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Table of Contents

| | |
|---|-----------|
| PHED 2216: RESEARCH METHODS IN HUMAN KINETICS | 7 |
| The Negative Impact of an Athlete’s Mindset on Perfectionism Leading to Low Self-Esteem and Anxiety Valerie Filicetti, David MacSporran, Mackenzie Robinson & Chancellor White | 7 |
| What are the Effective Coping Strategies used by Varsity Athletes to Mitigate the Effects of Long Distance Bus Travel? Victoria Galluzzo, Catherine Rocca & Rylea Therrien-Jones | 7 |
| Transformation of Health Policies after the Ebola Virus Disease in Regards to the Three Most Affected West-African Countries - Sierra Leone, Liberia, and Guinea Julia Cerilli, George Roumanes, Kayla Pascente & Christina Weglewski | 7 |
| Measuring the added sugar intake of Laurentian University Students on the Mandatory Meal Plan Carley Bulfon, Jaden Lagace, Michaela McGillis & Karley McGlade | 8 |
| The Post-Concussion Effects on the Mental Health of Female Varsity Hockey Players Victoria Day, Collin Donaldson, Ashton Garraway & Adam Geoffroy | 8 |
| The Pressure is On: Coping with Stress as a Canadian Student Athlete Alison Mielhausen, Michelle Myre, Emma Naughton, Brady Nicholson & Tara St. Jean | 9 |
| Sleep Disturbances among Student Athletes Related to Training and School Stress Hayley M.M. Chase, Meaghan L. Hopkins & Megan A. Trimmer | 9 |
| The Pressure is On: Coping with Stress as a Canadian Student Athlete Alison Mielhausen, Michelle Myre, Emma Naughton, Brady Nicholson & Tara St. Jean | 9 |
| Assessing The Core Muscle Activity Levels and Posture With The Use of Shoulder Strap Athletic Bags Janet Cimino, Jimmy Ilunga, Daniel Longuepee, Tylor Ralph & Amanda Savoie | 10 |
| Poor Body Image Among Female Teens: Is Instagram to Blame? Ryley Atwood, Daphne Gill, Emily Hill, Angela Jeans & Danika Terwilligar | 10 |
| PHED 3905: OUTDOOR ADVENTURE LEADERSHIP INTERNSHIPS | 11 |
| Crafting in the Wilderness Sarah Catherine Carpenter | 11 |
| Tim Horton Camp Whiteshell Rebecca Dale | 11 |
| Horizons Adventures: An Internship Experience Jamie Duncanson | 11 |

| | |
|--|----|
| Learning Creatively with the Land and Community: An Internship Experience with 4elements Living Arts (Kagawong) | 12 |
| Katie Fenerty | |
| Disability Inclusion in Outdoor Education | 12 |
| Ryan Gill | |
| Am I Ready for This: A look into an Internship of Self-doubt and personal growth | 12 |
| Katherine Grove | |
| Presentation of Experience Completing an Outdoor Adventure Leadership Internship with Overhang Adventures in the Summer of 2016 | 13 |
| Sarah Hamilton | |
| Internship as the Out-Trip Director at Camp Cadicasu | 13 |
| Taylor Kipfer | |
| At Last Adventures: Outdoor Entrepreneurship | 13 |
| Nic Kreuzweiser | |
| Redesigning the Outdoor School Programs | 14 |
| Luke MacKinnon | |
| Social Media and the Rebuilding of Outdoor Adventure Leadership Connectivity | 14 |
| D. Massel | |
| YMCA John Island Camp Internship Experience | 14 |
| Kyra Ranney | |
| Outdoor Adventure Leadership Internship Experience: Blackstone Uplands Research Expedition | 15 |
| Nathan Romahn | |
| Laurentian University Outdoor Centre Internship and the Rise of the Tango Tower | 15 |
| Beau Williams-Orser | |
| PHED 4106: ADAPTIVE PHYSICAL EDUCATION | 16 |
| Breaking the Mental and Physical Barriers during Quadriplegic Rehabilitation: The Story of Brent Price | 16 |
| Christopher Atkinson, Joshua Cordery, Thomas Gill, Joshua Gutta, Wade Montpellier & Brock Sutton | |
| Narrative Analysis: Understanding Becker Muscular Dystrophy | 16 |
| Paige Droog, Victoria Ecker, Stephanie Monicon, Samantha Morell & Nicole Vigilanti | |
| Implementation of Physical Activity to Reduce the Occurrence of Self-Injury among a Low Functioning Autistic Boy | 17 |
| Devin Currie, Rebekah Feetham, Jonathan Glynn, Kai Salminen & Bronte Yandeu | |
| Multidisciplinary Management of Type II Diabetes for an Older Adult Male Client with Foot Neuropathy | 17 |
| Jordan Barberio, Kristy-Anne Dubé, Hailey Lively, Alexandra Webb | |

| | |
|--|----|
| The Use of Sports Therapy in the Recovery of an Amputation Lindsey Castonguay, Chelsea Hobourn & Areeba Mirza | 17 |
| Exercise Regimen for Therapy And Rehabilitation Following Hemiarthroplasty: A Fictitious Quasi-experimental Case Study Caleb Apperson, Alexandre Girard & Brandon Howes | 18 |
| An Eye for Exercise: Exploring an Exercise Regimen for a Patient Suffering from a Severe Visual Impairment Causing Tunnel Vision due to Retinitis Pigmentosa Emily Booth, Allison Smith & Alysha Zandarin | 18 |
| Summer Mortimer: A Case Study Analysis of Adapted training Methods for Foot and Ankle Injuries Cassandra Beach, Kylie Garland, Jennifer Hull, Kalee MacDonald & Ben Taylor | 19 |
| Exploring the use of a Resistance Training Regime and its Effects on Relapse Remitting Multiple Sclerosis Justin Batman, Donald Beaulieu, Dalton Hillier & Ian Walters | 19 |
| Physical Analysis of the Visually Impaired and Integration into a Healthy Active Lifestyle MacAuley Carr, Laura Deller, Emma Léger, Miranda Smith & Jessica Staats | 20 |
| Physical Activity Prescription Plan for Tanzanian Child with Moderate Spastic Cerebral Palsy acquired at Birth Hannah Ballantyne, Lauren Hamill, Brittni Rorison, Isabelle Roy, Janel St. Georges & Sammi Turchet | 20 |
| Evaluating whether Dance Style has an Impact on Therapeutic Success in Dance Therapy for Parkinson’s Disease Shannon D’Angelo & Miranda Waugh | |
| Implementation of a Guided Walking and Running Program for an Adolescent Female Diagnosed with Retinitis Pigmentosa Jamie Ames, Kaylee MacKinnon & Karline Robinson | 21 |
| PHED 4805: RESEARCH THESIS IN KINESIOLOGY | 22 |
| The feasibility of identifying mental stress using heart rate variability methods with Firstbeat Sports software during different periods of exercise Nicholas Beckett-Brown, Dr. Stephen Ritchie, Dr. Bruce Oddson, Dr. Dominique D. Gagnon & Dr. Oliver Serresse | 22 |
| Canadian University Student Experiences Participating in Health Promotion without Borders (HPWB) Trips to Mongolia and Malawi Shelby Deibert, Dr. Stephen Ritchie, Dr. Bruce Oddson & Prof. Ginette Michel | 22 |
| The Effects of Ambient and Inspired Air Temperatures on Physiological Responses Marc Fortin, Dr. Olivier Serresse & Dr. Dominique Gagnon | 23 |
| Kinematic Angle Analysis of a Sprinting Gait in Female Soccer Players with and without Medial Tibial Stress Syndrome Heather C. Gilbert & Dr. Alison Godwin | 23 |

