. This will provide recommendations regarding existing breastfeeding programs to ensure they meet the needs of urban Indigenous women.

Oral Presentation

Title: A Knowledge Translation Approach to Improving the Use of Sexual Health Services Among University Students in the Maritimes

Author: Christine Cassidy, BScN RN Doctoral Student

Background: In Canada, university students are among the highest risk population for sexually transmitted infections (STIs), yet, the rates of sexual health service utilization among university students remains low.

Objectives: A mixed methods design with a theory-based knowledge translation (KT) approach will be used to address four research objectives: 1. Describe university students' current use of sexual health services 2. Identify the barriers and facilitators for student access of sexual health services 3. Design an evidence-based KT intervention that can be used by service providers to increase the use of sexual health services 4. Identify strategies that will assist university decision makers, policy planners, and students to facilitate the use of sexual healthcare services.

Methods: To address objective 1, I will conduct a secondary analysis of a large Maritime-based data set to describe university students' current use of sexual health services. To address objective 2, interviews and focus groups will be conducted with a sample of undergraduate students and health care providers to identify their perceived barriers and facilitators to the accessibility of sexual health services. To address objectives 3 and 4, a mapping exercise will be conducted to link behavioural determinants identified from the interviews and focus groups to specific behaviour change strategies and interventions.

Expected Outcomes: The aim of this theory-based KT intervention is to increase the use of sexual health services for the high-risk population of university students, thereby preventing negative sexual health outcomes and ultimately, improving sexual well-being. By using theoretically relevant strategies, the proposed theory-based intervention will have a higher likelihood of succeeding

Title: Understanding and measuring LGBTQ health in Nova Scotia from a strengths-based perspective

Presenter: Emily Colpitts, M. A.,

Research Assistant to Dr. Jacqueline Gahagan at the Gender and Health Promotion Studies Unit, School of Health and Human Performance, Dalhousie University.

Abstract: Health research shows that lesbian, gay, bisexual, transgender and queer (LGBTQ) populations generally have worse health outcomes than their age-matched heterosexual or cisgender peers. There are many determinants of health that contribute to these health disparities including social stigma and discrimination faced by LGBTQ populations. Despite these health disparities, very little research has been conducted on LGBTQ health in Nova Scotia. This is of particular concern given that the health of those living in the Atlantic provinces tends to be worse than of those living in other parts of Canada. In light of this, measuring and understanding LGBTQ health in Nova Scotia is of critical importance. Of equal importance, however, is *how* we measure and understand LGBTQ health. The majority of LGBTQ health research focuses on health risks and deficits, obscuring the ways in which LGBTQ populations are resilient and improve and maintain their own health. Moreover, health research has traditionally framed LGBTQ health from a heteronormative, gender binary perspective which assumes that the health needs and outcomes of LGBTQ populations are similar to those of their age-matched heterosexual or cisgender peers. Drawing on the findings of a scoping review and community consultations with LGBTQ populations and health service providers, this research seeks to explore how LGBTQ health can be measured and understood in Nova Scotia from a strengths-based perspective.

Oral Presentation

Title: HIV and STBBI testing: The implications of shifting policy environments

Author name: Brian Condran, Jacqueline Gahagan (supervisor); Dalhousie University

Background: The Public Health Agency of Canada's shift to an integrated approach to HIV prevention, and the criminalization of HIV non-disclosure have significant impacts on the landscape of HIV and STBBI prevention. As these issues have bearing on the provision of accessible HIV and STBBI testing in Nova Scotia, their potential impact must be explored to ensure that testing remains accessible during this time of transition, and beyond.

Purpose: To explore the potential consequences of integration and criminalization on the provision of HIV and STBBI testing in Nova Scotia, and to explore innovative and collaborative responses to these consequences.

Methods: Two data collection strategies will be employed. First, a scoping review of policies that regulate HIV and STBBI testing within Nova Scotia will be conducted. Second, a series of semi-structured stakeholder interviews will be held, with health policy decision-makers, service providers, representatives of community organizations with relevant mandates, and researchers who study HIV and/or STBBI prevention. Data analysis will be guided by a social constructivist framework, and conducted using a thematic analysis approach.

Results: It is anticipated that the scoping policy review will illustrate the current landscape of HIV and STBBI prevention within the province. The analysis of interview data will support identification of potential consequences of integration and criminalization, and opportunities for improving service provision.

Conclusions: Exploring the potential consequences of integration and criminalization for HIV and STBBI prevention should provide opportunities to preemptively address emerging barriers, and to capitalize on new opportunities for increasing the provision of testing services throughout Nova Scotia.

Title: Sport and Recreation Membership is Universally Associated with Happiness, and more so than Other Leisure Activities

Author: Dan Conacher, Shea M. Balish, Lori Dithurbide , Dalhousie University

Background: Sport is increasingly being viewed as a powerful vehicle that can promote not only physical health, but also other positive outcomes such as self-reported happiness. Although initial evidence suggests that in western countries, such as Canada and the United States, sport participation is associated with increased happiness (Hills & Argyle, 1998; Huang & Humphreys, 2012), it is unknown if this association is universal, and how the strength of this relationship compares to those between happiness and other leisure activities.

Purpose: This study had three aims: First, to replicate previous research demonstrating a positive relationship between sport involvement and self-reported happiness in western countries. Second, to examine how this relationship varies across countries. Third, to compare sport to other leisure activities in terms of their association with happiness

Methods: We employed the sixth wave (2013) of the world value survey ($n_{\text{ss}} = 71,901$, $n_{\text{countries}} = 52$). Hierarchical non-linear Bernoulli modeling tested the association of sport and happiness across 52 countries. Logistic regressions examined associations within each country.

Results: Across 52 countries—including western countries—sport involvement is positively associated with happiness, and more so than other leisure activities. Moreover, these relationships hold even when accounting for known covariates such as health, age, and employment. Within country logistic regression confirmed that this association is largely universal.

Conclusions: Although the causal direction is still unclear, this study provides novel evidence of the positive association between happiness and sport and recreation membership. Future research will require better measures of sport involvement and happiness.

Oral Presentation

Title: Predictors of health in a Housing First intervention group in an urban, Aboriginal sample

Authors: Tracy DeBoer, Maria Medved, Jitender Sareen, Jino Distasio, Diane Hiebert-Murphy, & Corinne Isaak (University of Manitoba)

Background: Treatment and intervention programs aimed at supporting individuals dealing with homelessness and mental health concerns are challenged with meeting complex and systemic needs of their clientele. Housing First (HF) is a model of intervention that has been found to be effective in decreasing rates of homelessness and improving mental health for this population. What is not clear in the literature is how this intervention will apply to Canadian settings such as Winnipeg with a homeless population that is predominantly of Aboriginal ethnicity.

Purpose: The purpose of this study will be to determine the characteristics or correlates of the participants in a HF intervention that are associated with community functioning – a core marker of health.

Methods: Logistic regression analyses will be used to test for statistically significant relationships between the independent variables (i.e., demographic, physical health and mental health status at baseline, traumatic experiences, etc.) and the dependent variable of community functioning for participants after two years in the intervention.

Results: Preliminary results indicate that demographic characteristics (treatment arm, age, history of residential school attendance and level of education) as well as history of traumatic experiences (adverse childhood experiences and trauma to someone close) at baseline are statistically significant predictors of community functioning at the two year follow up.

Conclusions: The results of this study provide information on the characteristics of participants who had improved community functioning as a result of participation in a HF intervention in a unique Canadian context. This has implications for the effectiveness of HF in communities of homeless Canadians as well as determining who is likely to benefit from participation in HF programming.

Title: A Qualitative Research Proposal to Investigate Nurse's Experiences and Perceptions of Compassion Fatigue While Caring for Patients in a Rural Emergency Department

Author: Patricia Dekeseredy R.N. York University

Background: Nurses who work in rural emergency departments (ED) are exposed to trauma, pain, and suffering on a daily basis. Many of the patients they treat are friends and neighbors due to the small populations in rural communities. Thus when tragedy occurs in the ED, nurses are not only affected professionally but often also personally. In addition, rural EDs often have limited resources available to effectively treat patients who require high level urgent care, lack administrative support and are often understaffed. These contextual factors do not only have a negative impact on provision of quality patient care, but also create very stressful work environment putting these ED nurses at high risk for experiencing emotional trauma affecting their mental health.

Purpose: The purpose of this study is to gain an understanding of how compassion fatigue impacts the professional and personal life of the rural emergency nurse. Findings from this research will illuminate conditions that contribute to rural emergency department nurses' development of compassion fatigue and will help inform programs to improve the mental well being of these nurses. The research question for this research proposal is: What are rural emergency nurse's perceptions and experiences of compassion fatigue?

Methods: A qualitative exploratory descriptive design will be used for this study. A purposeful sample of 10 to 15 English speaking registered ED nurses who work in a rural ER department and have at least 2 years ED experience will be recruited. The interviews will be transcribed and analyzed using qualitative content analysis.

Results: The results will be used to inform future research into early recognition and resiliency programs to mitigate the effects of compassion fatigue. This study will be completed in spring 2015.

Oral Presentation

Title: New developments in a Computerized Potentiometric System for Anthropometric Measures (CPSAM)

Author: Colleen Dewis, PhD Candidate, Occupational Ergonomics and Biomechanics Lab, School of Health and Human Performance, Dalhousie University, Halifax, NS, Canada.

The Computerised Potentiometric System for Anthropometric Measures (CPSAM) was developed by Kozey and Das (Das and Kozey, 1994) to facilitate collection of structural and functional anthropometric measures, such as reach envelope. The system uses the linear measurement of 4 recording devices to predict the position of a single point in a 3-D volume. It can collect from subjects in both sitting and standing positions, making it an ideal starting place to compare the reach of normally healthy participants as well as participants who have received trauma to musculo-skeletal structures in the upper extremity such as chronic shoulder dislocations or breast cancer survivors. The development and initial validation details of the system found that the system accuracy was +/- 5 millimeters for any given direction in 3-D space. The system was subsequently used to determine the normal, maximum and extreme reach of seated and healthy individuals as well as for adults who require a wheelchair for mobility (Sengupta, 2000; Kozey 2004). A new opportunity has arisen to use a simple, low-cost, semi-transportable system for patient populations that could be used in a clinical setting with minimal operator training. As a result of these new initiatives a thorough review of the potential hardware and potential software limitations of the existing system will be undertaken.

This study revisits both the hardware performance and software components of the system for calculating position in 3-D in an effort to improve the accuracy and repeatability of the system and minimize errors identified in previous work. In preliminary work, the individual linear measurement units (Potentiometric Reading Units, PRUs) on CPSAM were examined through a series of static and dynamic trials. It was found that for a series of static trials at varying known lengths, the voltages from a multi-meter and the data acquisition system were consistent (with +/- 0.02 Volts difference). During static trials there were minor inter-trial variations showing differences of less than 1% of the overall range of each PRU, which could indicate a mechanical issue with how strings are wrapping. For PRU 4 it was found that a linear model was able to fully describe the relationship between length and voltage (with an R^2 value of 99.99) but for the other 3 PRUs quadratic models were slightly better. In previous work a linear model for the voltage to length conversions was assumed for the calibration of the system, which may have contributed to the 5 mm error. These relationships will require further investigation as a trial effect was also noted upon in the statistical analysis. It was also observed that when rapid string shortening occurs, there can be a momentary slackening effect in the string which appears as a discontinuity in the voltage-time graph. Further investigation as to the limits of speed of movement is required, and future work includes utilizing the Certus Optotrack Motion Capture system to know instantaneous positions during both static and dynamic trials. From this a new calibration procedure, and potentially software changes will be created.

The CPSAM is simple in both design and use, particularly when compared to the complexity of most commercial motion capture systems, yet can yield similar results. By minimizing potential errors, CPSAM could be a powerful tool for clinicians in rehabilitation for monitoring reach changes over time.

References

DAS, BIMAN, JOHN W. KOZNEY, and JONATHAN N. TYSON. "A computerized potentiometric system for structural and functional anthropometric measurements." *Ergonomics* 37.6 (1994): 1031-1045.

Kozey, John W., and Biman Das. "Determination of the normal and maximum reach measures of adult wheelchair users." *International journal of industrial ergonomics* 33.3 (2004): 205-213.

Sengupta, Arijit K., and Biman Das. "Maximum reach envelope for the seated and standing male and female for industrial workstation design." *Ergonomics* 43.9 (2000): 1390-1404.

Oral Presentation

Title: THE BENEFITS OF KANGAROO CARE ACROSS GESTATIONAL AGE AND GEOGRAPHY

Authors: Timothy Disher¹, Britney Benoit², Celeste Johnston¹, Marsha Campbell-Yeo³

¹IWK Health Centre, ²Dalhousie University, ³IWK Health Centre/Dalhousie University

Introduction: Kangaroo Care (KC), has been studied extensively in both painful and non-painful contexts since its initial implementation as an alternative to incubator care in resource-poor environments. This review provides a synthesis of the current knowledge in pain and non-pain contexts across gestational age, in low and higher resource countries.

Methods: Narrative synthesis of Cochrane systematic reviews of the benefits of skin-to-skin contact.

Results: Three reviews were included, capturing 71 studies spanning pain, and non-pain contexts. Benefits across gestational age include: improved sleep, physiological stability, growth rates, and breastfeeding outcomes; and reduced pain response and adverse events. Continuous KC (Kangaroo Mother Care, or KMC) was only researched in developing countries, but was associated with reduced mortality, morbidity, and infection. In the non-pain context, research conducted in developed Countries emphasized breastfeeding (BF) and attachment, while developing Countries showed an opposite trend.

Conclusion: Intermittent KC should be standard care in both term and preterm infants in all units. Dose-response studies are needed in order to recommend optimal daily duration. Morbidity/mortality outcomes remain unknown in high-resource units when KMC is provided, and would be of interest to assess. The field would benefit from consensus on methods and tools in order to simplify combined analysis. Lastly, future research should assess economic and intangible burdens to families

Title: Preliminary biomechanical evaluation and perception of effort of a lateral patient handling task with the use of a modified friction-reducing device.

Author: Kelsey Drew Dalhousie University, BScKinesiology (Hons), Dr. Janice Moreside Dalhousie University, Dr. John Kozey Dalhousie University

Background: Slide sheets are friction-reducing devices commonly used during patient handling tasks. It is suggested that having one slide sheet placed under a patient's bed sheet decreases the patient handler's workload and decrease their likelihood of low back injury. The reduction in biomechanical and perceived loads resulting from this modification is unclear.

