MOUNT ROYAL UNIVERSITY
1910
CALGARY, ALBERTA

Research and Scholarship Days 2024

University-wide Student Poster Research Presentations

Tuesday, March 26, 2024

10:00 AM - 2:00 PM

Main Street, Lincoln Park

Poster Session 1 (10 AM - 11 AM)

Poster No.	Authors	Faculty Advisor	Title	Review Requested?
1	Depanshu Suyal	Lynn Moorman	Stream Elevation Change Detection with GIS	Yes
5	Micah Ignacio	Jeella Acedo	Determining the Antimicrobial Activity of Corynacin, a Novel Bacteriocin from *Corynebacterium jeikeium*	Yes
9	Yen Luong, Karen Ho, Harman Kaur	Karen Ho	Using an Eye Tracker to Identify Eye Movement Patterns During Reflective Learning	Yes
10	Abigail Urizar	Rebecca Gilmour	Reexamination of Care and Experience Related to the Coexistence of Melorheostosis and DISH in a Female Skeleton from Magna Graecia, Italy (Sixth Century BC)	Yes
13	Aamira Budhwani	Breda Eubank	How can Cognitive and Behavioral Domains of Physical Literacy be Addressed Using Music and Rhythm as an Intervention Tool in Preschool-Aged Children?	Yes
17	Paige Anweiler	Scharie Tavcer	An Exploration into the Prevalence, Related Risk Factors, and Aftercare Programming Available for Youth, Transgender Youth, and Young Adults Who are Unhoused and Commercially Sexually Exploited	Yes
21	Pelvain Dhanda, Brock Pearson	Lynn Moorman	Streamlined Success: Mapping the Morphological Impact of Restoration in Radiant Creek	Yes
25	Reese Tofts, Holly Johnson	Holly Johnson	Empowering Change: Integrating Technology and Community Coordination in Addressing Domestic Violence Challenges	Yes
29	Breanna Wilbur, Mercedes Rego	Rebecca Gilmour	Leprosy in the Carpathian Basin: An Analysis of Care in 10th Century Hungary	Yes
33	Caden Albright, Nausheen Sadiq	Jeella Acedo	Characterization of a Novel Antimicrobial Peptide, Corynacin, Produced by Corynebacterium jeikeium	Yes
37	Malcolm Rogers, Charles Blanchard	Lynn Moorman	Restoring Freshwater Ecosystem Health in Alberta: Riparian Vegetation Condition in the Clearwater - North Saskatchewan Watershed	Yes
41	Amirah Azmi	Sarah Orton	Regional Disparities in Access to Assisted Reproductive Technologies (ART)	Yes
45	Sebastian Soltes, Chuqing Dong, Ran Ju	Ran Ju	Transparency and Authenticity in ESG Reporting: A Quantitative Analysis of Oil and Gas Industry Communications	Yes
53	Eliot Scharnau	Aaron Johnson	How National Parks Uphold Colonialism: A Case Study of Jasper National Park	No
57	McKenna Poluk	Rebecca Gilmour	Index of Care Assessment for an Individual with a Lower Leg Amputation Found in Shaanxi China, Zhou Dynasty	No
61	Sterling Kerr	Anthony Chaston	Virtually Everywhere: A Scoping Review of the Use of Virtual Reality and Immersive Technologies in Goalkeeper Training	No

Poster Session 2 (11 AM - 12 PM)