| | |
|--|----|
| Exploring the Changes in Muscle Fiber Length of the Rectus Abdominis using Diagnostic Ultrasonography | 24 |
| Aaron P. Gomitato & Dr. Sylvain Grenier | |
| My Campus Walk Laurentian | 24 |
| Desiree Quenneville, Jaimie Geist, Rachel Askett, Christina Weglewski, Julia Cerilli, Kimberley Friesen, Alannah Hawes, Basem Gohar. | |
| Is Imagery Enough? Do the Effects of Imagery Practice Provide Substantial Results to Replace Physical Practice | 25 |
| Shelby P. Rodden-Aubut, Matthew Berube & Dr. Sylvain Grenier | |
| #DistractinglySexy: How Social Media was used as a Counter Narrative on Gender in STEM | 25 |
| Emily Tetzlaff, Emily Jago, Dr. Ann Pegoraro, & Dr. Tammy | |
| Investigating the Reliability and Validity of Consumer-Available Sleep Monitors | 26 |
| Amber Tooley, Dr. Dianna Urajnik, Dr. Bruce Oddson & Sandra Dorman | |



PHED 2216: Research Methods in Human Kinetics

The Negative Impact of an Athlete's Mindset on Perfectionism Leading to Low Self-Esteem and Anxiety

Valerie Filicetti, David MacSporran, Mackenzie Robinson & Chancellor White

Objectives: This paper seeks to explore the impact that holding a perfectionist mindset has on male varsity athletes (specifically hockey players), and how it can contribute to low self-esteem and anxiety, and ultimately resulting in poor performance. There has been little research done providing the dangers about the negative impact of a perfectionist mindset on athletic performance. Due to such a strong perfectionistic mindset, it is common for athletes at a high level to suffer mental health issues such as anxiety and low self-esteem. The aim of this study was to learn how to place less importance on a perfectionist mindset, as well as coping mechanisms in order to reduce anxiety and feelings of low self-esteem, in addition to having a positive impact on their performance.

Design: A qualitative and quantitative approach will be used to explore male university varsity hockey athletes and their mental health, leading to poor performance in competition due to the misconception of a perfectionist mindset.

Method: A textual analysis of journal articles surrounding varsity male CIS athletes in connection with anxiety, low self-esteem, and poor performance as well as perfectionist mindset will be conducted. Interviews regarding personal information along with surveys will be used including Competitive State Anxiety Inventory-2 (CSAI-2) and Multidimensional Perfectionism Scale Frost-MPS.



What are the Effective Coping Strategies used by Varsity Athletes to Mitigate the Effects of Long Distance Bus Travel?

Victoria Galluzzo, Catherine Rocca & Rylea Therrien-Jones

Objectives: The purpose of this paper is to observe the effective coping strategies used by varsity athletes during bus travel. Subjects will receive a list of recommendations; however, they are also encouraged to explore their own coping techniques. This study will determine whether the pre-existing advisement is used or if a new, updated list should be made. Finding the effects of coping strategies can be useful in the way of potentially reducing the effects of long distance bus travel. Using first years will allow us to potentially see how these individuals handle the stressors of being put into an abnormal environment. First time being on their own, but also having to manage their time properly and cope with stress that co-exists with sports and academics.



Transformation of Health Policies after the Ebola Virus Disease in Regards to the Three Most Affected West-African Countries - Sierra Leone, Liberia, and Guinea

Julia Cerilli, George Roumanes, Kayla Pascente & Christina Weglewski

Objectives: The Ebola Virus Disease (EVD) outbreak of 2014 is considered to be the deadliest outbreak in history, resulting in the countries Sierra Leone, Liberia, and Guinea to be severely affected. The aim of



this study is to examine how or if health policies changed after the EVD outbreak in the three aforementioned countries and if there are implications for future policies.

Design: An exploratory approach was used to review health policies in Sierra Leone, Guinea, and Liberia. A literature review of peer reviewed papers discussing health policies in regards to the EVD outbreak in Sierra Leone, Liberia, and Guinea; Official government policies regarding the outbreak and future policies. Each of the three countries have different policies regarding outbreaks and there is little change within health policies regarding EVD. There is also a gap in the literature discussing these health policies and future implications.



Measuring the added sugar intake of Laurentian University Students on the Mandatory Meal Plan

Carley Bulfon, Jaden Lagace, Michaela McGillis & Karley McGlade

Objectives: There have been many studies analyzing the food served in cafeterias for students on meal plans, but none that have focused on the amount of added sugars students are consuming. The idea this study revolves around is implementing healthier options that do not subject students to a world of added sugars that serve no nutritional purpose. This study will provide an overview of the amount of added sugar a population of Laurentian University students adhering to the meal plan consume. We want this study to provide more consciousness towards added sugars and provide a foundation for future research.

Design: Qualitative and quantitative methods will be used to analyze the added sugar consumption of Laurentian University students that are on mandatory meal plan offered and methods to explore the lifestyles these students want to live.

Methods: A free app will be used called MyFitnessPal by Under Armour, this allows students to track their food consumption from the meal plan. This study requires an orientation day, 2 weeks of tracking all meals and snacks offered through the meal plan and a final day for a questionnaire. This app will allow us to export data to see how much sugar is being taken in (teasing out data not classified as added sugars).