Purpose: The purpose is to investigate the efficacy of modified slide sheet use on biomechanical variables and perceived effort. The efficacy of EMG as a representation of mechanical force required and perception of effort during lateral patient handling tasks will be assessed.

Methods: Participants will complete nine repetitions of a lateral patient-handling manoeuvre differing in terms of sandbag weight and slide sheet use. Using EMG and force transducer data, the pulling force and low back muscular activity of participants during each manoeuvre will be recorded. Participants will rate their perceived exertion of each manoeuvre and complete a post-experimental survey rating each of the manoeuvres in terms of low-back discomfort. EMG data and force transducer data will be collected with custom software and processed using MATLAB®. Statistical analysis will be performed using SPSS®. The relationship between muscle activity and force production data collected during each manoeuvre will be compared. Perceived exertion will be compared to biomechanical outcomes.

Anticipated Results: Outcomes are expected to reveal the efficacy of modified slide sheet positioning in reducing physical and cognitive demands during patient handling tasks. Additionally, results are expected to reveal the efficacy of EMG data as a valid representation of perceived exertion during patient handling tasks.)

Oral Presentation

Title: Caspase activation and ROS production is not involved in breast cancer cell death caused by apple peel polyphenols

Authors: Wasundara Fernando¹, H. P. Vasantha Rupasinghe^{1,4}, David W. Hoskin^{1,2,3}

Departments of Pathology¹, Microbiology and Immunology² and Surgery³, Faculty of Medicine, Dalhousie University, Halifax, NS, Canada; Department of Environmental Sciences⁴, Faculty of Agriculture, Dalhousie University, Truro, NS, Canada.

Background: Investigation of food-derived biomolecules to treat cancer receives attention due to their potential to act as broad-spectrum cancer-targeting agents. Here, we investigated the cytotoxicity of AF4, a flavonoids-rich apple peel fraction, and selected apple peel polyphenols (APPs) on breast cancer (BC) cells.

Purpose: To evaluate the anticancer properties of AF4/APPs using BC cell culture and a mouse model of BC.

Methods: Cytotoxicity of AF4 and APPs was determined using MTS and acid phosphatase assays of MDA-MB-231, MDA-MB-468, 4T-1, MCF-7, T-47D BC cells and human mammary epithelial cells (HMECs). Cell death was assessed by flow cytometric analysis of 7-AAD-stained MDA-MB-231 cells treated with AF4/APPs. AF4/APPs-induced reactive oxygen species (ROS) production was measured using Amplex red and Annexin-V-FLUOS/propidium iodide staining of MDA-MB-231 cells incubated with AF4/APPs in the presence or absence of N-acetyl cysteine. Caspase 3/7 activation was measured using a luminogenic assay. Suppression of tumor growth was studied by intra-tumoral injection of AF4/APPs into MDA-MB-231 tumors xenografted into non-obese diabetic severe combined immune-deficient (NOD-SCID) female mice. Tumors were excised and stained with haematoxylin and eosin.

Results: All the AF4/APP-treated BC cells showed time- and dose-dependent reduction in cell viability with no toxic effects to HMECs at low doses. Caspase 3/7 activation and ROS production were not involved in AF4/APP killing of BC cells. Furthermore, AF4/APPs suppressed MDA-MB-231 BC cell growth *in vivo*.

Conclusions: AF4 and APPs possess selective anticancer properties with minimal adverse effects to normal cells. This anticancer activity is not due to caspase activation or ROS production.

Title: Guiding Gender Transition in Nova Scotia

Authors: Kirk Furlotte (Dalhousie University, MA Health Promotion student), Cybelle Rieber (Capital District Health Authority), Graeme Kohler (Capital District Health Authority)

Background: Nova Scotians who are trans* (*"trans" is used as a term for anyone whose gender identity does not match biological sex at birth) face challenges navigating healthcare systems, especially during gender transition (which typically involves hormone therapy and possible surgery). Information was not always publicly accessible, furthering health inequities trans Nova Scotians already faced. This shortfall lead to frustration within trans communities and lead some to seek solutions outside the healthcare system.

Purpose: The goals for the Trans Health Guide focused on translating existing, disconnected knowledge into a resource that was: 1) Self-contained; 2) Accessible to relevant target groups 3) A means connecting trans Nova Scotians to a wide array of resources, including community-based organizations

Methods: The Guide was developed over three months through consultations with trans community members (in focus groups and interviews), healthcare providers, administrators, and relevant government agencies. The Guide was revised iteratively with key consultants and experts. The final Guide covers topics relating to medical, social, and legal transitioning.

Results: The Trans Health Guide is available for download online (with several hundred downloads since being launched). Anecdotal evidence from community-based organizations and direct feedback indicate the Guide fills a knowledge gap. Members of the trans communities feel greater control and can now take steps to improve their health.

Conclusions: Trans community members desire "official" tools and guides to accessing healthcare. Policies need to be revised to ensure that knowledge is accessible and centralized. Further research is needed to explore "next steps" for providing guidance to trans communities.

Oral Presentation

Title: English Literacy Training Program with First Nations sample: Were the learning outcomes achieved?

Author: Agnes Flanagan - University of New Brunswick

Background (intro of topic and problem being addressed)

Reading is a critical skill that plays a role in the life of the child holistically, in the short-term, long-term, and also in society as a whole. Today's society revolves considerably around technology, and this requires us, more than ever before, to be literate in order to succeed in daily life and in subsequent careers. Children who continue to struggle with reading by Grade 3 usually experience reading difficulties that persist over the long term.

Summer learning loss describes the learning loss experienced by most children during the largest gap away from school. Reading achievement gaps widen greatly during the summer, especially for children from low SES families. This research has not yet been investigated with a Canadian sample of First Nations children living on reserve.

Purpose: The purpose of the study is to implement and measure whether a summer literacy program would increase children's literacy scores. The program targets letter knowledge and phonological awareness skills.

Method: The program was designed for children going into Grade 1 with the population in mind. The two-week program was implemented in two First Nation communities in August; 5 half days a week. Fourteen English-speaking First Nations children were included and assessed three times; pre-, during and post-program. Hierarchical linear modeling was used to analyze data.

Results : On average, significant growth was made on the majority of measures assessed. There were also indications of summer learning loss in letter knowledge.

Conclusions : Children included in the sample did experience summer learning loss and this summer literacy program helped lessen this gap and produced literacy gains for some.

Title: The Development of an Outcome Communication Checklist to Enhance Patient Satisfaction with Total Knee Replacement Surgery: A Research Proposal

Author: Sylvia Gautreau, University of New Brunswick, PhD, Interdisciplinary Studies (Health Services Research).

Background: Over 57,000 Canadians had total knee replacement (TKR) surgery in 2012-2013, an increase of 21.5% over five years. While TKR significantly improves patients' quality of life by reducing pain and increasing mobility, up to 20% are reportedly dissatisfied. The well-established benefits of TKR are thus diminished since dissatisfied patients have reduced quality of life and require more follow-ups, increasing the burden on health care resources

Purpose: To develop a checklist which will enhance the quality of surgeon-patient communication post-TKR. Checklists are used in surgical, intensive care, and trauma units, and have improved overall standards of care. This research extends the checklist model to surgeon-patient communication.

Methods: The mixed methods design begins with a qualitative study of eight patients' TKR experiences, which will inform the checklist. In the subsequent quantitative study, the checklist is a communication intervention used at 6 weeks and 6 months post-operatively to guide surgeons' discussions with patients about expected outcomes. Satisfaction will then be measured at six months post-operatively using a 12-item visual analogue scale. A *t*-test (two tailed, power .90, medium effect size, $d = .6$) will calculate the mean differences in satisfaction of 120 patients (60 standard of care and 60 checklist).

Results: The optimization of surgeon-patient interactions leading to enhanced post-operative satisfaction for patients.

Conclusions: The communication checklist will help surgeons efficiently address patient expectations of outcomes and promote satisfaction in clinical settings that prioritize expediency, which is essential for sustainable health care delivery.

Title: In Search of the Good Death: Understanding Debates about Death with Dignity

Author: M. Irene Graham
St. Thomas University

Death is a reality that everyone will face at some time, but not one that many of us enjoy discussing. As the population of Canada continues to age, pressure builds on our medical and social systems. With so much of the population reaching a stage where end-of-life care is to be considered, it is important to ensure now that we understand views and perspectives on this topic so to better plan for the future. My research is focused on understanding what is being said about issues surrounding physician-assisted suicide and the public's reactions to the steps that are being made today. This is so we can understand where Canadians stand on this complex issue. By examining what people are saying about physician-assisted suicide in response to CBC articles relating to the topic, we can better understand Canadians' attitudes towards this issue and how they justify their beliefs. Using a combination of semi-structured interviews with health care providers and discourse analysis of comments on media items, I then identify ways of talking about death and dying and the many techniques those who are commenting use to validate their views. Death is one of the few things that can unite all groups. Soon, policy makers will face difficult decisions that will ensure Canadians have the end-of-life care they deserve. By analyzing and understanding the views put forth in these comments, my research will aid in understanding how Canadians view death, dignity and dying.

Title: Jadomycins are natural products that retain their toxicity in drug-resistant triple negative breast cancer cells and display cancer cell selectivity in a zebrafish xenotransplantation model

Authors: Steven R. Hall¹, Jay Toulany⁷, Chansey J. Veinotte⁸, Babak Razaghi⁸, Andrew W. Robertson², Camilo Martinez-Farina², David L. Jakeman^{2,7}, Graham Dellaire^{3,4}, Jason N. Berman^{3,5,6,8}, Kerry B. Goralski^{1,7}

Affiliations: Departments of ¹Pharmacology, ²Chemistry, ³Pathology, ⁴Biochemistry & Molecular Biology, ⁵Microbiology & Immunology, and ⁶Pediatrics, ⁷College of Pharmacy, Dalhousie University, Halifax, NS, Canada; ⁸IWK Health Centre, Halifax, NS, Canada

Background: Jadomycins are bacterial-derived cytotoxic agents that retain cytotoxicity in multidrug resistant (MDR) breast cancer cells that overexpress drug efflux transporters, like P-glycoprotein (P-gp). Jadomycins have never been tested in MDR triple-negative (TN) breast cancer or *in vivo*.

Purpose: To determine jadomycin cytotoxicity in drug-sensitive and taxol-resistant, P-gp overexpressing TN breast cancer cells and to determine jadomycin host versus cancer cell toxicity in xenotransplanted zebrafish embryos; a preclinical drug discovery model that allows for visualization of any jadomycin-induced therapeutic response.

Methods: TN MDA-MB-231 (231-CON) cells were cultured in gradually increasing concentrations (0.05-5 mg/mL) of taxol for 7 months, generating taxol-resistant cells (231-TXL). P-gp expression was determined using quantitative PCR. MTT assays measured cell viability with jadomycin B, S, or F, or mitoxantrone or doxorubicin treatment. *In vivo* jadomycin toxicity was determined in zebrafish embryos and inhibition of cancer cell proliferation determined in embryos xenotransplanted with 231-CON cells.

Results: P-gp gene expression increased 122,000-fold in 231-TXL versus -CON cells. Jadomycins B, S, and F were equipotent in 231-TXL (IC_{50} values of 2.9-3.1 μ M) versus 231-CON (2.7-3.0 μ M) cells while mitoxantrone and doxorubicin were 19- and 42-fold less potent, respectively. *In vivo* toxicity assays depicted jadomycin B, S, and F maximum tolerated doses of 40, 20, and 20 μ M, respectively. Jadomycin B (20 μ M, 48 hours) significantly reduced xenotransplanted 231-CON cell proliferation by 72% versus vehicle.

Conclusions: Jadomycins B, S, and F retain their potency in MDR 231-TXL cells and may be selective for breast cancer cells, warranting further research testing jadomycins against MDR TN breast cancer.

Title: Nutrition content in long-term care facilities in Halifax, Nova Scotia: What is being consumed?

Authors: Ms. Shannon Hazlett (BSc Health Promotion) & Dr. Brad A. Meisner, Dalhousie University

Background: Individuals in long-term care facilities often have considerably lower nutrition intakes compared to the general population. Inadequate consumption of nutrients in residents poses a risk to overall health. Canada's older adult population is increasing and adequate dietary intake could result in better quality of life for this aging demographic.

Purpose: This proposed study will determine if and how nutrition content in long-term care is compromised in Halifax, Nova Scotia.

Methods: This study includes multiple methods, including interviews with four to six kitchen workers and meal staff as well as photos taken of meals served. These data will be used to assess nutrient content and delivery using content analytical procedures. The setting will take place at a number of nursing homes in Halifax, Nova Scotia.

Results: The anticipated results of this study may find, and partially explain, inadequate nutrient content of food to older residents provided in long-term care facilities.

Conclusions: Research in long-term care facilities on the quality of consumption of nutrients is needed because of the valuable impacts to the lives and health of long-term care residents. It is useful to study the current nutrient status to adjust and make necessary improvements.

Title: Preliminary study of maximum seated reach envelope with and without a load in hand in a healthy adult population

Author: Heather Johnston, BSc Kinesiology student, Dalhousie University

Background: Reach envelopes are used to design a person's workspace. The measurement and quantification of these envelopes is important for observing differences in reach which can result from changes in task demands, functional impairments and aging. Little is known about the effects of handling manual loads on reach. Therefore the proposed research will examine the impact of external load on the envelope to measure and quantify differences in reach. The first step will be to quantify the effects of loads of hand tools and light assembly parts (0.5 to 1.0 Kg).

Purpose: The objectives of the current investigation are to:

- a) Map the maximum (3-D) reach envelope with and without a load;
- b) Develop a method to quantify the differences between the two conditions;
- c) Develop a mathematical model to predict the effects of load on the reach envelope.

Methods: Ten healthy adult participants will be recruited to perform 12 trials of maximum reach motions. Using a potentiometric system for anthropometric measures will be used to record reach measurements, two conditions of load and no load will be randomly assigned to the trials. Participants will extend the upper limb and "paint" the full 3-D volume of maximum reach. Paired t-tests of merged data files will test the difference between the two conditions across participants and for the overall reach envelope.

Anticipated Results: It is proposed that a map of maximum reach will be achieved for the two conditions resulting in a method to measure and quantify differences in reach.