Poster No.	Authors	Faculty Advisor	Title	Review Requested?
2	Santina Duarte, Xena Al-Hejji	Eric Chalmers	A Melancholy Machine: Simulated Synapse Loss Induces Depression-like Behaviors in Deep Reinforcement Learning	Yes
6	Clarisa Ghinescu, Skye Boucher	Stasha Huntingford	What are the Barriers to Post-Secondary Education in Northern Canadian Indigenous Communities, and How Can Institutions Like Mount Royal University (MRU) Respond?	Yes
14	Gordy Ha	Janne Holmgren	3D-Printed Weapons in the Canadian Legal Context, Contemporary Forensic Evidence of 3D Printed Weapons and International Considerations Regarding Spread and Utility of 3D-printed Weapons	Yes
18	Kayla Saraceni, Chloe Rapin, Wiktoria Sekula	Michelle Brigel	How do University Students Mitigate Factors of Burnout	Yes
22	Harman Brar, Ivy Lau, Marie Ortiguesa	Carolyn Bjartveit	Exploring the Impact of Work-Life Balance on Academic Performance for Post-Secondary Students at Mount Royal University.	Yes
26	Isabel Melendez	Ines Sametband	Examining How the Immigration Process Influences Immigrant Parents' Parenting Practices	Yes
30	Casey Arnott, Catherine Soulabaille, Coda Walker, Darianny Perez	Michelle Briegel	Early Learning Educators' Preparedness to Support Immigrant and Refugee Children	Yes
34	Benjamin Rudolph	Lynn Moorman	Assessing and Predicting Placement of PALS for Optimal Stream Flow Deflection with GIS	Yes
38	Brandon Bradbury, Sydney Cochlan	Lynn Moorman	Bull Trout Need PALS Too! A Spatial Research Project	Yes
42	Tamara Bryant	Rebecca Gilmour	Re-analysing a Bioarchaeological Case Study From a Late Woodland Period Individual Using the Index of Care Method	Yes
46	Samantha Vinje	Scharie Tavcer	Doing Nothing Kills: "Not in my Backyard", Harm Reduction, and the Opioid Crisis	Yes
49	Amy Moss, Byrnn Lindstrom	Jill Parnell	Effects of Protein Intake on Gastrointestinal Symptoms in Runners	Yes
50	Michael Myer	Ashok Krishnamurthy	CougarStats: An R Shiny App for Statistical Data Analysis	Yes
54	Amber Broda, Rayne Seip	Rebecca Gimour	Applying the Bioarchaeology Index of Care to an Early Anglo Saxon with Osteogenesis Imperfecta	Yes
58	Easton Helfrich	Chris Lovallo	Determining the Antioxidant Activity of Anthocyanins in Hibiscus Sabdariffa	No

62	Alfred Jageregger	Lynn Moorman	Radiant Creek Land Cover and Stream Classification	No

Poster Session 3 (12 PM - 1 PM)

Poster No.	Authors	Faculty Advisor	Title	Review Requested?
3	Zakari Mulrooney	Katherine Bright	A Walk to Remember: Effectiveness of 3MDR in Older Adults	Yes
7	Jenna Miles	Ademola Adesola	Different Approaches to Postcolonial Issues in Contemporary African Epistolary Narratives	Yes
11	Aliya Jomha, Daniel Devoe	Daniel Devoe	Stand By Me: Peer Support for Youth with Mental Health Concerns	Yes
15	Claire Barnes & Charlie Hodges	Rebecca Gilmour	Applying the Index of Care to the Survival of the Ohalo II Man with Osteomyelitis and Erbs-Duchenne Brachial Palsy in the Upper Paleolithic	Yes
19	Tia McNeil, Connor Campbell, Daniil Stolear, Khadija Abbas, Xander Greig, Morissa Lloyd, Morgan Gillies, Gina Dimitropoulos, Daniel Devoe	Dan Devoe	Unveiling the Mind: Insights into Neurocognitive Functioning in Bulimia Nervosa	Yes
23	Maddie Maggipinto, Ashton Bennett, Allan Hein, Tara Nicholls	Gio Dolcecore	Support Group for Parents of Transgender and Gender Diverse Youth	Yes
27	Jenalyn Ormita	Naomi Grant	Informed Consent in Online Studies: The Effects of Delivery Format and Form Length	Yes
31	Haider Ali, Manveer Dhaliwal, Rajbir Bhatti, Aditi Patil	Rajbir Bhatti	Optimizing the Tracking of Vendor Performance in EPC Companies	Yes
35	Angela Faye Galeos, Rodion Isakovich, Valerie C. Cates, Anthony L. Marullo, Nicholas D.J. Strzalkowski, Trevor Day	Trevor Day	Comparison of the Time-course and Magnitude of Cardiorespiratory Responses of Surgical Masks or N95 Respirators During 20-min Treadmill Walking	Yes
43	Chantal Savard, Sambrela Ang, Micaela Ribeiro, Xena Al-Hejji, Daniel Devoe	Dan Devoe	The Prevalence of Psychiatric Comorbidities in Anorexia Nervosa: A Systematic Review and Meta-analysis	Yes
44	Axyl Carefoot-Schulz	Roberta La Haye	Visualizing Statistics: A Computerized Approach to Anscombe's Quartet	Yes
47	McKenzie Thompson	Scharie Tavcer	Sexually Exploited Youth in Care: An Integrative Review of Treatment Models and Policies	Yes