The Post-Concussion Effects on the Mental Health of Female Varsity Hockey Players

Victoria Day, Collin Donaldson, Ashton Garraway & Adam Geoffroy

Objectives: There is limited information about the mental health of athletes with regards to concussions especially how they affect the female population. The aim of this study is to expand understanding of this correlation by examining the mental health outcomes after exposure to a concussion.

Design: A qualitative approach will be used to explore the behavioral and psychological effects caused from to exposure to a sport-induced brain injury.

Method: The outcomes after exposure to a concussion was investigated using 160 female varsity hockey players across Canada between the ages of 17 to 24. Assessment included participant information collection regarding history of playing hockey, concussions, physical and mental health, family physical and mental health and concussion symptoms. Furthermore, questionnaires and focus groups will be used to collect data regarding the mental health of the participants.



The Pressure is On: Coping with Stress as a Canadian Student Athlete

Alison Mielhausen, Michelle Myre, Emma Naughton, Brady Nicholson & Tara St. Jean

Objectives: This presentation seeks to expand our understanding on the coping mechanisms that Canadian female university student athletes use when they are dealing with psychological stress. The purpose of this study is to aid female student athletes with developing or enhancing their current psychological stress coping mechanisms. This will be done by examining the effectiveness and availability of current stress coping mechanisms.

Methods: In order to better examine the stress coping mechanisms that are currently used, a quantitative survey was created and will be administered at the beginning and end of the athletic season. This will be done with select stress coping mechanisms being used during the athletic season. The research will be used to discover what stress coping mechanisms are most effective for, and easily available to Canadian female student athletes.



Sleep Disturbances among Student Athletes Related to Training and School Stress

Hayley M.M. Chase, Meaghan L. Hopkins & Megan A. Trimmer

Objectives: The purpose of the study is to analyze the effects of training intensity and school workload on stress affecting the sleep quality. Studies have been done prior which have addressed student athletes stress levels during periods of intense times tend to increase and decrease in times of less intensity. What has not been done in studies, is addressing how these times of high stress have an effect on student athletes sleep.

Methods: In order to test this prediction 20 participants ranging in age from 18-26, studying their first year in Human Kinetics at Laurentian University, enrolled in a full course load. Testing using interviews and questionnaires will take place in the first month of school leading into the competitive season.



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Assessing The Core Muscle Activity Levels and Posture With The Use of Shoulder Strap Athletic Bags

Janet Cimino, Jimmy Ilunga, Daniel Longuepee, Tylor Ralph & Amanda Savoie

Objectives: This paper seeks to expand our understanding in assessing core muscle activity levels and posture while walking with shoulder strap athletic bags. The aim of this study extends such understanding by examining how stresses of shoulder strapped athletic bag carriage places an impact on musculoskeletal systems in adults by detecting Electromyography (EMG) signals. Reasons as to why shoulder strapped athletic bags may be related to musculoskeletal disorders due to postural changes and increased activation levels of the cores muscles are examined. A look at the literature indicates a high percentage of school children reported musculoskeletal disorder discomforts. Prevalence of discomforts were found in the neck, shoulder, hips, upper back, and lower back, all associated with backpack use. In addition, it was observed that musculoskeletal effects became more frequent when the backpack weight increased, resulting in changes in head and shoulder posture. Lastly, a majority of students perceived their shoulder bag weight as being normal but were not aware of the consequences of incorrect carriage. A detailed explanation of our methods will be explained, including a description of participants, procedure of the tests being performed, and our methods of data collection.



Poor Body Image Among Female Teens: Is Instagram to Blame?

Ryley Atwood, Daphne Gill, Emily Hill, Angela Jeans & Danika Terwilligar

Objectives: This presentation seeks to expand our awareness on the impact that Instagram, particularly “fitstagram” images pose on the body image of the female population, aged 13 to 18. The intention of the presentation is to provide current research in the area which suggests the possibility of this impact. The presentation will further go on to describe a future study to be conducted on females from Sudbury high schools, in order to assess whether or not “fitstagram” accounts negatively affect the self-perceived body images of teenaged females living in Sudbury, Ontario.





PHED 3905: Outdoor Adventure Leadership Internships

Crafting in the Wilderness

Sarah Catherine Carpenter

Objectives: This presentation seeks to inform others about the world of traditional crafting, and modern off the grid living. The intention is to discuss the operational details of the traditional winter tripping company, Lure of the North, and to review my personal experience living intimately with them on their wilderness property. I will also be going over the successes on my projected goals and objectives, as well as reflecting on my unexpected personal accomplishments and growth.

Results: This internship allowed me to not only explore the art of traditional crafting, but also taught me about the different aspects and benefits of living on a wilderness property.



Tim Horton Camp Whiteshell

Rebecca Dale

Objectives: The objective of this internship experience was to ensure that while at Camp Whiteshell, I helped campers and staff to have an enjoyable, educational, and memorable experience that would also be improved by gathering feedback. In addition, I wanted to ensure that I had the most beneficial and worthwhile experience, and I improved my leadership skills and experience.

Results: During this internship experience, I successfully implemented a mentorship program, an end-of-session survey, created an online recipe book of trip meals, and implemented the Life Effectiveness Questionnaire. I also attempted to journal creatively throughout the experience, but this was not met with as much success as the former goals. Overall, I was able to make a positive impact at Tim Horton Camp Whiteshell and achieved my objectives.



Horizons Adventures: An Internship Experience

Jamie Duncanson

Objectives: This presentation intends to bring forth an overview of the internship experience I had while working as an assistant sea kayaking guide with Horizons Adventures. In addition, the presentation evaluates the results I achieved in correspondence to the defined goal and objectives created prior to the internship placement experience. Key leadership learnings stemming from my experience will also be highlighted.

Results: This internship opportunity allowed me to immerse myself directly in the outdoor adventure leadership industry where I successfully developed a foundation of hard and soft skills pertaining to sea kayaking, backcountry camping and group guiding.



Learning Creatively with the Land and Community: An Internship Experience with 4elements Living Arts (Kagawong)

Katie Fenerty

Objectives: This presentation seeks to advocate for the activities of the community arts organization 4elements Living Arts, and promote the narrative experience of the author working with the organization in partial fulfillment towards the course PHED 3905 ADVL Internship. It seeks to highlight the viability of using the arts as a dynamic tool in outdoor experiential learning, through programming developed and delivered by the aforementioned organization.

Results: The author's experience working in an internship position with the organization has revealed several intriguing opportunities for implementing the arts in outdoor adventure experiences. As a result, this presentation offers the optimistic perspective of the author, authentic and considerate of anecdotal evidence that invites the audience to contemplate the arts as a complementary discipline in the field of outdoor education.