Title: Taking bullying by the horns: Examining childhood bullying behaviours as a risk factor for future mental health outcomes

Author: Julia Kontak, MA Health Promotion Candidate Supervisor: Sara Kirk, Dalhousie University

Background/Rational: Bullying is on the forefront of childhood health concerns due to reported high prevalence in school environments. It is unclear what the long-term effects are on mental health and if they extend into late adolescence. The current study aims to investigate the relationship between bullying behaviours and later mental health diagnoses. In addition, the study will examine how the factors of self-esteem, peer relationships and obesity may influence the proposed relationship.

Method/Methodology: Secondary data from the 2003 Children's Lifestyle and School Performance Study (CLASS) will be prospectively linked to administrative health card records over a 7-year period to examine the proposed relationship. CLASS collected information from over 5000 grade five students and their parents from 282 of 291 Nova Scotia elementary schools. Regression analysis will be used to examine the relationship between bullying behaviours, self-esteem, peer relationships and obesity on future mental health diagnoses while adjusting for a broad range of confounders.

Expected Results : It is expected that there will be a positive relationship between bullying behaviours and later mental health diagnoses. In addition, it is anticipated that low self-esteem, poor peer relationships and obesity in children will further increase the effect of the expected relationship. The study is anticipated to contribute new knowledge on the long-term effects of bullying behaviours on mental health outcomes.

Title: Chronically Ill Hospitalized Children's Perceptions of "Play in Hospital": A Qualitative Description Study

Author: Chantal K. LeBlanc, BPs, CL St. Dipl., CCLS

Master of Health Studies Student, Athabasca University

Background: Hospitalization can influence the emotional, social, cognitive, and physical development of children, particularly those with chronic illnesses. Children report many negatives aspects of hospitalization, yet identify "play" and recreation as the best parts. Children's perceptions or description of "play in hospital" have yet to be reported.

Purpose: The purpose of this proposed study is to understand how chronically ill hospitalized children perceive and define "play in hospital"; including their play preferences and play needs.

Method: Chronically ill hospitalized 6-11 year old children who are, or have been, admitted to hospital for a minimum of 7 days in the previous six months will be recruited from two inpatient pediatric units and associated clinics.

Once parental consent and child assent is acquired, the child and parent will complete a brief demographic questionnaire. The child will be offered a choice of arts-based activities to help elicit perceptions of "play in hospital": (a) viewing photographs of spaces where pediatric patients often play, (b) drawing a "play map", a map of places and types of play they experience, or, (c) providing a guided tour of "play in hospital". Semi-structured interview questions will guide the discussions. Sessions will be audio-taped and transcribed.

Analysis: Thematic analysis is flexible and can be used in arts-based data gathering methods to report patterns/themes.

Significance of the Study: Knowing how chronically ill hospitalized children describe "play in hospital" can provide insight into what constitutes "play", the play materials, play environments and play interventions hospitalized children prefer or find helpful, and can ultimately influence well-being and overall coping.

Oral Presentation

Title: Hydroelectric development along the Lower Churchill River and the perceived influences on social relationships and emotional health of NunatuKavut adults

Author: Marissa Ley, BSc, MA Health Promotion (c.), Supervisor Dr. Debbie Martin, Dalhousie University

Background: Hydroelectric development of the Lower Churchill River in Labrador has stirred controversy for the Indigenous peoples of the area, raising issues about the need for economic development versus the need for environmental protection. Government members conducted community consultations to understand thoughts and concerns local people may have about such a project. NunatuKavut Community Council, representing the Inuit of south and central Labrador, were not included in these consultations despite their concerns about the effects this development will have on their traditional territory. Previous research has indicated that these types of developments can influence emotional health, in the sense that strong cultural connections, traditional use of land, and social cohesion can be influenced and changed by such developments.

Purpose: This study explores the influence of hydroelectric development along the Lower Churchill River on social relationships, and how changes to these social relationships influence the emotional health of NunatuKavut adults.

Methods: This exploratory study involved qualitative interviews with 10 adult members of NunatuKavut. Critical lens theory, narrative inquiry, and some of the principles of Two Eyed Seeing informed all elements of this study. Data was coded by hand and analyzed for major themes and sub-themes.

Results: Two main themes were found through analyzing this study's data: 1) The relationship between NunatuKavut and other Aboriginal groups in Labrador and; 2) The emotional battle between the environment and economics.

Discussion: Results are currently being analyzed and will be discussed in relation to the two key themes, and recommendations for maintaining and improving emotional health will be described.

Title: Investigating the relationship between pain, chronic disease, and physical activity among middle-aged and older adults in Canada

Authors: Ms. Vanessa Linton, BSc Health Promotion (Honours Program), and Dr. Brad Meisner, Dalhousie University

Background: Physical activity (PA) positively impacts the health of individuals; however, due to high levels of pain and chronic disease in the aging population, the lack of PA is a concern. Understanding the relationship among these factors is important to improve PA engagement and overall health.

Purpose: This proposed study will discern the associations among pain and/or chronic disease with PA among middle-aged and older adults.

Methods: Quantitative cross-sectional data from the Canadian Community Health Survey (CCHS), a large nationally-representative database, will be used to examine relationships among pain, chronic disease, and PA variables. The study will involve a sub-sample of the overall database to select data for adults in middle-life (40-64) and later-life (65-80+). IBM SPSS version 20 will be used for data analysis.

Results: It is hypothesized that PA levels will be lowest among individuals with both pain and chronic disease and highest among those without pain or chronic disease. Individuals with pain or chronic disease will have decreased PA compared to those without pain or chronic disease, but the relationship will not be as strong as those who have both factors combined.

Conclusion: The presence of pain and/or chronic disease is associated with decreased participation in PA, which indicates a need for specific, targeted interventions among middle-aged and older adults. Such interventions could promote PA among groups experiencing pain and/or chronic disease. Study results could provide evidence for interventions that aim to prevent pain and/or chronic disease that may increase PA and overall health with aging.

Title: BRINGING SEXY BACK: ADDRESSING LATER-LIFE SEXUALITIES AND WELL-BEING AMONG OLDER LONG-TERM CARE RESIDENTS

Author: Mariah Malone, MA Health Promotion candidate, Dalhousie University

Background: Although continued expression of sexuality into older age has well-established benefits for overall physical and emotional health, as well as quality-of-life, long-term care (LTC) facilities consistently produce barriers to residents' sexual expression.

Purpose: The proposed study will examine the lived realities of LTC residents to gain a better understanding of their sexual needs and desires. It will examine three research questions: 1) what are the desired forms of sexual expression among residents?; 2) what are the present challenges (if any) to these needs and desires in a LTC facility in Halifax, NS; and 3) what efforts (if any) are being made within the facilities to address these challenges and concerns?

Methods: A narrative approach will give voice to the experiences of 6-10 residents in a LTC facility in Halifax, Nova Scotia. Life-review will be employed to compile a written and photo-record of residents' life stories. This approach will a) establish rapport, and b) produce tools that can be used to develop more person-centred care plans. Semi-structured interviews with each resident will be audio-recorded and transcribed. Thematic analysis will be used to extract central themes from the data, producing a collective story of residents' experiences.

Expected results: Given existing literature, it is expected that sexual needs are not being met by LTC facilities, and that residents will identify barriers such as lack of privacy and dismissive caregiver attitudes.

Conclusions/Implications: LTC administrators can make use of the study's findings to develop more sensitive policies and practices informed by the (often neglected) voices of residents.

Title: The experiences of midwives and nurses collaborating to provide birthing care: A qualitative systematic review

Authors: Danielle Macdonald RN BScN¹, Erna Snelgrove-Clarke RN PhD^{1,2,3}, Marsha Campbell-Yeo RN, NNP-BC, PhD^{1,2,4,5}, Megan Aston RN PhD¹, Melissa Helwig MLIS⁶, Kathy A. Baker RN, ACNS-BC, FAAN, PhD⁷

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Background: Collaboration has been associated with improved health outcomes in maternity care, however no comprehensive synthesis of the current evidence about the experiences of midwives and nurses collaborating in birthing care has been conducted.

Purpose: To identify, appraise, and synthesize the qualitative evidence about the experiences of midwives and nurses collaborating to provide birthing care.

Methods: The methods of the Joanna Briggs Institute were used to conduct this systematic review of qualitative evidence published between 1981 and 2014, using the following steps – creation of inclusion criteria, search strategy, screening, critical appraisal, data extraction and analysis. Databases searched included Anthrosource, CENTRAL (The Cochrane Library), CINAHL, EMBASE, PsychINFO, PubMed, Social Services Abstracts, Sociological Abstracts and grey literature sources.

Results: The search identified 993 records. After duplicates were removed, 875 titles and abstracts, and 104 full text records were screened. Six studies were critically appraised and 5 studies were included in the final review. Thirty-eight findings were identified and aggregated into 5 categories resulting in two synthesized findings; 1) Negative experiences of collaboration between nurses and midwives may be influenced by feelings of distrust, lack of clear roles, or unprofessional or inconsiderate behaviour and 2) If midwives and nurses have positive experiences collaborating, then there is hope that the challenges of collaboration can be overcome.

Conclusion: Midwives and nurses have a variety of positive and negative collaborative experiences with each other. Given the limited studies synthesized in this review, more research is warranted for a comprehensive understanding of how various collaborative experiences occur across multiple contexts of practice.

Oral Presentation

Title: Exploring the current state and level of awareness of accessible tourism among tourism service providers in Halifax, Nova Scotia

Authors: Kudakwashe Ndadzungira (BSc Recreation and BManagement) & Dr. Laurene Rehman, Dalhousie University

Background: Tourism is one of the world's fastest growing socio-economic sectors and with this growth arises the need to integrate diversity and to foster inclusion. Accessible tourism involves collaborative processes between stakeholders and enables people with access requirements to function independently and with equity and dignity through the delivery of universally designed tourism products, services, and environments (Darcy & Dickson, 2009).

Purpose: This proposed research project will assess and explore the extent to which accessible tourism is currently being implemented by tourism service providers in Halifax, Nova Scotia.

Methods: Information on the state of accessible tourism in Halifax will be acquired through content analyses of tourism provider websites and one-on-one interviews with four service providers in settings most suitable to the participants. The four interviewees will belong to one or more of the following tourism categories: associations, transportation, travel services, and suppliers. Interviews will include open-ended questions about service providers' experiences and perceptions towards accessible tourism, their knowledge about the field, and how recommended changes can be achieved.

Results: Anticipated results will explain the reasoning and attitudes behind the involvement (or lack thereof) of tourism service providers in accessible tourism initiatives. Additionally, the knowledge-to-action information gap currently in the field will be examined.

Conclusion: Findings of this project will highlight and expand information regarding the current state of accessible tourism in Halifax. This will assist in fostering more accessibility and the removal of structural barriers in this section of tourism.

Title: Health literacy among older adults in Nova Scotia: A scoping literature review

Author: Ms. Jackie Nguyen (BSc Health Promotion) & Dr. Brad A. Meisner, Dalhousie University

Background: Health literacy levels in Canada are poor with over half of working-age Canadians falling below satisfactory health literacy levels (Canadian Council on Learning [CCL], 2007). For older adults in Canada, the situation is even worse as 88% of this age group have poor health literacy skills (CCL, 2007). Health literacy as a determinant of health and aging remains poorly understood and the current state of health literacy among older adults, as well as the factors related to it, remain unclear. Given that Nova Scotia holds the largest proportion of older adults in the country, insight on the state of health literacy within this local age group can help inform future work in this area.

Purpose: The proposed project seeks to examine the state of health literacy literature pertaining to older adults in Nova Scotia.

Methods: A scoping literature review will be conducted. Both grey (i.e., government reports) and scholarly literature (i.e., peer-reviewed articles) will be searched in various databases (e.g., PubMed, Embase, CINAHL, EBSCOHOST, PsycINFO, etc.) using key terms related to health literacy, older adults/aging, and Nova Scotia. Data will then be analyzed using a qualitative research synthesis approach.

Results: This research project will identify current themes, key considerations, as well as principal opportunities and challenges relating to health literacy among older adults.

Conclusion: The scoping review will provide future directions in health literacy research, policy, and practice that aim to promote health literacy levels among older adults in Nova Scotia.

Oral Presentation

Title: Drinking Motivation and Sexual Orientation

Authors: Caitlin O'Neill (BA Honours student, Concordia University), Alix Haeberle-Savard (Concordia University) & Erin T. Barker (Concordia University).

Background: Previous research on alcohol consumption in LGB (lesbian, gay, and bisexual) young adults has typically focused on negative pathways to drinking, making the assumption that LGB individuals drink to cope with hardship (e.g., bullying and parental rejection; Newcomb, Heinz & Mustanski, 2012). However, research has not directly examined whether LGB individuals' drinking motives differ from those of their same age peers.

Purpose: This study assessed whether self reported drinking motives differed based on sexual orientation.

Methods: Self-reported drinking motives in a small sample of LGB university students ($N = 52$) were compared to those of a heterosexual matched sample. The Drinking Motives Questionnaire, Revised (DMQR, Cooper, 1994) was used to assess motives

Results: No group differences were found on any of the DMQR subscales ($p > .05$). The two most strongly endorsed motives for both groups were coping motives ($M = 14.04$, $SD = 4.96$) and social motives ($M = 13.48$, $SD = 4.09$).

Conclusions: These findings suggest that LGB university students' motivations for drinking do not differ from those of their heterosexual peers'. Future research should examine this phenomenon using larger community samples.

Title: Walking in a car centric city: Do pedestrians, compared to motorists, have a longer wait time before crossing intersections and crosswalks in Halifax?

Authors: Ms. Isabelle Ouellette (BSc Health Promotion Honours) & Dr. Sara Kirk, Dalhousie University

Background: Physical activity is important for good health and reducing the risk of chronic diseases. In general, Canadians are not getting enough physical activity and improvements in urban design (to encourage active transportation) may be needed. Unfortunately, cities tend to be designed to accommodate vehicles rather than pedestrians. This proposed study seeks to determine whether motorists are prioritized over pedestrians at intersections and crosswalks by examining a) the wait times before crossing and b) the cumulative wait times for a hypothetical journey traveled by walking or driving.

Purpose: The purpose of this study is to calculate the wait time differences for pedestrians and motorists at intersections and crosswalks along standard routes in Halifax, and to determine whether accumulative wait time for a journey prioritizes motorists over pedestrians.

Methods: A total of four routes within Halifax will be evaluated. Requirements for these routes will include one intersection, one crosswalk, and one stop sign on at least 3 kms distance. The motorists and pedestrians wait times will be compared in two sets: one for individual intersections and crosswalks and a second set for cumulative intersections and crosswalks. Data will be analyzed with SPSS.