51	Sterling Kerr	Carrie Scherzer	The Sport Commentator and Spectator Assessment of Soccer Goalkeeper Ability	Yes
59	Alyssa Peppler	Malinda Desjarlais	Exploring Key Themes in ADHD-Related Content on TikTok	No
63	Joshua Wolfel	Lynn Moorman	Assessing Habitat Restoration for Bull Trout Using GIS and Mobile Data Collection	No

Poster Session 4 (1 PM - 2 PM)

Poster No.	Authors	Faculty Advisor	Title	Review Requested?
4	Kaitlin Essex	Dan Devoe	Prevalence of Orthorexia in Eating Disorder Populations: A Systematic Review and Meta-Analysis	Yes
8	Sarah Secreto	Stasha Huntingford	Canadian Schools of Social Work May Have a Deficit in Curriculum for Assisting Some Marginalized Communities	Yes
12	James La	Jeella Acedo	Mode of Action of Corynacin, a Novel Bacteriocin against Lactococcus Lactis	Yes
16	Jenna Ross & Luiza Rozpara	Rebecca Gilmour	Applying the Index of Care to a Case of Infant Paleopathology	Yes
20	Tom Fothergill	Samanti Kulatilake	Applied and Public Anthropology: Parks Canada Work-Integrated Learning (2024)	Yes
24	Sarah Lappin & Maddox Nelles	Gio Dolcecore	More Than Medicine: Psychosocial and Peer-based Approaches to Understanding and Affirming Transgender Identity in Children and Youth	Yes
28	Benjamin Mackenzie, Rodion Isakovich, Jessica Dickenson, Spencer Skaper, Nicholas Strzalkowski, Jeff Kerrie, Abigail Bigham, Tom Brustaert, Trevor Day	Trevor Day	A Novel Measurement of Loop Gain Via Voluntary End- Expiratory Breath Holds During Acclimatization to High Altitude: Relationship to Central Sleep Apnea	Yes
32	Peter Choate, Rima Gromykin, Jaida Northey	Peter Choate	Should a Person with FASD be Allowed to Parent?	Yes
36	Julie Patton, Kobe Tulloch, Connor Balsillie	Patti Edgar	Is Home Here?	Yes
40	Connor Campbell	Daniel Devoe	The Prevalence of Excessive Exercise in Eating Disorders: A Systematic Review and Meta-Analysis	Yes
48	Cass Kamphuis	AnneMarie Dorland	Influencer Marketing versus Brand Marketing Factors and Outcomes	Yes
52	Talia Joffe	Rebecca Gilmour	Applying the Index of Care to a Case of Polyostotic Fibrous Dysplasia at Neolithic Catalhöyük	Yes
56	Nate Lutzer, Joaquin Nacinales,	Jenelle McAllister	The Impact of Concussion and TBI in Sport: Policy and Prevention at Work	No

	Claire Sutcliffe, Celena Davis			
60	Phoebe Koenig	Christina Tortorelli	Technology's Influence on Child Trafficking	No
64	Mackenzie Frampton	Janne Holmgren	Psychopathy and Resiliency in Youth Related to Criminal Offending Across the Lifespan: A Neurobiological Overview	Yes
65	Daniil Stolear, Colin King, Loriann Hynes, Jenelle McAllister, Lynne Lafave, Mark Lafave	Mark Lafave	Assessing Baseline Knowledge of Evidence-Informed Practice in Undergraduate Students In Health Discipline	Yes

Abstracts

Poster Session 1 (10 AM - 11 AM)

Stream Elevation Change Detection with GIS

Depanshu Suyal

Faculty Advisor: Lynn Moorman

Radiant Creek, located SW of the town of Rocky Mountain House, is a tributary of the Central Alberta Clearwater River. It is viewed as a critical habitat for the vulnerable Bull Trout. Due to a flooding event exaggerated by a culvert, the channel downstream from the Forestry Trunk Road has become unhealthy for the local fish species. In 2020, TUC (Trout Unlimited Canada) began a restoration project in this area, employing various methods, including PALS. TUC seeks to quantify and measure the influence of their work on the stream morphology and communicate that to a general audience. A change in elevation of the stream would be a key metric in measuring the success of their work. Using GIS(Geographic Information Systems) techniques and spatial analysis, two DEMS (Digital Elevation Models) can be generated: one prior to the restoration work and another a few years later. These DEMs can be used to measure and assess the change in elevation of the stream. A previous GIS case study has shown that there is a measurable relief change within the stream. This study was based on a coarser dataset than the one available today. Using the recently available Lidar dataset, this project will determine/confirm whether the restoration efforts have had any effect on the stream morphology.