Conclusion: Outdoor educators, professional guides, wilderness therapists, and others might consider using a variety of arts infused wilderness experiences in order to bolster environmental stewardship, increase ecological knowledge, build connection to the land, promote healthy balanced lifestyles, and encourage sustainable community-minded attitudes in diverse populations and demographics.



Disability Inclusion in Outdoor Education

Ryan Gill

Objectives: This presentation looks to showcase a very unique Outdoor Education organization in Grande Prairie Alberta. Camp Tamarack is a barrier free facility that offers overnight summer camp programming for children and adults between the ages of three to 99 years of age with physical and or mental disabilities. Camp Tamarack also offers corporate bookings such as weddings and staff retreats. The purpose of this presentation is to bring attention to the disability and inclusion sector of the outdoor industry. In order to better understand Camp Tamarack as an organization, this presentation will expand on the organization's infrastructure, programming, facilities, as well the role of an intern.

Results: This presentation will showcase the results of the objectives accomplished throughout the season along with the successes and key learnings noted.



Am I Ready for This: A look into an Internship of Self-doubt and personal growth

Katherine Grove

Objectives: This presentation focuses on the challenges and successes of a four-month internship at the Calgary YMCA Camp Chief Hector as a program coordinator and director.

Results: Facing an internship that one does not feel prepared for is a terrifying experience and this pre-existing emotion will impact the experience. Calgary YMCA's Camp Chief Hector is a large summer and facility that has a strong emphasis on outdoor education programs for schools, and out tripping for summer camp. For this internship, two months were spent as the Outdoor Experiential School



coordinator, and two months as the Mistaya section director. Some of the largest challenges were facing the fear of failure, self doubt of personal abilities in the position, and the negative repercussions that occurred because of these challenges. Success in this internship came from the completion of goals and objectives, but even more so from the personal growth that took place during the two-month spring season, that were overwhelming.



Presentation of Experience Completing an Outdoor Adventure Leadership Internship with Overhang Adventures in the Summer of 2016

Sarah Hamilton

Objectives: This presentation plans to share the experience of a third year ADVL student's experience completing their internship in the summer of May 2016 – August 2016 with a company Overhang Adventures. The presentation seeks to demonstrate how she worked to accomplish her goal and objectives throughout the summer.

Results: The student was able to accomplish all her objectives through the span of the summer. Hear how she tackled obstacles, learned more efficient methods, and gain experience throughout this process. She was able to complete ambitions including; promoting the company through social media, and presenting at schools. In addition, she left a legacy at the company by creating new projects the company now uses daily. Finally, she completed her objective to improve her guiding skills going from having little guiding experience to being able to perform solo guiding trips weekly.

Conclusion: Internships can be incredible and meaningful and through this presentation, the hope is to inspire students to really take thought into their internships and not worry about the money and focus on the experience and opportunity.



Internship as the Out-Trip Director at Camp Cadicasu

Taylor Kipfer

Objectives: This presentation describes my time as the Out-Trip director at Camp Cadicasu located in Brant Creek, Alberta. The presentation covers the daily tasks associated with the position as well as the greater objective of my time there, developing a canoe tripping program.

Results: The camp provides a focus on primitive skills and building a connection between children and nature. This focus leads to weekly trips for campers and hard skills teachings such as fire making and shelter building. The camp had no previous history with canoe tripping and thus the program would serve to be the first venture into this mode of entering the backcountry.



At Last Adventures: Outdoor Entrepreneurship

Nic Kreuzweiser

Objectives: This presentation will outline my experience completing an internship with a newly developing company. The intention will be to discuss ways that working for a newly established business



offers benefits to moving forward professionally, but will also cover many of the limitations associated with the position.

Results: The internship opportunity with a small business allowed me to see many more aspects of a business than I would have working for a larger company. The internship provided the opportunity to participate, at last in part, with all aspects of what is required to own and operate an adventure based business.



Redesigning the Outdoor School Programs

Luke MacKinnon

Objectives: To explain and show what the Outdoor School (ODS) programs in the School of Human Kinetics (SHK) were in the past, what they have become today, and how I have helped to change them for them through my internship. When I began this internship I set out to make the ODS programs more relevant and beneficial to the students. This involved changing the programming of ODS 1 and 2, changing the leadership structure and evaluating the programs through feedback and student surveys. I will be explaining what I did, what I learned and how I helped to change the ODS programs for SHK students.

Results: After completing my internship I have improved the ODS programs in many ways. I have created an application process that will attract upper year SHK students to be leaders in ODS 1. I have changed the programming of ODS 1 and 2 to be more purposeful and relevant to the students. I have also created a comprehensive guide describe to the future ODS organizers exactly what works, what doesn't, what needs to be changed and future recommendations for the programs.



Social Media and the Rebuilding of Outdoor Adventure Leadership Connectivity

D. Massel

Objectives: The main objective of my internship was to create a system, or systems, that gave students in Outdoor Adventure Leadership (ADVL) an easier way of accessing information about upcoming events, trips, and other things relating to ADVL. The hope is that this system and my motivating people to come to the events, would increase the connectivity between the all the years.

Results: I was fighting an upstream battle that I did not want to fight. I quickly lost motivation to make new systems when my current calendars and updates did not seem to work. My mentors, had warned me that I would be doing everything by myself, but I did not realize until afterwards how difficult that would be.



YMCA John Island Camp Internship Experience

Kyra Ranney

Objectives: This presentation seeks to provide an overview of the internship experience I had while working in a leadership position at a residential summer camp. Furthermore, I will be highlighting why I



selected this placement, in addition to the major successes and key leadership learnings that resulted from my experience.

Results: This internship allowed me to improve my personal leadership skills and effectiveness by facilitating leadership-growth based programming to youth and developing tools to ensure consistent and successful delivery of the program in the future.



Outdoor Adventure Leadership Internship Experience: Blackstone Uplands Research Expedition

Nathan Romahn

Objectives: This internship experience was completed with partnership between the newly established Laurentian University Permafrost Research Laboratory and the Laurentian University's School of Human Kinetics Outdoor Adventure Leadership program. This presentation aims to share the experience of planning and conducting a scientific research field expedition in Northern Yukon Territory, Canada. Goals and completed objectives will also be discussed as well as key learnings and other successes from this experience.