Results: It is hypothesized that wait time will be greater for pedestrians than for motorists, at both individual and cumulative intersections and crosswalks. Overall, these result will demonstrate the walkability (or walkinability) of Halifax.

Conclusion: Evidence from this proposed study may have implications in city design, particularly in ways to increase city walkability.

Oral Presentation

Title: Older LGBT Adults' Concerns for Care at End-of-life

Authors: Sarah Paterson (Master of Arts in Family Studies and Gerontology, Mount Saint Vincent University), Kirk Furlotte (Master of Arts in Health Promotion, Dalhousie University)

Background: Older lesbian, gay, bisexual, and/or transgender (LGBT) adults are often “invisible” within aging populations but face unique social obstacles in healthy aging and end-of-life preparations. Many cannot rely on traditional familial relationships to provide care during later life. This creates challenges when developing plans, including legal documents, for end-of-life decision making.

Purpose: This five-site cross-Canada study sought to understand health inequities and challenges faced by older LGBT adults, and the role technology plays in end-of-life preparation. We report on data collected in Halifax.

Methods: Focus groups were held between October 2014 and February 2015 in Halifax with: (a) older bisexual/lesbian women, (b) older bisexual/gay men, and (c) older transgender adults. Discussions were semi-structured following a standard question guide. Audio recordings were transcribed, removed of identifiers, and analyzed for emergent themes.

Results: Several key issues emerged, including concerns regarding who would care for participants as they aged. While several had family members (e.g. children) who could help, many cited difficult familial relationships due to being LGBT, while others outlived their partners or could not rely on them for care. The majority expected they would rely on assisted or full-time care but also feared those services would not be culturally competent, forcing participants “back in the closet.”

Conclusions: Findings suggest significant gaps in care provision to older LGBT adults within LGBT communities and caring professions. As many cannot rely on familial support, there is a clear need to increase LGBT cultural competency in service provision for older adults.

Title: Goals of Social Visibility and Social Status of Depressed Adolescents

Author: Justine Philteos (supervised by: Dr. Doug McCann). York University.

In an adolescent's social life peer status is a very important aspect –hence, it is actively pursued (Jarvinen & Nichools, 1996). Effective and appropriate communication is a crucial constituent of successful social interactions. In a study of dysfunctional communication, McCann and Lalonde found that depressed individuals engaged in ineffective communication. It can be assumed that the social goals, that these individuals are pursuing, are the driving force behind the communicative patterns observed (McCann & Higgins, 1988). Social visibility, the extent to which individuals are well known within the larger group, is a very important social goal held by adolescents (Jiang, 2008). Examining the variations of this goal, held by depressed and non-depressed individuals, will provide a rationale for the different communication interactions displayed.

There has been no specific examination of these social goals. Due to inappropriate communication, Depressives are often excluded from social interactions (Roland, 2002).

Participants: adolescents (15-19) from various ethnic backgrounds, enrolled in a government-funded high school in Canada.

Measure of depression: Participants completed the 10-item Children's Depression Inventory Short Form (CDI; Kovacs, 1985).

Measure of social Visibility: A questionnaire of social visibility created by Xiao Jiang (2008)

The purpose of this research project is to determine the specific goals of social visibility and social status in depressed adolescents. The rationale behind this proposal is that the results will be incorporated in a therapeutic intervention aimed specifically at altering these maladaptive goals. This will ultimately result in ending the social isolation of the depressed individuals.

Oral Presentation

Title: Assessing School Climate for LGBTQ Students and Teachers in Nova Scotia

Presenter: Nolan Pike, co-presenter: Emily Colpitts

Research Assistant to Dr. Jacqueline Gahagan at the Gender and Health Promotion Studies Unit, School of Health and Human Performance, Dalhousie University.

Background: Research has demonstrated that school climate in Canada creates significant barriers to education for LGBTQ students and workplace inequities for LGBTQ teachers. Much of the research in this area is conducted nationally or focused on heavily populated provinces such as Ontario and British Columbia. As a result, it is difficult to understand how Nova Scotia fits into this broader picture, both in terms of its strengths and the particular challenges it faces in providing safe learning opportunities for LGBTQ youth and equitable employment for LGBTQ teachers. Assessing the health of school climate for LGBTQ students and staff in Nova Scotia is vital for identifying the strategies best suited to schools in this province and to contextualize school climate in Nova Scotia within the broader landscape of Canadian schools.

Purpose: The purpose of the study is to identify and explore strategies for improving school climate for LGBTQ youth and school staff by engaging teachers and students in Nova Scotia to better understand their perceptions of how homophobia and transphobia impacts school climate in this province.

Methods: This presentation will draw on the data collected through a survey that engaged members of the Nova Scotia Teacher's Union and a series of focus groups conducted with youth who have participated in GSAs (Gay Straight Alliance or Gender and Sexuality Alliance) in this province.

Results: Both the survey and the focus groups revealed successes and areas for improvement with respect to building LGBTQ equitable school communities.

Conclusions: This research (still in progress) demonstrates the importance of addressing homophobia and transphobia in Nova Scotia schools.

Title: Long-term Impacts of Applying Alkaline Stabilized BioSolids to Agricultural Soils on Trace Metal Seasonal Dynamics and Accumulation

Authors: Justin Rogers (MSc Candidate) Acadia University, John D. Murimboh, G. W. Price*

Abstract: The use of alkaline stabilized biosolids as an amendment for agricultural soils has been proposed as an environmentally sustainable approach to recycle nutrients. Alkaline stabilized biosolids have the benefit of returning organic matter and nutrients to the environment, while increasing soil pH. However, their effects on the soil environment and the human food chain are still widely unknown. Metal contamination from biosolids is a potential concern as they enter into soils used for food production. The objectives of the present study are 1) to determine the mass balance of trace metal loadings to agricultural soils based on frequency and rate of biosolid application and 2) to assess the potential mobility of metal contaminants in these soils. Mass balance will be determined by measuring baseline concentrations of trace metals in the soil, biosolid amendment, and pore water, as well as the amount of metal bioaccumulated in crops (e.g. corn). The mobility of metals in the soil will be determined by laboratory-based measurements of partition coefficients. The experimentally measured partition coefficients will be used to link the lab-based studies with those conducted in the field. It has been found that no soil sample collected from the site has any trace metal concentration over the guideline value deemed hazardous by the Canadian Council of Ministers for the Environment (CCME).

Oral Presentation

Title: The Association Between Aging Expectations of Mental Health and Health Care Behaviour

Authors: Malcolm Scott (BSc Health Promotion (Honours) & Dr. Brad Meisner, Dalhousie University

Background: The majority of older adults believe that the deterioration of health is due to age itself, and not other preventable factors. Older adults with this belief have low expectations regarding aging (ERA; Sarkisian, 2002). Having a higher ERA is associated with better physical and mental health (Kim, 2008) and this association is supported through health-promoting behaviour (Kim, 2008). Conversely, older adults with low ERA are less likely to seek and use health care services aimed at improving quality of life (Meisner & Baker, 2013).

Purpose: The aim of this research project is to replicate and to expand on previous research on the topic of ERA and health care behaviours by exploring the association between mental health aging expectations and receiving a physical examination within the previous two years among older adults in the Halifax Regional Municipality (HRM).

Methods: An adapted ERA-38 was distributed to older adults in the HRM at various community-based locations, centers, and events. Currently, 217 people have responded to the survey. IBM SPSS 20 will be used to analyse these data to determine any potential associations.

Results: Based on the current evidence, it is expected that there will be an association between mental-ERA and receiving a physical examination within the previous two years.

Conclusions: The significance of this proposed research project is that it expands on previous research to examine how different subsets of mental-ERA affect health care behaviour. This proposed research project will also add to our understanding of how ERA, especially mental-ERA, affect health care behaviour.

Title: Fountain of Health program evaluation: The impact of positive aging education on clinical care practice among homecare workers

Authors: Ms. Ariane Seguin (BSc Health Promotion (Independent Study) & Dr. Brad A. Meisner, Dalhousie University

Background: Positive perceptions of aging are reliably associated with increased health-related performance among older adults (Meisner, 2012) and among health professionals who care for older adults (Meisner, 2010). Perceptions of aging among health professionals are particularly important as they are often negative and are shown to influence the quality and quantity of care provided to older patients (Davis et al., 2011; Sarkisian et al., 2001). The Fountain of Health (FOH) initiative, led by Seniors Mental Health at Capital Health Nova Scotia, strives to prevent or reduce the risk of long-term illness and disability among older Nova Scotians through educational programming on five domains of positive aging (FOH, 2013): social activity; positive thinking; physical activity; mental health; and lifelong learning.

Purpose: The aim of this on-going evaluation assesses the impact of the FOH program on clinical care practice of homecare workers in Halifax who work regularly with older adults.

Methods: This evaluation has a pre/post-test, control/intervention group survey-based design with approximately 400 homecare workers (100 control, 300 intervention). IBM SPSS Statistics 20 will be used to analyse these data to discern any between- and within-group differences.

Results: The anticipated results are that the FOH program will increase homecare workers' knowledge, confidence, and skills associated with positive aging-focused clinical care.

Conclusions: The potential impact of these results will help qualify the importance of positive aging perceptions among homecare workers and the care they provide older clients. Results will also help guide FOH long-term strategies for effective targeted programming.

Oral Presentation

Title: PHYSICIAN NEEDS AND PREFERENCES FOR INFORMATION ABOUT LONG-TERM FOLLOW-UP AND SURVIVORSHIP CARE FOR SURVIVORS OF CHILDHOOD CANCER

Authors: Shea, Kelsey.¹ & Keats, Melanie.^{1,2,3}

¹School of Health and Human Performance, Dalhousie University

² School of Physiotherapy, Dalhousie University

³ Department of Pediatrics, IWK Health Center

Background: Many children and youth diagnosed with cancer will become long-term survivors. However, studies have shown that the treatments that these individuals undergo can lead to an increased risk of other health problems later in life and risk-based follow-up care is necessary throughout their lifetime. Family physicians often report having no record of their patients' past disease, treatment history, or need for follow-up. Detailed treatment summaries and follow-up care plans are needed to ensure that healthcare providers are adequately informed of the survivors diagnosis, treatment(s) received, potential risk for late effects, and long-term surveillance and healthcare needs.

Purpose: This qualitative study aims to explore individual needs, preferences, and perceived utility of personalized Survivorship Care Plans (SCPs) of physicians caring for survivors of childhood cancer.

Methodology: Semi-structured telephone interviews with family physicians that have a known childhood cancer survivor in their current practice are being used to gain insight into physician needs and preferences for SCPs. Participants are asked about their perceived role in the long-term management and care of survivors of childhood cancer, their cancer information needs, concerns with communication, their perceived utility of the SCP, and preferred format(s) for receiving the SCP. The constant comparative method is being used for thematic analysis.

Preliminary Results: Interviews with four physicians have been completed and preliminary results suggest that family physicians find SCPs to be useful. However, this study is ongoing and more data will be collected.

Conclusions: It is anticipated that this study may help to increase the use of SCPs and improve follow-up care of childhood cancer survivors.

Title: Parkinson's disease and health-related behaviours: A qualitative exploration

Authors: Christie Silversides (BSc. Health Promotion) & Dr. Brad A. Meisner (Supervisor), Dalhousie University

Background: Parkinson's disease is the most common degenerative neurological disease after Alzheimer's, affecting almost 70,000 Canadians with prevalence expected to increase as baby boomers enter their senior years. The cumulative physical and neurological symptoms of Parkinson's disease are dynamic and unpredictable, which reduces personal independence and has been shown to decrease health-related quality of life and increase levels of stress and depression. The diagnosis process itself can leave many unanswered questions and uncertainty about the future, and reports of apathy and withdrawal from participation in the health-related activities of daily life are common. Qualitative studies investigating health-related behaviours among people with Parkinson's are notably absent from the literature.

Purpose: The purpose of this future qualitative study is to gain a deep and personal understanding of how the diagnosis of Parkinson's disease influences health-related behaviours as well as reveal any barriers and/or facilitators encountered when trying to achieve them.

Method: Data will be collected through audio recorded, one-on-one, semi-structured interviews with 4 to 6 individuals with Parkinson's at a location to be determined by the participant. Transcribed data will be analyzed through thematic coding procedures.

Results: Results will describe and explain the influence of a Parkinson's disease diagnosis and identify the experienced barriers and facilitators of health-related behaviour.

Conclusions: There is no known cure for Parkinson's, only symptom-altering medication; however, there is a need for a better understanding of health-related behaviours that can be used to inform, and complement, health promoting interventions delivered by healthcare practitioners.

Oral Presentation

Title: Waste Not, Want Not: A Qualitative Study Exploring the Conceptual Feasibility of Implementing The Real Junk Food Project in Halifax

Authors: Ms. Melissa Stewart (BSc Honours in Health Promotion) & Dr. Sara Kirk, Dalhousie University

Background: In Canada, an estimated \$27 billion dollars worth of food is wasted annually while approximately 13% of Canadians experience food insecurity (FI). FI is important as it's linked to poor physical, mental, and social health outcomes. Food banks are a well-known service that intercept food waste and aim to address FI; however, the literature suggests there is a stigma associated with food bank use. The Real Junk Food Project (TRJFP) is a UK initiative that demonstrates the potential to address FI and food program stigma through Pay as You Feel Cafés that divert food waste. There are currently no initiatives like TRJFP being explored in Nova Scotia.

Purpose: The proposed study will assess the conceptual feasibility of implementing a food program similar to TRJFP with the goal of addressing FI and food program stigma in Halifax.

Methods: Through the use of qualitative, semi-structured, interview data, the proposed cross-sectional study will explore perceptions of the feasibility of implementing TRJFP in Halifax among 4-6 stakeholders. Stakeholders will be chosen based on involvement with food programs, food waste management, and FI policies. Data analysis will be performed according to qualitative description procedures.

Results: Emergent themes will identify stakeholder perceptions on TRJFP and its potential utility in addressing FI and food program stigma in Halifax. Themes will also provide an overall understanding of the conceptual feasibility of TRJFP.

Conclusions: Results from this study may reveal food program implementation barriers or opportunities and may therefore influence strategic approaches for stakeholders interested in the concept of TRJFP.