Determining the Antimicrobial Activity of Corynacin, a Novel Bacteriocin from *Corynebacterium jeikeium*

Micah Ignacio

Faculty Advisor: Jeella Acedo

Bacteriocins are gene-encoded antimicrobial peptides synthesized by ribosomes produced by various bacteria that inhibit the growth of closely related and non-related bacterial strains. They show promising potential as an alternative to antibiotics and as chemical additives in the face of antimicrobial resistance. Most bacteriocins are produced as an inactive precursor peptide with an N-terminal leader. However, bacteriocins that lack a leader peptide, referred to as leaderless bacteriocins, are immediately active upon translation. This study aims to determine the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) of corynacin against several bacterial strains available at Mount Royal University. MIC pertains to the lowest concentration of an antimicrobial agent that inhibits visible growth of an organism, whereas MBC is the lowest concentration of the same agent that can effectively kill 99.9% of the organism. A broth microdilution assay was performed to determine the MIC and MBC of corynacin. The assay was optimized to establish the ideal incubation time, reduce solution evaporation, and explore methods to promote optimal bacterial growth. Future research will further characterize corynacin’s activity, stability, and mode of action.

Using an Eye Tracker to Identify Eye Movement Patterns During Reflective Learning

Yen Luong, Karen Ho, Harman Kaur

Faculty Advisor: Karen Ho

Post-secondary students often consider Chemistry a difficult subject to master because of the abstract nature of knowledge, the traditional teaching methods applied in class, and reputation. One way to support students in enhancing their academic achievement is by integrating reflection. Reflection is highly associated with eye movements. This is because the oculomotor system of the eyes reflects what is happening in the brain. Eye

movements and directions of the eyes may reveal the conscious recollection and unconscious contents of memory in an obligatory manner. This is a multi-year study. The overall goal of the study is to enhance students' academic success by integrating critical reflection in General Chemistry II labs. Students will then be able to connect preexisting knowledge with knowledge. Previous findings have shown that reflection builds critical thinking and written communication skills. The second (current) aims to explore how critical thinking and recall of course materials can be validated with a commercial eye tracker. Using a mixed-method design, students' artifacts, eye movements, and fixations will be collected. A detailed design will be presented at the MRU FST Research Day.

Reexamination of Care and Experience Related to the Coexistence of Melorheostosis and DISH in a Female Skeleton from Magna Graecia, Italy (Sixth Century BC)

Abigail Urizar

Faculty Advisor: Rebecca Gilmour

This research applies the Index of Care (IoC) Model to a 50-60 year old female skeleton from the Iron Age necropolis of Montescaglioso Belvedere in Southern Italy, 6th century BC. This individual presented a unique case of the coexistence of Diffuse Idiopathic Skeletal Hyperostosis (DISH) and Melorheostosis, these conditions can cause limited mobility, lack of flexibility, and chronic pain, diabetes mellitus and obesity. Despite limited historical information on the site, this IoC research analyzed the interconnectedness among the clinical background of both pathologies, the context of the site, and assessment on functional impact of disease within the biocultural context of Southern Italy during the Iron Age to determine whether this individual required care and accommodation from others for their survival. Results indicate that this individual possibly experienced mobility impairment, cardiovascular, pulmonary, and dermatological complications as a result of DISH and Melorheostosis, likely requiring care and accommodations from members of the community and close kin throughout most of her life. This is important because it underlies the integration, dedication, and compromise of this community despite fluctuating periods of economic development.

How can Cognitive and Behavioral Domains of Physical Literacy be Addressed Using Music and Rhythm as an Intervention Tool in Preschool-Aged Children?

Aamira Budhwani

Faculty Advisor: Breda Eubank

The purpose of this review is to understand the relevance of how cognitive and behavioral domains of physical literacy can be addressed using music and rhythm as an intervention tool in preschool-aged children. Little is empirically known about the relationship between physical literacy and music in young children, hence the reason for further investigation. A scoping review was performed using five electronic databases identified English-language articles which address physical literacy and music intervention in children between the ages of 2-5 years old. Current research has focused on exploring the effects of music throughout different domains and its impact on young children. Thematic concepts explored include, self regulation, cognitive development, rhythmic abilities and finally enhancing gross motor skills, all through music and rhythmic intervention. The cognitive domain focuses on developing problem solving, and mathematical problem solving. While the behavioral domain focuses on self-regulation of emotions. The purpose of this study is to investigate the relationship music plays in the overall development of young children.