Results: The Laurentian University Permafrost Research Laboratory successfully completed its first research expedition in the summer of 2016. This was a 28-day field expedition in the Blackstone Uplands region in northern Yukon. Upon completing this internship experience knowledge was gained to better understand how research is conducted, how it is applied, and all the work that goes along with carrying out a research expedition.



Laurentian University Outdoor Centre Internship and the Rise of the Tango Tower

Beau Williams-Orser

Objectives: This presentation seeks to showcase my learnings of my internship as employee with the Laurentian University Outdoor Centre. In the position of Program and Systems Coordinator for the Laurentian University Outdoor Centre (LUOC), my mission was to innovate and apply an operational plan for the newly constructed high ropes and low ropes course, enabling the new venue to become an effective service offered by the LUOC.

Results: Personally having facilitated clients for over 150 hours, I was able to gain an abundant amount of field experience throughout, succeeding in my goals of gaining experience guiding and facilitating the various services offered by the LUOC. In collaboration with the coworkers and School of Human Kinetics faculty members, I was able to design and implement operations that increased the efficiency, safety and quality of the programming delivered by the LUOC on the challenge course.





PHED 4106: Adaptive Physical Education

Breaking the Mental and Physical Barriers during Quadriplegic Rehabilitation: The Story of Brent Price Christopher Atkinson, Joshua Cordery, Thomas Gill, Joshua Gutta, Wade Montpellier & Brock Sutton

Objectives: This presentation aims to tell the story of “Brent Price” who suffered a life changing injury due to a severe motorcycle accident. The intention is to appropriately develop and prescribe a rehabilitation process for this now quadriplegic individual. This process must address both physical and psychological aspects of recovery. “Price’s” physical and psychological barriers will be identified, and taken into consideration with creating the rehabilitation plan. The implemented plan will be evaluated based on personal success criteria created by “Price” and the health professionals working with him.

Results: “Price” and his team of health professionals created unique success criteria to assess whether the personalized rehabilitation plan worked in full. In order to formulate an effective rehabilitation plan, comparisons must be drawn from external, high-quality sources, and moulded into a personalized process. The results of this individualized rehabilitation plan met the success criteria, and highlighted how positively his physical and psychological health have benefited.

Conclusion: The presentation concludes by suggesting taking an individualized approach to formulating a rehabilitation plan is critical to the patient’s physical and psychological well-being. By having the patient understand their current situation and limitations, realistic goals can be set which when met, will not only improve physical health, but psychological health as well.



Narrative Analysis: Understanding Becker Muscular Dystrophy

Paige Droog, Victoria Ecker, Stephanie Monicon, Samantha Morell & Nicole Vigilanti

Objectives: This presentation seeks to expand on the knowledge of Becker Muscular Dystrophy specifically in the analysis of 17-year-old “Jonny Longbottom” in adapted physical education. The intent is to increase knowledge and awareness on the condition through exercise with a proper prescribed physical activity plan. This plan aims to improve and sustain “Longbottom’s” range of motion in his joints, to prevent contractures and scoliosis as well as respiratory disorders, in order to achieve his highest quality of life.

Results: It is stated to be believed that this is a relevant topic to analyze as Becker Muscular Dystrophy has a prevalence rate of three to six out of 100,000 individuals. Through a proper physical activity plan with a focus point of cardiorespiratory and muscular strength training, Becker’s symptoms can be depicted as less detrimental and more manageable.

Conclusion: This presentation concludes that muscular strength and cardiorespiratory training is the best course of action to manage the onset of physical symptoms that coincide with Becker Muscular Dystrophy. Everyone is entitled to inclusive and quality physical activity. The end goal of this study is not to eliminate symptoms, as they are non-curable rather to increase quality of life and daily function for the patient.





Implementation of Physical Activity to Reduce the Occurrence of Self-Injury among a Low Functioning Autistic Boy

Devin Currie, Rebekah Feetham, Jonathan Glynn, Kai Salminen & Bronte Yandea

Objective: The analysis consists of a 10-year-old male who has been diagnosed with Low Functioning Autism, meaning the patient has little to no language skills as well as a wide range of social, physical, and cognitive impairments. The patient was referred to us due to his inability to adapt and cope with stressful situations, leading to self-harm. It was observed that the occurrence of self-injury was highly related to academic demands, which correlates to increased levels of stress. The parents requested an intervention to mitigate the issue.

Results: In an attempt to reduce the issue of self-injury, a physical activity program was implemented. This involved participation in physical activity for fifteen minutes prior to academics or stressful situations in order to decrease frustration, alleviate stress, lower blood pressure, and increase serotonin levels. The intervention of physical activity before high academic demands was successful. The student notably performed better academically and it also resulted in lower levels of stress during such demands.

Conclusion: It was concluded that the implementation of physical activity was effective in the mitigation of self-injury.



Multidisciplinary Management of Type II Diabetes for an Older Adult Male Client with Foot Neuropathy

Jordan Barberio, Kristy-Anne Dubé, Hailey Lively, Alexandra Webb

Objectives: This presentation introduces the case of a 65-year-old male client with Type II diabetes and mild neuropathic foot ulcers. This presentation seeks to discuss the therapeutic modalities prescribed for this client, in consideration of socio-environmental adaptations involved in the client's access to facilities. The primary goal was overall diabetes management with a particular focus of mitigating ulcer progression.

Results: This client was prescribed a holistic therapeutic program that included medical, educational, nutritional, and exercise programs to manage the client's diabetes. Exercise focused on minimal weight bearing activities in the categories of aerobic, resistance, strength, balance and flexibility. This program helped to improve current ulcers, prevent future ulcers, and increase overall client well-being.

Conclusion: The prescribed modalities used to manage this client's diabetes were successful in achieving the stated objectives. This study suggests multidisciplinary methods for the management of diabetes and its related complications.



The Use of Sports Therapy in the Recovery of an Amputation

Lindsey Castonguay, Chelsea Hobourn & Areeba Mirza

Objectives: This presentation seeks to present a case study of an individual who had recently undergone an amputation and suggest participation in sport therapy as a method of rehabilitation. The intention is



to describe the case of this individual, reasoning for the suggestion of this method and the predicted results to be found.

Results: Firstly, some reasons as to why sport therapy may be an effective method of rehabilitation is considered and then a description of how sport therapy could be presented in this particular case. Next, in order to better understand what sport therapy can mean, the different uses of sport therapy will be introduced. Lastly, the predicted results of sport therapy use in this case will be discussed.

Conclusion: The presentation concludes by suggesting that sport therapy may be an effective method of rehabilitation for amputees regardless of skill or activity level.