Title: Understanding Gender Dysphoria: Representations in human sexuality textbooks

Author: SJ Thiessen (BA Honours Psychology), St. Thomas University

Background: Within sexuality studies, the biomedical model dominates knowledge about gender and sex. Feminist post-structuralist and queer perspectives, however, argue that this biomedical model makes normative ideals about gender and sex appear self-evident and true. These feminist and queer theories contend that gender and sex are constructs which result from a complex intersection of social, political, and institutional relations and ideals. One tension between dominant sexuality knowledge and feminist/queer ideas of gender is the pathologization of alternative gender expressions.

Purpose: Gender Dysphoria (GD) is the clinical term for the experience of distress when one's gender identity does not coincide with one's biological sex indicators. This clinical diagnosis is built on the idea of gender and sex as dichotomous. Understanding how GD is constructed within sexuality education will contribute to a better understanding of the normative assumptions and prescriptive ideals which dominate sexuality knowledge.

Methods: Using critical discourse analysis and a queer theory lens, this paper explores how GD is represented and constructed in introductory human sexuality textbooks.

Results: Analysis indicates a complex, sometimes contradictory construction of GD. Within the textbooks certain narratives and identities are privileged to the exclusion of others. The seeming certainty of the text is betrayed by the conflicting and dynamic nature of trans experiences.

Conclusions: By examining how GD is characterized in human sexuality textbooks, and what subjectivities are possible, this paper will illuminate the socially constructed expectations that dominate the biomedical model of gender and sex, and how individual distress is conceptualized within sexuality studies.

Oral Presentation

Title: The Relationship between Physical Activity and Mood in University Students

Author: Bethany Taylor

Background: Mood is a very important and complex component of a person's psychology due to the impact it has on every day functioning. Mood disorders such as depression are prevalent worldwide. Research suggests that physical activity can be used as an effective way to improve an individual's mood and decrease depression. However, it is unclear exactly how much physical activity is required to achieve important benefits.

Purpose: The aim of this study is to examine the relationship between physical activity levels and mood in university students. In addition to this, this study will aim to gain more understanding in the relationship between mood and athletic status.

Methods: Participants included in this study will be students at Dalhousie University. Data collection consist of a self-report questionnaire which includes three different measures; demographics, International Physical Activity Questionnaire (IPAQ), and Profile of Mood States second edition (POMS2). Once data collection is complete, statistical analysis will be conducted to examine the relation between mood and three different aspects of physical activity; time spent active, intensity of physical activity, and athletic status.

Expected results: It is believed that this project will help to develop understanding of the relationship between mood and physical activity in students from Dalhousie University. It is expected that those individuals who demonstrate increased amounts of physical activity at moderate intensities will have better mood scores. Additionally, it is believed athletic status will have a relationship with mood. The results from this study will aim to provide justification for an exercise prescription program at Dalhousie University.

Title: A Systematic Review Exploring the Social Cognitive Theory of Self-regulation as a Framework for Chronic Health Condition Interventions

Authors: Michelle E Tougas^a (Clinical Psychology PhD student), Dr. Jill Hayden^a, Dr. Patrick McGrath^a, Dr. Anna Huguet^a

^aDalhousie University

Background: Theory is often recommended as a framework for guiding hypothesized mechanisms of treatment effect. However, there is limited guidance about how to use theory in intervention development.

Purpose: To conduct a systematic review to provide an example evaluating the extent to which use of theory is identified and incorporated within existing interventions.

Methods: We searched electronic databases from inception. We included peer-reviewed publications of interventions that referenced the social cognitive theory of self-regulation as a framework for interventions to manage chronic health conditions. Two reviewers independently assessed articles for eligibility. We contacted all authors of included studies for information detailing intervention content.

Results: Of 202 articles reporting use of the social cognitive theory of self-regulation, 52% failed to incorporate self-monitoring, a main theory component, and were therefore excluded from the review. We included 35 interventions that adequately used the theory framework, 21 of 35 interventions incorporated characteristics that addressed each of the main theory components. Intervention characteristics were poorly reported in peer-reviewed publications. Each intervention addressed, on average, six of eight self-monitoring mechanisms, two of five self-judgement mechanisms, and one of three self-evaluation mechanisms. The self-monitoring mechanisms 'Feedback' and 'Consistency' were addressed by all interventions, whereas the self-evaluation mechanisms 'Self-incentives' and 'External rewards' were addressed by six and four interventions, respectively.

Conclusions: The present review establishes systematic review as a feasible method of identifying use of theory as a conceptual framework for existing interventions. We identified the social cognitive theory of self-regulation as a feasible framework to guide intervention development for chronic health conditions.

Oral Presentation

Title: Housing in Kings County: Toward a Holistic Approach

Author: Emma Van Rooyen (Sociology Honours), Acadia University

Background: Housing is a basic need. Although physical amenities are important, a *home* is a place where a person feels safe, autonomous and experiences a sense of belonging. Rental housing is provided based on an instrumentally rational economic model, which often excludes the concept of home.

Purpose: Thesis statement: This thesis explores a holistic approach to housing, which seeks solutions where housing intersects with the other social determinants of health.

The thesis:

Investigates systemic barriers to the realization of home, including: stigmatization, commoditization and poverty, Explores how the rental market and social housing magnify these barriers; and: Proposes a road map to reduce barriers and achieve a holistic approach to housing provision..

Methods: Data were collected through a series of three semi-structured interviews, photo-elicitation and a literature review.

Results: Data analysis indicates that an instrumentally rational approach to housing can result in unsafe and unhealthy housing with little tenant autonomy or control of conditions, location or appearance of their living space. In direct relation to their housing conditions, interview participants reported social isolation, stigmatization, poverty, food insecurity, depression, health complications, and transportation challenges.

All three participants indicated the need for an approach to housing, which considers their lives more holistically. As one interviewee said: “We need to change the way we think... [We need] quality housing where people can start getting self esteem back, and some pride.”

Conclusion: A holistic approach to housing would promote housing solutions that consider impacts on all the social determinants of health, address the needs of at-risk populations and allow people the autonomy and respect necessary to successfully create a sense of home and belonging.

Title: Will health practitioners work alongside canines for improved mental health outcomes in health care settings?

Author: Connie Van Schaik, (BSc Health Promotion) & Dr. Brad A. Meisner, Dalhousie University

Background: Companionship between humans and animals shows the potential for improved mental health and quality of life. Animal assisted interventions (AAI) using canines have been examined as complementary and/or alternative treatments for psychological impairments, and show the potential for positive results. Few studies to date have focused primarily on the perceptions of staff in health care settings.

Purpose: This proposed study will explore the perceptions of health practitioners towards introducing animal assisted activity teams (canine and handler) as a complementary or alternative mental health therapy for patients in health care settings.

Methods: This study will use purposive sampling to conduct semi-structured, face-to-face focus group interviews with health practitioners until data saturation is reached. Member checking will be conducted to confirm data collected. Content analysis will be performed according to qualitative description procedures.

Results: It is anticipated that when appropriate resources are in place, and concerns have been addressed for the implementation of AAI, health practitioners will support AAI in health care settings.

Conclusions: Understanding health practitioner's perspective towards AAI may provide justification for the broader integration of AAI as a complementary or alternative therapy for improved mental health outcomes.

Oral Presentation

Title: Parental Perceptions of Core and Non-Core Food Categorisation Methods for Child Nutrition

Authors: Leanne Wiese (BSc Health Promotion), Dr. Brad Meisner, Dalhousie University

Background: Poor nutrition is a leading factor of increasing levels of obesity and related health concerns, particularly among children. There is recognition that dietary advice should be based on food categorisation to be relatable to the general public. However, defining healthy foods, and its nutritional quality, is unclear. Foods are perceived by parents as healthy or unhealthy and thus, misconceptions of nutritional quality may contribute to misinformed food decisions. Food-based dietary guidelines, which use the food categorisation approach, are developed based on dominant food intake in the population and are presented in a food guide manual. The Australian Guide to Healthy Eating is a food-based dietary guideline that is based on an approach that categorises food into core and non-core food groups.

Purpose: The aim of this proposed study is to explore and evaluate parental perceptions of core and non-core food group guidelines in Nova Scotia.

Method: Semi-structured focus group discussions with four to six parents will generate qualitative data. Thematic analysis will be performed according to content analysis procedures.

Results: Parents will share their perceptions of these food group guidelines to inform the utility of the core and non-core method of food categorisation.

Conclusions: The results may contribute to the improvement of child and adult nutrition and overall health by providing parents with a comprehensive way of categorising and choosing foods. Findings may inform future family-level or public health nutrition-based programs or intervention

Title: BREAKING TRAIL WITH CACL: A SNOWSHOEING INTERVENTION FOR ADULTS WITH INTELLECTUAL DISABILITIES

Authors: Woods, Alyson, Bernard, Victoria, & Rosedale, Natalie, Supervisor: Dr. Amanda Casey
St. Francis Xavier University

Background: Adults with intellectual disabilities often face various personal and environmental barriers which restrict access to community-based physical activity. Our project addresses the particular need to include physical activity as an important component of daily life within group home settings in order to improve health and prevent chronic diseases associated with a sedentary lifestyle.

Purpose: This study examined the effects of a 12-week snowshoeing intervention on the functional capacity and cardiorespiratory fitness of adults with intellectual disability from group home settings.

Methods: This single-subject multiple baseline design involved eight participants with intellectual disability snowshoeing for one hour three times per week alongside peers without intellectual disability. Researchers assessed performance in tasks of everyday living at separate data points across the intervention. Measurements included daily step count (pedometer), sub-maximal walking capacity (six-minute walk test, timed up and down stairs test) and balance (flamingo test, functional reach test, timed up and go).

Results: Preliminary data suggests participants improved in functional outcomes across the intervention phase.

Conclusions: Snowshoeing may represent a viable way to improve everyday function and promote a healthy lifestyle amongst adults with intellectual disability within rural community settings.

Poster Presentation Abstracts

Title: Chemopreventive properties of haskap polyphenols using experimental models of lung cancer

Authors: D.I.M. Amararathna (MSc c.) and H.P.V. Rupasinghe, Faculty of Agriculture, Dalhousie University

Background: Lung cancer is the most commonly diagnosed cancer in Canada. Among many causes, nicotine-derived nitrosamine ketone (NNK) in cigarette smoke contributes significantly to lung carcinogenesis. Epidemiological studies have shown that dietary polyphenols can reduce the risk of cancer. Berries stand among the most widely consumed, antioxidant-polyphenol rich fruits. Haskap (*Lonicera caerulea* L.) berry is abundant and diverse in polyphenols and greater in antioxidant capacity compared to that of the most other berries.

Purpose: The overall goal is to assess the chemopreventive ability of polyphenols-rich haskap extracts against NNK-induced lung carcinogenesis using cell and animal models.

Methods: Ethanol and aqueous extracts of haskap will be tested against NNK-induced carcinogenesis in BEAS-2B bronchial epithelial cells *in vitro*. At the optimum level of carcinogenicity, dose- (1-250 µg/mL) and time-dependent (12-72 hour) effect of haskap extracts will be assessed. Cell viability, morphological changes and intracellular ROS will be measured by ATPase assay, phase contrast inverted microscope and confocal microscope, respectively. DNA-adducts and DNA-damage will be determined by reverse phase HPLC-ESI-MS/MS and comet assay, respectively. Furthermore, *in vivo* effects of haskap extracts will be studied using NNK- injected A/J mice model. Regular mice diet will be fed continuously for all the groups (excluding control; 10 mice/group). Haskap will be given as a dietary supplement for other groups; 1) pre-NNK, 2) post-NNK and 3) pre- and post-NNK injection respectively. Number of tumors in lung tissues will be measured and presence of bronchioloalveolar adenoma will be confirmed microscopically.

Conclusion/expected outcome: Dietary supplementation of haskap-polyphenols could provide protection against NNK-induced lung carcinogenesis.

Title: Maternal Perceptions of Providing Repeated Skin-to-Skin Contact to Relieve Procedural Pain in Preterm Neonates: Preliminary Findings

Authors: Sheren Anwar Siani BSc¹, Britney Benoit MScN RN², Kim Caddell BN RN⁴, Marsha Campbell-Yeo PhD NNP-BC RN^{1,2,3,4}

¹*School of Nursing, Dalhousie University*, ²*Centre for Pediatric Pain Research, IWK Health Centre*; ³*Department of Pediatrics, IWK Health Centre*; ⁴*Maternal Newborn Program, IWK Health Centre*

Background: In the Neonatal Intensive Care Unit (NICU), preterm neonates undergo numerous painful procedures, often inadequately treated for pain and lacking maternal touch. Maternal skin-to-skin care (SSC) has been demonstrated as an effective, natural approach to relieve procedural pain in preterm neonates. Despite characterization of mother's attitude towards provision of SSC for painful procedures, mother's perception of its use throughout the duration of the infant's hospitalization remains to be elucidated.

Purpose: To describe mothers' perceptions on providing SSC as a procedural pain relieving strategy throughout the entire duration of their infant's hospitalization.

Design/Methods: Mothers of a preterm infant provided SSC during painful procedures as part of a larger trial. Using a secondary descriptive analysis, the mothers were verbally asked four questions: how they felt about providing SSC during procedure, whether their feelings changed over the duration of the study, would they recommend it to others and any suggestions for change they would make.

Results: All mothers asked responded (n=41). The mothers unanimously expressed positive feelings about SSC: 49% related to mothers' own benefits and 51% related to benefits to both mother and infant. Throughout the study, 29% of mothers' positive feelings remained constant, whereas 71% reported greater positive feelings over time. The mothers unanimously would recommend SSC to others. Greater access to parent friendly accommodations and consistent practice guidelines were identified as areas for improvement.

Conclusion: Mothers wished to provide SSC to relieve their infant's procedure-related pain throughout the duration of their infant's hospitalization and these feelings increased over time.

Title: Anticancer Activity of Phloridzin Docosahexaenoate through Regulation of JAK/STAT signaling in Chronic Myeloid Leukemia K562 Cells

Authors: Niroshaathevi Arumuggam (MSc student)¹, Catherine K.L. Too², Jason N. Berman³, and H.P. Vasantha Rupasinghe^{1,3}

¹Department of Environmental Sciences, Faculty of Agriculture, Truro; ²Department of Biochemistry & Molecular Biology, Faculty of Medicine, Halifax; ³Department of Pathology, Faculty of Medicine, Halifax, Dalhousie University, Nova Scotia

Abstract: Phloridzin (PZ) is a plant polyphenol largely found in apple peels. The principal mode of action of PZ is to produce renal glycosuria and inhibit glucose transporters, which consequently blocks intestinal glucose absorption. The ability of PZ to inhibit glucose transport has been intertwined in cancer treatment by attempting to block glucose entry into tumor cells. Due to the poor bioavailability of polyphenols, our lab synthesized a docosahexaenoic acid (DHA)-acylated ester of PZ, also called as phloridzin docosahexaenoate (PZ-DHA), in efforts to increase the biological activity of PZ in human body. This study is focused on investigating the anticancer properties of PZ-DHA via suppressing JAK/STAT signaling in chronic myeloid leukemic (CML) cells. CML is caused by a genetic abnormality that creates BCR-ABL fusion oncoprotein, which leads to aberrant activation of JAK/STAT signaling pathway. Defective JAK/STAT signaling dysregulates many cellular processes including cell cycle regulation, apoptosis, and angiogenesis, which directly involves in cancer initiation and progression. Current data shows that PZ-DHA significantly reduces the viability of K562 cells measured by MTS (3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetrazolium) assay in a dose-dependent manner at the time-points of 24 and 48 hours. However, the parent compounds, PZ and DHA, did not exhibit any cytotoxic effect on K562 cells. The cytotoxic activity of PZ-DHA against K562 cells does not require caspase activation. Future investigations on the effect of PZ-DHA on JAK and STAT expression using polymerase chain reaction (PCR) and Western Blot analysis are in progress. The effect of PZ-DHA on K562 cells transplanted tumors in zebrafish will also be investigated.

Title: Cardiovascular Health and Cognition: Health Habits and Academic Performance in Young Adults

Authors: Céline Boothby (BA Honours), Kesia Courtenay, and Genevieve Desmarais, Mount Allison University

Background: Previous research has delineated cardiovascular health (CVH) as generally associated with better cognitive performance. However, little research has looked at this relationship by focusing on health habits that affect CVH and in turn how CVH may affect academic performance in young adults. The specific implications of health habits such as exercise, diet, and family history of cardiovascular diseases on academic performance in young adults are unknown and should be delved into greater detail.

Purpose: The present study aims to demonstrate that better health habits are associated with better cognitive performance and subsequently with positive academic outcomes (stronger academic performance). We hypothesized that there will be a significant positive relationship between health habits and cognition such that increased levels of positive health habits (e.g. increased exercise levels, proper dietary habits, lowered alcohol consumption) will predict higher academic performance.

Methods: Healthy young adults from Mount Allison University served as participants ($N = 119$). As an index of CVH, a series of questionnaires were administered comprised of information on family history and exercise, eating, smoking, and alcohol habits. A series of 7 cognitive tasks were used to measure different aspects of cognition (i.e., working memory, executive functioning, etc.). Grade Point Average (GPA) from both the Introduction to Psychology course and overall GPA were obtained from participants to account for academic performance.

Results: Results are currently being performed, however, we are anticipating that those showing indicators of poorer CVH (poorer overall health habits) or family history of cardiovascular diseases will exhibit worsened academic performance (lower GPAs).

Conclusions: The present study provides insight into how health habits (e.g. family history of cardiovascular disease, exercise, diet) may affect academic performance in university students.

Title: Recruitment Feasibility in Clinical Trials Examining Procedural Pain Relieving Interventions for Preterm Infants

Authors: Britney Benoit MScN RN^{1,2}; Celeste Johnston DEd RN³; Kim Caddell BN RN⁴; Tim Fisher, BScN RN^{1,4}; Marsha Campbell-Yeo PhD NNP-BC RN^{1,2,3}

¹School of Nursing, Dalhousie University; ²Centre for Pediatric Pain Research, IWK Health Centre; ³Department of Pediatrics, IWK Health Centre; ⁴Maternal Newborn Program, IWK Health Centre

Background: Most research examining family-led interventions for newborn pain has studied a single time point¹. Little is known about recruitment feasibility in studies requiring parental presence over time.

Purpose: The aim of this study was to identify differences and challenges associated with participant recruitment in clinical trials requiring varying levels of parental involvement in infant pain management.

Methods: Using secondary descriptive analysis, we examined recruitment data for three groups of potential participants approached to take part in clinical trials conducted in Neonatal Intensive Care Units (NICUs) in Canada. Group one was approached for a drug study where parental presence was not required (Non-KC), group two for a study which required maternal provision of Kangaroo Care (KC) for two procedures (KC-2), and group three for a study in which mothers were required to provide KC for all routine procedures throughout NICU hospitalization (KC-All). Data were summarized using descriptive statistics.

Results: Refusal rates for Non-KC and KC-2 were 15.5% and 25.6% respectively. Of the eligible persons approached to participate in KC-All, 50% refused despite being informed of the effectiveness of KC for a single painful procedure². Main reasons for refusing participation in KC-All included: Being overwhelmed (39%), living far from the hospital (26%), and limited availability to provide KC (16%). Of those who refused KC-All participation, 42.9% lived at least a 90-minute drive from the hospital.

Conclusions: Findings suggest that longitudinal studies impose greater burden on families, thus impacting recruitment. Systems related factors to promote parental presence should be included in protocols for future research.

Key references:

¹Campbell-Yeo, M., Johnston, C., **Benoit, B.**, Latimer, M., Vincer, M., Walker, D., Streiner, D., Inglis, D. & Caddell, K. (2013). Trial of Repeated Analgesia with Kangaroo Mother Care. *BMC Pediatrics*, 13: 182.

²Johnston, C., Campbell-Yeo, M., Fernandes, A., Inglis, D., Streiner, D., Zee, R. (2014). Skin-to-skin care for procedural pain in neonates: *Cochrane Database of Systematic Reviews*, 3:1-10.

Title: Perceptions of Autism at St. Thomas University

Authors: Kristy Calhoun (Sociology Honours), Dr. Erin Fredericks, St. Thomas University

Abstract: High-functioning autism is becoming an increasingly popular subject of discussion in medicine, popular psychology, and popular culture, yet we know very little about the effects these discussions have had on the way people perceive those with autism. From a medical perspective, autism is often presented as a problem that needs to be treated or cured. Popular psychology often portrays people with autism as abnormal. In popular culture, individuals with high-functioning autism are presented as highly intelligent but socially awkward. Representations of disabilities have far-reaching effects on the identities and social interactions of those living with the disability. In this project, I draw on qualitative interviews with students with autism, neurotypical students, professors, and other staff from St. Thomas University in order to better understand how people with autism are perceived in that university community. Although this qualitative study is not intended to be generalizable, the results provide in-depth descriptions of the perceptions of autism from different perspectives. In my presentation, I suggest ways the understandings shared in the interviews are consistent and inconsistent with those provided by medicine and popular culture, and reflect on the consequences of these diverse representations.

Methods: This exploration consisted of a review of present dental education literature. Articles were obtained via an online search using terms such as *dental communication*, *patient-centered dentistry*, and other relevant keywords. North American research was given focus due to its transferability to Canadian dental education. International research was also considered, particularly in areas where Canadian literature was limited.

Results: As in medicine, patient-centred communication has been shown to positively affect dental patients. While the importance of communication in dental practice is highlighted in much of the reviewed research, few studies appear to have examined communication in Canadian dental education specifically. Even fewer have explored the potential to enhance communication skills education in dentistry programs.

Conclusions: There is evidence to support the benefits of patient-centred communication skills education in dentistry programs. There are several opportunities to study ways in which this could be done in the future, such as an examination of instructor best practices, or an analysis of student needs and observations.

Title: Supporting patient-centred communication skills in Canadian dental education

Authors: Caitlyn Campbell (MA Health Promotion Applicant), Dalhousie University - with guidance from Dr. L. Robinson

Background: In order to support a holistic, patient-centred model of health, medical schools previously began emphasizing communication skills in their programs. More recently, dental schools have also begun considering patient-centred communication as an important promoter of oral and general health.

Purpose: The present review aimed to gauge the role of patient-centred communication in Canadian dental education programs. It also sought to determine what steps dental schools are taking currently to enhance these skills in their future dentists.

Methods: This exploration consisted of a review of present dental education literature. Articles were obtained via an online search using terms such as *dental communication*, *patient-centered dentistry*, and other relevant keywords. North American research was given focus due to its transferability to Canadian dental education. International research was also considered, particularly in areas where Canadian literature was limited.

Results: As in medicine, patient-centred communication has been shown to positively affect dental patients. While the importance of communication in dental practice is highlighted in much of the reviewed research, few studies appear to have examined communication in Canadian dental education specifically. Even fewer have explored the potential to enhance communication skills education in dentistry programs.

Conclusions: There is evidence to support the benefits of patient-centred communication skills education in dentistry programs. There are several opportunities to study ways in which this could be done in the future, such as an examination of instructor best practices, or an analysis of student needs and observations

Title: Effects of sleep restriction on components of attention: Interim results

Authors: Jasmyn E. A. Cunningham (BSc. (Hons), Department of Psychology and Neuroscience, Stephanie A. H. Jones, Department of Psychiatry and School of Health and Human Performance, Joshua P. Salmon, Department of Psychiatry, Franziska Kintzel, Department of Psychiatry, Gail A. Eskes, Department of Psychology and Neuroscience and Department of Psychiatry, Benjamin Rusak, Department of Psychology and Neuroscience, Department of Psychiatry, and Chronobiology and Sleep Program, Capital District Health Authority

Background: Many patients with psychiatric illnesses have both cognitive problems and disturbed sleep. These may be causally related since sleep loss is known to disrupt many aspects of cognition. Attention is a complex function that includes several separate, but interacting neural systems guiding vigilance (readiness to respond), orienting (searching for and the selection of stimuli for further processing) and executive control (attention resource allocation) abilities. However, it is not clear which of these underlying component processes of attention are most affected by sleep loss.

Purpose and Methods: The Dalhousie Computerized Attention Battery (DalCAB, 8 computerized reaction time tasks purported to measure aspects of vigilance, orienting and executive control) was administered on two occasions (within subjects design) to healthy participants (women aged 19-25 years), once after a nine hour overnight sleep opportunity and a second time after a three hour overnight sleep opportunity (sleep deprivation condition). Self-ratings of sleepiness and mood states were also obtained following each sleep condition; future analyses will investigate correlations between these measures and the DalCAB results.

Results/Conclusions: Interim results evaluating which attentional systems are affected by acute sleep loss will be reported.

Title: The Automaticity and Mean Stylus Pressure Profile of Handwriting in Adults with ADHD

Authors: Demers, M. (Masters of Human Kinetics), Duda, T., Azar, N., Casey, J. & McNevin, N. University of Windsor

Background: ADHD is a neurobiological disorder typically developed and diagnosed in childhood; however, limited research has been conducted on adults with ADHD. Elevated mean stylus pressure during a writing task has been well documented in children with ADHD. This is indicative of poor fine motor control. To our knowledge no current studies have investigated this phenomenon in adult participants with ADHD.

Purpose: The purpose of this study was to investigate fine motor control performance in adults with ADHD. The primary hypotheses were; 1) Participants with ADHD would have elevated mean stylus pressure when compared to a neurotypical control group, and 2) Participants with ADHD would have decreased automaticity in their handwriting when compared to a neurotypical control group.

Methods: Data was collected twice from participants with ADHD; once while they were on (ADHD-ON) and once while they were off (ADHD-OFF) of their medication. Control participant data was collected once. Participants completed an automatic (wrote "Hello") and novel (wrote a specified symbol) task on a WACOM Cintiq tablet with pressure recording stylus.

Results: The results of this study indicated that adults with ADHD do not have reduced automaticity in their handwriting, but do have significantly increased mean stylus pressure while writing, regardless of medication status.

Conclusion: This study indicated that individuals with ADHD may have simple, or dystonic writer's cramp. Further research should be conducted to determine if simple or dystonic writer's cramp occurs in individuals with ADHD. If so, appropriate treatment methods should be sought.

Title: Problematic Substance Use Among University Students: Perceptions of Staff Working at One Nova Scotia University

Author: Chelsea Doherty, (BSc Health Promotion Honours student) Dalhousie University

Background: Research in Canada indicates that some university students engage in problematic substance use (PSU), and that the highest rates of PSU among university students in Canada are in the Atlantic Provinces. University students are typically young, and sometimes become involved in PSU. This behaviour can affect their well-being, and can also cause harms to others, their communities and society at large. University staff have direct interaction with students, and may have gained some ‘expert’ knowledge on PSU through their experiences. As there has been little research exploring the perspectives of this population, this project involved interviewing four staff that work at one university in Nova Scotia.

Purpose: The purpose of the research project is to explore the perceptions of university staff on key factors influencing PSU among university students, consequences and/or harms associated with PSU, and potential strategies for prevention.

Methods: This project was a qualitative study and involved four semi-structured interviews with university staff. Data were analyzed using a modified grounded theory methodology.

Results: Findings from four interviews demonstrate that alcohol use is a key issue. Alcohol was identified as the substance most commonly used in PSU among university students, and was related to many consequences associated with PSU. However, PSU exists in many forms. There are multiple influences and consequences of PSU that are evident at the individual, interpersonal, community, and societal levels.

Conclusions: The findings highlight how factors at each level interact and influence one another. Furthermore, this study demonstrates that it is necessary to implement strategies at all levels to address PSU.

Title: Addressing childhood overweight and obesity in Northwestern Ontario: What is being done and where to next?

Authors: Alyssa Fairservice¹, Erin S. Pearson¹, & Shauna M. Burke², Lakehead University¹, Western University²

Background: Childhood obesity rates are significantly higher in Northwestern Ontario (NWO) in comparison to the rest of the province. Treatment interventions administered through primary care offer an excellent opportunity to address obesity-related health problems. Yet, there is a paucity of research examining the perceptions of primary care providers serving on the “front lines” against Canada’s obesity epidemic among children and youth.

Purpose: The purpose of this pilot study was to perform a needs assessment aimed at identifying standard care practices, concerns, and priorities for treating childhood overweight and obesity in Thunder Bay, Ontario.

Methods: This qualitative study consisted of 10 one-on-one in-depth interviews involving one paediatrician, one family physician, four social workers, and four dieticians. Participants were recruited between March and December 2014 from local health centres that provide services to paediatric populations. The researcher followed a semi-structured interview guide; all sessions were digitally recorded, transcribed verbatim, and analyzed using inductive content analysis.

Results: The resources, barriers, and assessment practices identified by the health professionals in our study, with regard to childhood obesity treatment in a remote city in Ontario, will be discussed.