Exercise Regimen for Therapy And Rehabilitation Following Hemiarthroplasty: A Fictitious Quasi-experimental Case Study

Caleb Apperson, Alexandre Girard & Brandon Howes

Objectives: This presentation seeks to describe an effective therapy and rehabilitation regimen for a 65 year-old male following hemiarthroplasty due to a motorcycle fall. The intention is to apply relevant and test proven therapy programs to this fictitious case while articulating a reasonable timeline for full recovery. Therapeutic intervention will be thoroughly explained as well as the cause of injury, the rationale for medical examination, complications, and recovery.

Results: Functional patient outcome measures obtained, have included an increased quality of life (QOL), range of motion (ROM), a reduction in pain as well as a foundation for self care through cryotherapy; the patient gained independence, an improved gait and physical function.

Conclusion: Given proper diagnosis, treatment and rehabilitation, any similar individual who has experienced a major hip complication is also able to return to their previous quality of life.



An Eye for Exercise: Exploring an Exercise Regimen for a Patient Suffering from a Severe Visual Impairment Causing Tunnel Vision due to Retinitis Pigmentosa

Emily Booth, Allison Smith & Alysha Zandarin

Objectives: This presentation seeks to develop an understanding of retinitis pigmentosa and the disability of severe visual impairment that results. In turn, an adapted fitness plan will be created and prescribed, that accommodates a loss of peripheral vision. The fitness plan will be based on the case study of a female individual who suffers from this particular disability.

Results: An analysis of the disability history, pathology, symptoms and diagnosis will be completed. In addition, there will be an evaluation of the patient's residing community, available resources and socioeconomic status. This information will aid in the development of an adapted exercise regimen. Successful implementation of the fitness program will aim to improve physical, mental and social health and well-being of the individual.

Conclusion: The exploration of various exercise regimens will lead to the decision of which program suits the individual best. The presentation will conclude with the proposed benefits of the adapted fitness program.



Summer Mortimer: A Case Study Analysis of Adapted training Methods for Foot and Ankle Injuries

Cassandra Beach, Kylie Garland, Jennifer Hull, Kalee MacDonald & Ben Taylor

Objectives: Swimming is a proven form of therapy for joint and bone rehabilitation and is known for being a non-weight bearing activity. For a swimmer returning to the sport, many adaptations can be made in case of injuries in various extremities and joints. In the case of Summer Ashley Mortimer, Canadian Paralympic Swimmer, swimming was used in rehabilitation of a foot and ankle injury. Mortimer became an SM10 classification Paralympic swimmer after a trampoline accident shattered the bones in both of her feet in 2008. Mortimer was confined to a wheelchair for several months after screws and plates were placed in her feet. Mortimer's rehabilitation was a long process that included several training adaptations in the water and on land. Mortimer's coach will be interviewed to analyse adapted training methods implemented and the effectiveness of them.

Method: Mortimer's coach, Reg Chappell, prescribed a specific training regime that not only aided her in her recovery, but also brought her to become a four-time Canadian medallist (two gold, one silver and one bronze) in the Paralympic Games in London. Chappell will share Mortimer's prescribed training regimen to be analysed and compared to studies in a review of literature for adaptations for foot and ankle injuries. Additionally, using a qualitative study method and interviews, Mortimer will describe the history, diagnosis, clinical examination and pathology of her disability.

Conclusions: It is important to understand training adaptations that can be made in swimming to rehabilitate injury and prevent further injury. Additionally, it is crucial to recognize that performance can be improved post-surgery with the correct adapted training methods.



Exploring the use of a Resistance Training Regime and its Effects on Relapse Remitting Multiple Sclerosis

Justin Batman, Donald Beaulieu, Dalton Hillier & Ian Walters

Objectives: To begin an exercise regime that prioritizes safety and allows "John" to regain some strength capabilities and re-store confidence in his abilities.

Design: To use a qualitative approach and begin to understand the effects of a well structured workout regime on "John's" disorder Relapse Remitting Multiple Sclerosis (RRMS).

Method: Utilize a well-structured workout routine, that emphasizes safety too allow John to re-build strength and re-store confidence in his abilities. Workout routine will utilize various training principles that suit "John's" needs. His routine will primarily revolve around the use of bodyweight, however some resistance bands and machines will be added in upon progression of the program.

Results: "John" shows tremendous signs of improvement upon completion of the workout program. The limitations of this neurological disability are slightly unpredictable and tend to vary amongst different individuals depending on the frequency and duration of relapses. The program has reduced relapses for John and continues to prolong his degeneration allowing him to prolong his life span.

Conclusions: This study opens a new window of understanding concerning relapse remitting multiple sclerosis and well structured workout regimes. Programs will have to vary amongst individuals; however, there are clear benefits to the implementation of a well-structured workout regime.



Physical Analysis of the Visually Impaired and Integration into a Healthy Active Lifestyle

MacAuley Carr, Laura Deller, Emma Léger, Miranda Smith & Jessica Staats

Objective: This presentation examines the case of patient X, a 25 year old Indigenous woman living in the city of Sudbury. She is the single mother of a nine year old son. She has yet to obtain a high school diploma, and is currently working at Deluxe Hamburgers. The patient presents with a visual impairment, and upon review of her medical history, it is discovered that she has Type II Diabetes.

Results: After completing an eye exam, it is determined that patient X has diabetic retinopathy, which is caused by abnormal vessel growth and the development of scar tissue in the eyes. The medical history of the individual, the pathology of diabetes and diabetic retinopathy, and treatment options are reviewed in greater detail. Patient X is seeking a diagnosis for her vision loss and physical activity suggestions to better her quality of life.

Conclusion: Considering the patient's background, medical history, health, the diagnosis, and available and accessible resources, a general fitness activity is prescribed with the intention of helping the individual maintain a healthy lifestyle despite the visual impairment and Type II Diabetes.



Physical Activity Prescription Plan for Tanzanian Child with Moderate Spastic Cerebral Palsy acquired at Birth

Hannah Ballantyne, Lauren Hamill, Brittini Rorison, Isabelle Roy, Janel St. Georges & Sammi Turchet

Objectives: This presentation seeks to provide information in regards to the potential benefits of a physical activity prescription for a young girl living with moderate spastic cerebral palsy acquired at birth in Tanzania. For the last seven years the child has been carried by her mother, as she was never taught to walk effectively. This specific prescription plan will be used in efforts to promote muscle development and strengthening of the lower limbs, hopefully facilitating her ability to walk.

Results: The prescription of specific exercises for the development of the child's lower limbs shows great potential for allowing the child to walk independently. Though this is a feat that would be highly achievable in a more developed country, the limited resources available in the child's community as well as in the country itself had to be accounted for. Furthermore, the child's comorbid conditions including a speech and hearing impediment had significant influence on the decision's made in relation to the prescription.

Conclusion: This presentation concludes by suggesting that the physical activity plan prescribed has the potential to achieve its purpose in promoting the child's ability to walk. It emphasizes the importance of considering the resources and interventions available given the child's background and community.



Evaluating whether Dance Style has an Impact on Therapeutic Success in Dance Therapy for Parkinson's Disease

Shannon D'Angelo & Miranda Waugh

Objectives: For those with Parkinson's disease, dance has proven to be an effective therapeutic measure in managing various motor and non-motor symptoms. Most studies use dance therapy interventions



that incorporate styles such as tango and ballroom, but very few use other styles such as contemporary, modern, jazz, and ballet. This study will review the available evidence on which dance styles are most appropriate to be used as a therapeutic intervention for those with Parkinson's disease.

Design: A systematic review and meta-analysis was used to investigate the impact of style of therapeutic dance effectiveness for people with Parkinson's disease.

Method: The Web of Science and CINAHL databases were searched using the following keywords: dance, Parkinson, Parkinson's disease, and dance therapy. A systematic review was performed regarding the outcomes of measures such as balance, gait, mood, and quality of life. Effect sizes were extracted where possible and a pooled estimate of dance therapy effectiveness was made for various styles.

Conclusions: We suggest that dance style may be an important variable to consider when creating a dance therapy program for Parkinson's disease.



Implementation of a Guided Walking and Running Program for an Adolescent Female Diagnosed with Retinitis Pigmentosa

Jamie Ames, Kaylee MacKinnon & Karline Robinson

Objectives: This case study is intended to expand understanding of the diagnosis and degenerative effects of Retinitis Pigmentosa (RP), as well as observe physical and psychological effects of a prescribed guided walking and running program. By observing the patient, a fourteen-year-old female, information will be gained with regard to the pathology of RP, symptoms displayed prior to diagnosis, and the diagnosis. With the collected information, a guided walking and running program will be implemented, and the results of this program will be observed.

Results: This case study presented a positive physical and psychological outcome with regard to the implementation of a mobility training and running program for the patient. Shortly after diagnosis, the patient began mobility training with an orientation and mobility specialist. Once the guided running portion of the program began, both physical and psychological improvements were observed in the patient.

Conclusion: This case study concludes by suggesting that through the information collected regarding the psychological effects of the disease on the individual involved in the study, the running program developed for the patient involved in the study presents an effective outcome in terms of improving mobility performance and the quality of life of the patient.





PHED 4805: Research Thesis in Kinesiology

The feasibility of identifying mental stress using heart rate variability methods with Firstbeat Sports software during different periods of exercise

Nicholas Beckett-Brown, Dr. Stephen Ritchie, Dr. Bruce Oddson, Dr. Dominique D. Gagnon & Dr. Oliver Serresse

Objectives: Heart rate variability (HRV) has become a popular method to evaluate psychophysiological functions of the human body. This study aimed to assess if mental stress could be detected using HRV analysis software, Firstbeat Sports during periods of continuous and interval exercise.

Design: A balanced design was used with three conditions and repeated measures to collect HRV data during both control and experimental trials. Pre- and post-test questionnaires were used to validate that a mental stressor intervention caused increased stress levels.

Method: Participants (n=22) were subjected to a mental stressor intervention while performing no exercise, continuous exercise, and interval exercise for five minutes in each condition. In the control trial there were no mental stressor interventions, but participants still performed the same type of exercise.

Results: The questionnaire results indicated that participants experienced a statistically significant level of stress during the experimental trial. However, the HRV results using Firstbeat Sports software indicated that there was no significant change in stress levels between control and experimental trials.

Conclusions: Although HRV methods have been used to demonstrate mental stress in other studies, we were unable to distinguish mental stress during varying types of exercise in this study.



Canadian University Student Experiences Participating in Health Promotion without Borders (HPWB) Trips to Mongolia and Malawi

Shelby Deibert, Dr. Stephen Ritchie, Dr. Bruce Oddson & Prof. Ginette Michel

Objectives: No formal research has been conducted with respect to the HPWB Program or the experiences of the participants while completing their international work-study. My thesis will address this need by studying the experiences of the HPWB participants.

Methods: This research will involve two components: (1) an autoethnographic reflection, and (2) a thematic analysis of participants' journals and final reports. The purpose of the autoethnographic reflection is to capture my immersive experience as a participant in the program, while the analysis of participant journals will uncover the experiences of other students during their participation. The data generated will hopefully answer the following questions:

- (1) What is the nature of the experiences of students participating in the HPWB Program?
- (2) How does the HPWB Program itself influence those experiences?

Conclusions: This study will benefit the HPWB Program Coordinator, future leaders, and future participants by capturing the essence of the experiences of participants. This study will also contribute to the scientific community through its use of innovative methods and the increase of literature available on international volunteerism.



The Effects of Ambient and Inspired Air Temperatures on Physiological Responses

Marc Fortin, Dr. Olivier Serresse & Dr. Dominique Gagnon

Objectives: The purpose of this study was to compare metabolic and physiological responses while exercising in different inspired and ambient air temperatures.

Design: After a baseline VO_{2max} test, twelve subjects participated in a randomly assigned sequence of the following conditions: 21°C room temperature and 21°C inhaled air (R21A21), 21°C room temperature and 34°C inhaled air (R21A34), 34°C room temperature and 21°C inhaled air (R34A21), 34°C room temperature and 34°C inhaled air (R34A34).

Method: Subjects' exercised on a magnetically braked cycle ergometer as inspired and expired gases were analyzed via metabolic cart (MGC diagnostics). Blood lactate and Tympanic temperature were taken at the end of every sub maximal stage and after volitional exhaustion of all four conditions.

Results: Preliminary data results suggest a significantly higher respiratory equivalent for oxygen (VE_{VO_2}) in R34A34 than in R21A34 as well as a higher tympanic temperature in R34A21 and R34A34 than in R21A21 and R21A34.

Conclusion: The lower tympanic temperature in R21A21 and R21A34 than in R34A21 and R34A34 suggests a greater contribution of external heat loss when compared to internal heat dissipation.