Conclusion: Assessing the views and needs of primary care providers is a critical step in the treatment planning process and will assist in setting priorities for future programming. It is expected that this pilot study will offer unique insights to aid in the development of childhood obesity interventions for Thunder Bay, as well as NWO communities that are isolated from urban centres.

Title: Identifying Barriers and Facilitators Influencing Leisure-Like Participation in Poundmaker Cree Nation

Authors: Katelyn Favel (BScR (Therapeutic), Barb Hamilton-Hinch & Dr. Debbie Martin, Dalhousie University.

Background: Research suggests that participation in leisure-like activities can influence Aboriginal people's well-being in both positive and negative ways. However, there is little existing evidence regarding the influence of both facilitators and barriers on leisure participation within Aboriginal cultures. In addition, limited research has focused on understanding *how* Aboriginal people conceptualize the term leisure.

Purpose: The purpose of this research project was to identify barriers and facilitators that may influence participation in leisure, as well as to explore how participation influences well-being within the younger adult population of Poundmaker Cree Nation. Additionally, this research aimed to understand the meanings that youth from Poundmaker Cree Nation assigned to leisure.

Methods: Data were collected through a 45 minute audio taped focus group, which included three female participants between the ages of 19 and 30, from Poundmaker Cree Nation. Once transcribed, data were analyzed using open and selective coding.

Results: The first theme described participant's perceptions about how the lack of resources in the community contributes to youth involvement in activities that might be considered potentially dangerous and have negative impacts on health. The second theme described a need to increase social connectedness within this community as it could play a role in increasing opportunities for youth.

Conclusions: The findings from this research support the idea that more resources are needed to facilitate leisure-like participation and the need for strategies to increase social connectedness within the community. Further research should be done to explore how the term 'leisure' is defined in an Aboriginal context.

Title: Understanding Natural Variation in the Epigenetic Profile of Full Term Infants in the Context of Pain

Authors: Courtney Gullickson (BSc Honours), Dalhousie University, Dr. Marsha Campbell-Yeo, Dalhousie University, Dr. Ian Weaver, Dalhousie University

Background: A knowledge gap exists surrounding the impact of early exposure to pain on epigenetic patterns in humans.

Purpose: This pilot study has the aim of characterizing the methylation pattern in full term, healthy newborns in the context of pain. The potential impact of maternal contact during the painful event will also be investigated.

Methods: 30 mother-infant dyads, recruited from a postnatal ward, will be randomized to receive one of three conditions: maternal skin-to-skin contact, sweet taste, or a combination during a medically necessary heel lance. Following parental consent, three blood samples will be collected -- previously collected cord blood (baseline), residual blood from routine screening (DNA analysis), and two extra drops at the time of collection (RNA analysis). Genetic material will be extracted and ChIP sequencing and EpiMark[®] 5-hmC and 5-mC analyses will be conducted. Real-time PCR will be used to quantify global methylation levels. The epigenetic findings will be compared taking into account clinical factors and intensity of pain response.

Results: 35 participants were enrolled and 30 had complete samples obtained. The epigenetic assays were completed and qPCR results (in progress) will be presented at the conference.

Conclusions: The feasibility of the protocol will be established. Our findings will be the first to provide baseline epigenetic data for similar pain intervention studies in full term and preterm infants. Preliminary predictions regarding the impact of clinical factors, pain intensity, and type of intervention on epigenetic factors will be made. Findings will enhance our understanding of how early exposure to pain may have long-term effects.

Author(s): H. Hamodat (Combined Honours Neuroscience and International Development Studies)¹, M.K. Cash¹, S. Darvesh^{1,2}

Division: Departments of ¹Medical Neuroscience and ²Medicine (Divisions of Neurology and Geriatric Medicine)

Background: Clinically, there is evidence for olfactory dysfunction in neurodegenerative disorders, like Alzheimer's disease (AD), preceding typical cognitive and behavioural symptoms. In AD, olfactory impairment may result from neuronal loss, neuroinflammation and pathological deposition of β -amyloid (A β) plaques and tau neurofibrillary tangles (NFTs) in the olfactory bulb (OB). However, the laminar organization of the human OB is poorly understood and observations of AD pathology have been inconsistent.

Purpose: the goal of this study was to discern the laminar organization of the human OB and determine structural and pathological changes in the AD OB.

Methods: AD and normal control OB tissues were obtained from the Maritime Brain Tissue Bank in Halifax, Canada. Adjacent OB tissues were stained with Nissl to examine laminar distribution and immunohistochemical techniques to examine neuronal, AD pathological and neuroinflammatory markers.

Results: Herein, we provide a detailed map of the anatomical distribution of the human OB. A β plaques and tau NFTs were observed in specific layers of the AD OB, predominately in the anterior olfactory nucleus. A lack of pathology was noted in the olfactory tract. A neuroinflammatory response was observed through the presence of activated microglia, particularly in regions with noted AD pathology.

Conclusions: The specific pattern of AD pathological changes observed in the AD OB, provides support that impaired olfactory functions may be related to the peripheral olfactory system. Further investigation of the AD OB is warranted for the potential use of olfactory dysfunction as an early, definitive biomarker and diagnostic target for AD diagnosis.

Authors: Melissa Howlett, BSc. (Clinical Psychology PhD student), Dalhousie University, IWK Health Centre , Jill Chorney, PhD., RPsych., Dalhousie University, IWK Health Centre

Proposal Title: Don't Stumble, Tumble: A Preparatory Motion-Detection Videogame to Reduce the Use of General Anesthesia in Pediatric Magnetic Resonance Imaging (MRI)

Abstract: Background: Magnetic resonance imaging (MRI) is distressing for many children, as they must remain immobile and endure loud noises, while lying in a narrow, enclosed tube. Many do not complete the scan successfully and some require general anesthesia (GA). Decisions regarding GA are based on professional judgment; therefore, at times, children attempt MRI unsuccessfully and must reschedule with GA, whereas others receive GA when unnecessary. Currently, there is no effective and accessible MRI-preparatory tool available.

Purpose: This research aims to test the efficacy of a MRI-preparatory videogame in preparing children for MRI and accurately predicting those requiring GA. This videogame is designed to prepare children for the sensory experience of MRI, while acquiring skills to enhance their capability of completing the scan without GA.

Method: This project includes two phases. Beta testing will test the game with children who have previously undergone MRI, and their parent(s) in order to identify functional issues and incorporate feedback into remodelling. Implementation testing will include 125 children (ages 4-12) referred for MRI with GA. Families will be given the opportunity to use the videogame and attempt MRI without GA. This phase will determine the proportion of families willing to try the videogame, whether the videogame reduces the necessity of GA, and if performance data can predict children requiring GA.

Conclusion: If successful, this tool will increase healthcare efficiency by reducing the time and resources necessary to acquire quality scans. Children will also benefit from this game through the reduction of anxiety and enhanced feelings of self-efficacy toward MRI.

Title: Masculinity, Coping, and Weightlifting in University Men: A Qualitative Description of Coping and Psychological Benefits

Author: Eric Hutt, BSc, Honours Health Promotion (c), Dalhousie University

Background: “Hegemonic” masculinity is the culturally dominant set of masculine ideals and power relations. It has been associated with the use of action-oriented coping in men, such as substance use and exercise. Studies have examined interactions of masculinity and weightlifting, but not weightlifting as a coping mechanism and its interactions with masculinity. Literature on masculinity and weightlifting alone, however, often describes body images issues and other negative psychological outcomes.

Purpose: Research question was: “How does masculinity interact with men’s use of weightlifting as a coping mechanism, and what potential psychological benefits do they perceive in weightlifting?” Overall research objective was to generate novel qualitative data and explore gap in literature.

Methods: Participants were four men, aged 19-22, who lifted weights between three and six times per week. Data collection was performed through individual, face-to-face, audio-recorded semi-structured interviews. Data analysis followed qualitative description methodology.

Results: This study found that participants identified with some hegemonic masculine ideals. Men described internal validation through weightlifting by becoming stronger, external validation through compliments from others, and reported social benefits from the gym community. On a daily basis, weightlifting could either exacerbate or reduce psychological stress. However, participants reported important long-term coping benefits from weightlifting through the discipline involved with the sport.

Conclusions: Overall, this study underlines potential positive health outcomes influenced by hegemonic masculinity, which contrasts how existing literature reports mostly negative effects.

Title: Anticancer properties of polyphenols isolated from *Salvia* species in hepatocellular carcinoma cells

Authors: Yuanyuan Jiang (PhD Student)^{1,2,*}, Li Zhang^{1,2}, and H.P. Vasantha Rupasinghe^{1,3}

Department of Environmental Sciences, Faculty of Agriculture, Dalhousie University, Truro, NS, Canada; College of Basic Science, Sichuan Agricultural University, Yaan, Sichuan, China; Department of Pathology, Faculty of Medicine, Dalhousie University, Halifax, NS, Canada;

Background: *Salvia* species have been used as traditional medicine in many countries for a long time. *S. miltiorrhiza* is a commonly used traditional medicinal plant in China, Korea, Japan and other Asian countries. *S. officinalis* is widely used in North America and Europe for both culinary and medicinal preparations. However, there is no scientific literature documenting the anticancer properties of polyphenols from the leaves and roots of *S. miltiorrhiza* and *S. officinalis* in relation to hepatocellular carcinoma.

Purpose: To evaluate the anticancer properties of polyphenols from the leaves and roots of *S. miltiorrhiza* and *S. officinalis* using hepatocellular carcinoma HepG2 cells.

Methods: Polyphenols were extracted using either 95% ethanol or 75% acetone using ultrasonication-assisted method at room temperature. Polyphenols were separated from chlorophylls using n-hexane-based extraction method. Cytotoxicity of the extracts on HepG2 were investigated using MTS and acid phosphatase assays and DNA fragmentation. UPLC-ESI-MS/MS was used to determine the polyphenol compounds of the extracts and their fractions.

Preliminary results: Both 95% ethanol and 75% acetone extracts of leaves of *S. officinalis* exhibited dose- and time-dependent antiproliferative activity on HepG2 cells.

Expected outcome: Investigations will be continued to confirm the anticancer properties of *Salvia* polyphenols using pre-clinical animal models and to understand the mode(s) of action of the effective polyphenols.

Title: Perceived Health and Health Risk in Sexual Minority Adolescents: BC-AHS Trend Analysis

Authors: Greyson Jones, MA (PhD Student, Social Anthropology); Jacqueline Gahagan, PhD, Dalhousie University

Background: Trend analyses conducted both within and outside of Canada have demonstrated that there are unique clinical concerns for sexual minority populations. Sexual minorities continue to face various access barriers when engaging with the health care system. Some have suggested that the three primary areas of difficulty include: (1) reluctance by some LGB patients to disclose sexual orientation when receiving medical care; (2) an insufficient amount of providers competent in dealing with LGB issues; and (3) a lack of culturally appropriate prevention services. Studies surrounding the health of lesbian, gay, and bisexual (LGB) adolescents has primarily come from nonprobability samples. These studies have undoubtedly been essential for identifying health issues, their developmental course, and risk and protective factors, however the methodological approach of such studies have proven to be of limited use for describing health disparities between subgroups.

Purpose: To provide some of the evidence to help inform policies and practices in Canada by documenting the trends in health perceptions among adolescents in British Columbia. In the following trend analyses of BC AHS survey data from 1998 to 2013, this paper will establish the link between specific subgroups of sexual minorities, and perceptions of physical health.

Methods: The BC Adolescent Health Survey (BC AHS) survey has been conducted every 5-6 years through BC since 1992, and has always included several questions related to behaviours, risks, and outcomes related to physical and sexual health. Logistic regression and odds-ratio analyses were conducted on data from this survey in order to identify trends in sexual minority adolescents over time.

Results: 1) Overall perception of health has decreased for all groups; 2) the percentage of all subgroups that reported they would forgo medical treatment has decreased; 3) females, in all instances, are more at risk for a lower perceived status of health and also for the likelihood of forgoing medical treatment than are males; and 4) bisexual adolescents represent one of the most at risk groups regarding health status and engagement with medical care, especially bisexual females.

Conclusion: These findings support the hypothesis that sexual orientation has an independent effect on health perception and the engagement with medical measure of prevention and intervention, and indicate the necessity for the increased systematic study of the relationship between the subgroups of sexual orientation and various aspects of health and health care. Specifically, this study calls for future qualitative studies, and future studies focusing on sexual minority women, especially bisexual women.

Title: Housing as a Determinant of Health for Young Mothers in Rural Nova Scotia

Author: Renee LeBlanc (MA Health Promotioin c.), Dalhousie University

Background: In Nova Scotia, affordable housing options are very limited, particularly in rural areas, with most residents spending over one-third of their income on housing. Little research exists on homelessness in rural areas, with even less research on the needs of young mothers' experiences and perspectives.

Purpose: The purpose of this research was to gain an understanding of how housing policies affect the ability of young mothers who receive social assistance to access safe and affordable housing. Particular focus was on whether Nova Scotian housing policies meet the needs of young mothers receiving social assistance and residing in a rural community.

Methods: Relevant housing policy documents were critically analyzed using a gender-based framework. Semi-structured qualitative interviews were conducted with rural young mothers, service providers, and policy decision-makers. These in-depth interviews gathered participants' experiential knowledge with, and understanding of, existing housing policies. Data from interviews were analyzed using an iterative coding process.

Results: Based on preliminary interviews with young mothers and service providers, an array of barriers were identified, including: lack of transportation, issues with neighbours and lack of privacy in a rural community. The importance of support, the connectedness in rural communities and increasing affordable housing options are strengths and opportunities highlighted by participants.

Conclusion: Most challenges associated with accessing safe and acceptable housing were not directly related to housing policies themselves but rather the interconnectedness between housing and social policies. The broader implications and outcomes of those policies require in-depth examination.

Title: Access to Outpatient Nutrition Services for Gastrointestinal Diseases in Mississauga, Ontario

Authors: Kate Licastro (MPH); Supervisor: Helle Moeller; Lakehead University

Background: Nutrition intervention is an effective treatment for symptoms of gastrointestinal and liver disease, and is the sole treatment for celiac disease. Registered Dietitians (RDs) are regulated health professionals with expertise and knowledge to provide nutrition assessment, intervention and education. Mississauga Ontario, population 750,000, does not have an OHIP funded RD for outpatients with gastrointestinal disease. The only option is for an individual to pay for a private practice RD creating unequal access to healthcare. This results in inappropriate and inadequate nutrition interventions and as observed in my practice, decreased quality of life due to symptoms associated with disease, and increased hospital admissions.