Kinematic Angle Analysis of a Sprinting Gait in Female Soccer Players with and without Medial Tibial Stress Syndrome

Heather C. Gilbert & Dr. Alison Godwin

Objectives: Medial tibial stress syndrome (MTSS), an injury that is often used synonymously with shin splints, is under-researched in the female population that participate in high impact sports. This study attempts to bridge the gaps left by previous literature, aiming to compare angular differences in the stance phase of a sprinting gait between female soccer players with symptoms of MTSS and those who do not.

Design: An observation of the correlation between symptoms and potential differences in plantar flexion, pronation and hip drop during the stance phase of a sprinting gait.

Method: Video analysis of three sprinting trials was conducted for every subject; two GoPro's were used to collect data, which recorded at 120 fps and 1080 resolution in the sagittal and frontal planes. Motion capture was performed using markers on the subject and the video analysis program Tracker.

Results: Data analysis is in process and results will be assessed soon.

Conclusions: Following the completion of the data analysis, a conclusion will be found on the correlation between kinematic angles and the presence of MTSS symptoms.



Exploring the Changes in Muscle Fiber Length of the Rectus Abdominis using Diagnostic Ultrasonography

Aaron P. Gomirato & Dr. Sylvain Grenier

Objectives: A large number of studies have explored the differences in preferential segment activation of the rectus abdominis when comparing leg raises to curl-ups and sit-ups. However, the data has been collected through the use of an electromyography (EMG), resulting in no visual evidence of differences. This study aims to explore, as well as EMG activity, the change in muscle fiber length of each segment through use of a diagnostic ultrasound.

Methods: Electrodes were placed on the second and third segments of the rectus abdominis on the right side of each participant. A maximum voluntary contraction during a sit-up was recorded. Three repetitions of a 4-second sit-up, crunch, and leg raise were performed and recorded. Next, the participants were asked to perform 4 more sit-ups, crunches, and leg-raises during the ultrasonography phase of the test protocol. An M-mode ultrasonography was used to record each segment of the rectus abdominis during each exercise.



My Campus Walk Laurentian

Desiree Quenneville, Jaimie Geist, Rachel Askett, Christina Weglewski, Julia Cerilli, Kimberley Friesen, Alannah Hawes, Basem Gohar.

Objective: To determine distances between main buildings on the Laurentian University campus in order to create user-friendly map advertising walkability of the campus. The purpose of the map poster is to increase awareness of opportunities for exercise on campus through walking, and to promote the health of the Laurentian University community.

Design: Using satellite and Global Positioning System (GPS), primary walking paths (i.e. the walking path from the Laurentian University library to the Ben Avery gymnasium) around campus were measured to determine distances between various landmarks on campus.

Method: Distances were all calculated using the GPS. The poster is to be created using an application allowing colour coded paths superimposed on a satellite image of the campus, offering optimal readability of the map.

Results: Nine paths were measured and plotted: parking lot 14 to West residence, parking lot 14 to the library, parking lot 14 to the gym, library to the gym, West residence to Thorneloe University, Laurentian beach to the gym, walking path from Huntington University to the gym, Bell Park to West residence, and East residence to West residence through the buildings.

Conclusion: Implications of the creation of this poster will be to raise awareness of the walkability of the Laurentian University campus. The goal of the poster is to promote health for the members of the Laurentian community through the accessible information on distances of popular walking paths on campus.



Is Imagery Enough? Do the Effects of Imagery Practice Provide Substantial Results to Replace Physical Practice

Shelby P. Rodden-Aubut, Matthew Berube & Dr. Sylvain Grenier

Objectives: It has been proven that there is a possibility to improve the strength of a muscle through the use of imagery. The aim of this study is to determine whether or not, if the increase in strength is possible, the use of imagery can provide significant increases in a skill related task – in this case, kicking.

Design: A quantitative comparison to explore the link between imagery practice and kicking practice on skill maintenance and acquisition.

Method: A comparison of participant scores from control, physical practice, and imagery practice interventions to determine improvement from baseline kicking scores to final kicking scores.

Results: The study demonstrated that imagery practice can provide significant increases in the performance of a skill related task when compared against the use of physical practice and no practice.

Conclusions: With the results a window has been opened into the uses of imagery for the benefit of skill improvement, and the possibility to apply imagery to the field of physiotherapy and rehabilitation to maintain and improve skill capacity.



#DistractinglySexy: How Social Media was used as a Counter Narrative on Gender in STEM

Emily Tetzlaff, Emily Jago, Dr. Ann Pegoraro, & Dr. Tammy

Objectives: On June 8th, 2015, Nobel laureate Tim Hunt said: “Let me tell you about my trouble with girls. Three things happen when they are in the lab: You fall in love with them, they fall in love with you, and when you criticize them they cry.” Following his statement, the hashtag #DistractinglySexy trended on Twitter. This study investigates how users interpreted the Tim Hunt speech, and how they represented their message through visual media on Twitter.

Design: Hashtracking was used to gather 58,969 tweets that contained an image associated with #DistractinglySexy.

Method: Content analysis was used to analyze the images and a codebook was adapted from the ‘Draw-a-Scientist Test,’ a test initially designed to reveal children’s beliefs about science through the use of stereotypical features. To enable human coding of a large data set, a purposeful sample of 3,648 images was extracted.

Results: The results of this study indicated that users of the hashtag predominately portrayed themselves posed in PPE, in a laboratory.

Conclusions: This study contributes to social media literature, by illustrating how Twitter was utilized to create counter narratives that combat and highlight the challenges women in STEM face.



Investigating the Reliability and Validity of Consumer-Available Sleep Monitors

Amber Tooley, Dr. Dianna Urajnik, Dr. Bruce Oddson & Sandra Dorman

Objectives: Sleep-related fatigue impacts everyone; however, it is particularly relevant in the occupational setting, as a fatigued worker may pose a health and safety risk to themselves and others. With advancements in technology, researchers and companies are now able to readily access relatively inexpensive devices that claim to be effective and accurate in assessing sleep. To date, these devices show inconsistencies in their reliability. The proposed presentation will outline a study designed to compare the validity and reliability of the consumer devices: Fitbit and Misfit; against Actigraphy, which is considered to be the gold standard for sleep assessment in free-living environments.

Design: A quantitative approach is proposed to assess the validity and reliability of sleep tracking capabilities, using consumer available products compared to the gold standard measure; in a free living environment.

Method: Assessment and comparison of two consumer-available devices against the gold standard (actigraphy); conducted over one day and two nights of sleep under normal conditions.

Conclusions: Through validation, this study will help answer the degree of consistency between consumer devices for use in sleep tracking and assessment.