Purpose: Research Questions

1. What are the needs for nutrition counselling among outpatients living with gastrointestinal disease in Mississauga?
2. How are these needs being met and what might be done to ensure that nutrition is optimal for the health and wellbeing of people living with gastrointestinal disease?

The objective of this study is to explore the nutrition counselling needs of outpatients living with gastrointestinal diseases through the perspective of inpatient RDs and gastroenterologists. The aim of the study is to identify whether the health and wellbeing of outpatients living with gastrointestinal diseases as interpreted by RDs and gastroenterologists is dependent on the ability to seek private nutrition counselling.

Methods: This will be a qualitative single site case study, with surveys administered to gastroenterologists, a case description form for inpatient RDs and one on one interviews with gastroenterologists and RDs.

Title: A comparison of the Xbox Kinect™ versus a traditional training program at improving balance scores in children ages 6-12 years old.

Author: Erica Linde (BSc. Kinesiology Honours Candidate), Dalhousie University

Introduction: Balance is a fundamental movement skill that aids in a child's development of physical literacy and physical activity. In recent years, balance training has been recognized as a core element in both physical activity and rehabilitation programs in older populations, yet is too often overlooked in populations of young children.

Purpose: This study will explore activity adherence and balance outcomes using either an Xbox Kinect™ or a traditional balance training program in children ages 6-12 years old.

Methods: Twenty children between the ages of 6-12 years old will be randomly assigned to either an Xbox Kinect™ or traditional balance training program. Participants will engage in one of the two training programs for 30 minutes, three times a week, for four weeks. Training will take place at the participant's home. Adherence will be measured by recording the number of sessions completed and the duration of the sessions. Motivational factors associated with adherence will be measured using a Physical Activity Enjoyment Scale. Balance will be measured using a stabilometer.

Anticipated Results: It is hypothesized that participants who train with the Xbox Kinect™ will show greater program adherence and improved balance over those individuals who train with the traditional training program.

Implications: The results gathered from this study will help researchers to better understand the use of exergaming for improving balance outcomes and adherence rates in children. This study also has the potential to support the notion that the incorporation of exergaming into balance training programs could be an effective tool at increasing physical literacy and physical activity in children.

Title: The Effects of Therapeutic Taping on Pain, Range of Motion (ROM), Power, Balance, and Strength in Athletes and Non-athletes With and Without Acute Patellar **Tendinopathy**

Authors: Michael Massei MSc (c), Dr. Eryk Przysucha, PhD, Dr. Paolo Sanzo, DScPT, School of Kinesiology, Lakehead University

Background: Kinesio (KT) and Leukotape (LT) are two common types of therapeutic modalities used in sport rehabilitation. However, little is known how effective they can be in face of symptoms of acute patellar tendinopathy.

Purpose: To examine the effect of these tapes on ROM, power, balance, and strength in varsity athletes with acute patellar tendinopathy.

Methods: Eight participants, three with acute patellar tendinopathy (3 female, age 20.0 ± 1.0 , height 191.0 ± 20.0 cm, weight 69.4 ± 10.8 kg) and five without (3 male and 2 female, age 22.8 ± 1.3 , height 173.8 ± 9.0 cm, weight 79.5 ± 18.6 kg) were recruited. Four 30-minute testing sessions were implemented with KT, LT, no tape and placebo conditions. While determining ROM, power, balance, and strength, pre and post session pain levels were also measured.

Results: No statistical differences ($p > .05$) in pain, ROM, power, balance, and strength, were observed in the affected group, however; therapeutic tape seemed to prevent further pain when compared to PT and NT. As for the control group, significant differences in ROM, strength, and balance were revealed with NT and PT.

Conclusion: Therapeutic tape prevented further pain increases in the affected group and subtle improvements were seen across task performances. The athletic proficiencies of elite-level athletes may have contributed to these findings as statistical differences were found in ROM, strength, and balance among participants in the control group.

Title: The effects of knee taping techniques on lower extremity kinematics during running

Authors: Ariel Pelletier (MSc (Kinesiology), Paolo Sanzo, Derek Kivi Lakehead University

Background/Objectives: Running is a popular form of physical activity linked to various lower extremity injuries. A commonly used technique for injury prevention and rehabilitation is taping. There is considerable research investigating running biomechanics, however, there has been limited to no research examining the effects of gender, speed, and the type of tape used on two-dimensional lower extremity kinematics.

Purpose: The purpose of this study was to investigate the effects of gender, speed, and tape on two-dimensional lower extremity kinematics and stride characteristics during running. It was hypothesized that speed and tape would have an effect on lower extremity kinematics, but gender would not.

Method: Eight healthy runners volunteered to participate. Taping interventions (Leukotape, Kinesio Tape, no tape) and speeds (2.35m/s, 3.35m/s) were randomly determined and lower extremity kinematics and stride characteristics were obtained using the Peak Motus System during the stance phase of running. Comparisons were made using descriptive statistics.

Results: Gender and speed differences were found in both lower extremity kinematics and stride characteristics. Females exhibited greater hip and knee flexion, while males showed greater ankle dorsiflexion and plantarflexion. Additionally, females spent more time in contact with the ground whereas males spent more time in the air. The faster speed was associated with greater hip flexion and extension, peak knee flexion, and less time in contact with the ground. The different taping techniques did not result in any changes to the stride kinematics.

Conclusion: Gender and speed seem to have effects on lower extremity stride kinematics, whereas taping does not.

Title: Collaborating for Better Outcomes: Exploring the Link between Nurse- Nurse Collaboration and Nurse Job Satisfaction

Authors: Sinead Sheehan, RN, BSc., BScN, York University, Masters of Science in Nursing thesis, poster presentation

Background: As Registered Nurses fill a critical role in the delivery of care, it is important to determine the factors which assist nurses in the completion of their work and contribute to a healthy work environment. Among the factors which contribute to a healthy work environment for nurses are the professional/occupational components, which include intradisciplinary relationships or relationships between members of the same profession. Past research has noted several benefits of improved nurse- physician collaboration (such as improved nurse and patient satisfaction and lower mortality rates) and teamwork among healthcare professionals (found to be predictive of mortality rates), but few studies have explored nurse- nurse collaboration. Nurse job satisfaction is an outcome of healthy work environments and has also been linked with positive outcomes for both the patient (i.e. improved pain control) and the healthcare system (such as retention of nurses).

Purpose: The purpose of this study is to explore whether there is a relationship between nurse- nurse collaboration and nurse job satisfaction in the hospital setting. Hypothesis: there will be a positive correlation between the variables. The objective is to gain more knowledge about how healthy work environments contribute to improved patient care and retention of nurses.

Methods: For this correlational study, surveys including the Nurse- Nurse Collaboration Scale, the McCloskey/ Mueller Satisfaction Scale and descriptive information will be distributed to a convenience/ snowball sample of Registered Nurses currently practicing in a role in which they work directly with patients and work on a team which includes other nurses.

Title: Exploring transgender adults' perceptions of, and experiences with, primary and emergency care in Halifax, Nova Scotia

Authors: Ella Vermeir, BSc., MA Health Promotion Candidate, Dalhousie University

Background: Transgender individuals face numerous barriers to receiving primary and emergency care, including discrimination and harassment. These barriers often deter transgender individuals from pursuing care and thus, negatively impact their health. Transgender individuals are at an increased risk for many negative health outcomes and are less likely to seek medical care when needed.

Purpose: This study aims to provide a comprehensive depiction of the barriers and facilitators hindering or helping access to care, as well as the primary and emergency care needs of this population, in order to address their negative health outcomes. The central research question is: "What are transgender adults' perceptions of, and experiences with, primary and emergency care in Halifax?"

Methods: Qualitative semi-structured interviews will be used to explore 6-10 transgender adults' perceptions of, and experiences with primary and emergency care, in Halifax. Transcription and data analysis will occur shortly after each interview. A framework analysis approach will be used to examine the data. Themes will be identified and organized into a thematic matrix, which will then be interpreted to provide explanations and meanings for the participants' experiences.

Expected Results: It is expected that the primary and emergency care needs of transgender adults will be largely unmet due to barriers to pursuing and receiving care. The results will contribute to a greater understanding of this population's primary and emergency care needs. The findings can be used to inform providers on how to better serve transgender clients and may influence health policy makers to implement services that are accessible to these individuals.

Title: Motivational Factors Influencing the Adherence of Male Ukrainian Dancers to Cultural Dance

Authors: Elizabeth Wall and Joey Farrell, Lakehead University School of Kinesiology

Background/Objectives: Physical activity (PA) is a healthy lifestyle component; however, only 15% of Canadian adults meet the minimum requirements. Physical Activity participation declines during adolescence, negatively impacting an individual's level of PA as an adult. Dance is an increasingly popular form of PA. To date, the motivational factors contributing toward participation in cultural dance are not fully understood. The Theory of Planned Behaviour (TPB) incorporates constructs of attitudes, social norms, and perceived behavioural control to understand factors contributing to PA adherence. This study explored what motivates adult males (an under researched population) to adhere to cultural dance beyond adolescence.

Method: Adult male dancers ($n = 10$) who began participating in Ukrainian dance before the age of 13, and continued into adulthood were recruited. Guided by the TPB, one-on-one semi-structured interviews were conducted to explore factors contributing toward participant motivation to engage in cultural dance.

Results: Four themes emerged from the data: (a) parents play a significant role in motivating adolescents during periods of amotivation; (b) establishing meaningful relationships among dancers; (c) year-round performances highlight the benefits of continued effort, and provide rewarding experiences; and (d) travelling together facilitates group cohesion and opportunities for mentorship.

Conclusion: In accordance with the TPB, the most salient factor influencing adherence to cultural dance in this population is the influence of significant others: specifically, the role parents play in motivating adolescents, and establishing meaningful relationships among dancers. Future research could extend the study of significant others by exploring the relationship between a dance school and motivation to adhere to cultural dance.

Title: BREAKING TRAIL WITH CACL: A SNOWSHOEING INTERVENTION FOR ADULTS WITH INTELLECTUAL DISABILITIES

Authors: Woods, Alyson, Bernard, Victoria, & Rosedale, Natalie, Supervisor: Dr. Amanda Casey St. Francis Xavier University

Background: Adults with intellectual disabilities often face various personal and environmental barriers which restrict access to community-based physical activity. Our project addresses the particular need to include physical activity as an important component of daily life within group home settings in order to improve health and prevent chronic diseases associated with a sedentary lifestyle.

Purpose: This study examined the effects of a 12-week snowshoeing intervention on the functional capacity and cardiorespiratory fitness of adults with intellectual disability from group home settings.

Methods: This single-subject multiple baseline design involved eight participants with intellectual disability snowshoeing for one hour three times per week alongside peers without intellectual disability. Researchers assessed performance in tasks of everyday living at separate data points across the intervention.

Measurements included daily step count (pedometer), sub-maximal walking capacity (six-minute walk test, timed up and down stairs test) and balance (flamingo test, functional reach test, timed up and go).

Results: Preliminary data suggests participants improved in functional outcomes across the intervention phase.

Conclusions: Snowshoeing may represent a viable way to improve everyday function and promote a healthy lifestyle amongst adults with intellectual disability within rural community settings.

Title: Paid to Play?: Elements of Leisure within Hospitality Occupations.

Author: Kendy Yates, (BSc Recreation) Dalhousie University

Abstract: Leisure has previously been viewed as activity taking place without obligation and within one's free time. Although research has focused on leisure activities involving play for children, little research has focused on play among adults. Even less has examined how it is possible that individuals may find leisure within their time spent in income generating activities. This study examines the research question: "How do servers and bartenders define their experiences in work activities as play?" To explore this topic interviews were conducted with individuals employed in the hospitality industry to understand how they experience play in the workplace. During the analysis themes became apparent including forms of play, benefits of play, observing fun, and social bonding. Additional sub-themes emerged including banter, performing, and education as forms of play, and fun in retrospect as a playful means of coming to terms with stressful situations. Conclusions suggested that play may take place for adults in non-traditional settings such as the hospitality industry. Play was noted as a coping mechanism during workplace tasks and assisted participants in finding balance during work activities. Play was considered a tool for reflection after work and as a means to develop relationships. These findings may be beneficial to recreation professionals when considering the impact of a playful workplace for both employees and patrons. Future research considerations may include investigating other occupations where play may be taking place, how play activities may be incorporated as mental wellness strategies, and how play may help individuals cope during stressful situations.

Title: Identification of a novel modulator of apoE in astrocyte

Authors: Shahab Zareyan (B.Sc. Candidate)^{1,*}, Jianjia Fan^{1,*}, Iva Kulic¹, Yoko Shimizu², Tom Pfeifer², Cheryl Wellington¹

¹ Djavad Mowafaghian Centre for Brain Health, University of British Columbia, Canada, ² Centre for Drug Research and Development, Vancouver, Canada

Abstract: Apolipoprotein E (apoE) is the most abundant apolipoprotein in the brain, where it is synthesized by astrocytes and mediates cholesterol transport in the central nervous system. As *APOE* is the most highly associated susceptibility locus for Alzheimer's disease, modulating apoE levels or function is of therapeutic interest. To identify compounds that increase apoE secretion, we performed a high throughput screen using a library of 104,000 compounds in human CCF-STTG1 astrocytoma cells. A hit compound, CD82, belonging to the pyrethroid class of insecticides, was confirmed to increase both expressed and secreted apoE up to 7-fold starting at a concentration of 10 μ M. Upregulation of apoE was concomitant with an increase in other liver x receptor (LXR) target genes including LXR- α itself, and an upregulation of the lipid transporter ABCA1 (9-fold at 30 μ M). As apoE is transcriptionally regulated through the LXR pathway, we evaluated the requirement of LXRs for the observed effect using mouse embryonic fibroblast deficient in LXR- β or both LXR- α and - β . Induction of both ABCA1 and apoE mRNA expression by CD82 required LXR activity. Importantly, CD82 shows minimal upregulation of LXR target genes in HepG2 liver carcinoma cells. By contrast, a known LXR agonist, GW3965, induced a clear increase in LXR target genes, including the undesirable upregulation of the transcription factor SREBP1c in HepG2 cells. Thus, CD82 increases apoE levels without inducing upregulation of harmful LXR target genes in liver cells. Ongoing work is focused on evaluating the mechanisms by which CD82 mediates apoE upregulation and the functional outcomes.

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