An Exploration into the Prevalence, Related Risk Factors, and Aftercare Programming Available for Youth, Transgender Youth, and Young Adults who are Unhoused and Commercially Sexually Exploited

Paige Anweiler

Faculty Advisor: Scharie Tavcer

This integrative literature review will allow for a deeper understanding of the unique challenges that transgender, unhoused, youth and young adults face. The association between the distinct experiences of each population and commercial sexual exploitation will be identified. Additionally, these risk factors will be analyzed in conjunction with Maslow's humanistic theory to make inferences on how best to support this vulnerable population. The prevalence of commercial sexual exploitation within the transgender, unhoused, youth and young adult population in Canada will be discovered to gain an appreciation for its scope, allowing for the harm that this type of victimization causes to be accurately reflected. An environmental scan of the aftercare programming available to transgender, unhoused, youth and young adult survivors of commercial sexual exploitation in Calgary and Edmonton will also be evaluated. This assessment will include the extent to which the aftercare programming adheres to inclusivity and trauma-informed care. Therefore, the goal of this project is to compile knowledge about transgender youth and young adults who are unhoused and sexually exploited while offering suggestions on how to uplift, support, and foster healing.

Streamlined Success: Mapping the Morphological Impact of Restoration in Radiant Creek

Pelvain Dhanda, Brock Pearson

Faculty Advisor: Lynn Moorman

This project critically examines the effects of habitat restoration efforts by Trout Unlimited Canada (TUC) on the stream morphology of Radiant Creek, a tributary of the Clearwater River in Alberta, Canada, over the period from 2022 to 2023. The central research driving this study is: To what extent have TUC's habitat restoration initiatives resulted in measurable changes in stream morphology from 2022 to 2023, and what are the potential implications of these changes for future restoration strategies and trout population sustainability? Leveraging Geographic Information Systems (GIS) technology and utilizing data including LIDAR-derived Digital Elevation Models (DEMs), we aim to quantitatively assess the three-dimensional morphological alterations of the stream's landscape. By directly linking these morphological changes to TUC's restoration efforts, the project intends to offer valuable insights into the efficacy of current restoration methodologies and their long-term benefits for stream ecosystems and trout habitats. The findings aim to contribute significantly to the decision-making processes regarding habitat restoration and conservation, ensuring the sustainable management and resilience of stream ecosystems and trout populations in the context of environmental change.

Empowering Change: Integrating Technology and Community Coordination in Addressing Domestic Violence Challenges

Reese Tofts, Holly Johnson

Faculty Advisor: Holly Johnson

This review examines domestic violence (DV), its forms, causes, and the need for holistic approaches. It emphasizes the disproportionate impact on women, with a focus on technological solutions like digitized police protocols and victim support apps. Challenges faced by Violence Against Women (VAW) shelters in Canada are discussed, including resource scarcity and barriers for non-EU citizens and LGBTQ+ individuals. The review calls for a reevaluation of policies and a coordinated community response (CCR) to DV, highlighting innovations like the ShelterLink app for enhancing shelter impact. Overall, it advocates for comprehensive strategies integrating technology and inclusive support systems.

Leprosy in the Carpathian Basin: An Analysis of Care in 10th Century Hungary

Breanna Wilbur, Mercedes Rego

Faculty Advisor: Rebecca Gilmour

Grave No. 202 from the Sárrétudvari-Hízóföld Cemetery in Hungary, dated to the Hungarian conquest period (9-10th century CE), contained a 50-60-year-old female with the first recorded evidence of leprosy in the Carpathian Basin. This archaeological individual belonged to a partially nomadic community engaged in horseback riding and agriculture. They exhibited facial lesions and significant postcranial bone alterations, and likely experienced breathing issues, skin lesions, and impairment of the sensory nerves in their limbs, which involved ulceration and resorption of bone in the extremities with continuing chronic injury and increasing mobility impairments. Our research aims to provide a greater understanding of this individual's lived experience, using the Index of Care to describe the impact of lepromatous leprosy on an individual living in this context and determine the extent of the care provision this individual likely required. We conclude that the individual likely lived with ongoing physical impairments that impacted aspects of their daily life and required care. Further study may include the dissemination of leprosy across the Carpathian Basin and its effect on a culture that relies heavily on the importance of horses as a means of mobility.

Characterization of a Novel Antimicrobial Peptide, Corynacin, Produced by *Corynebacterium jeikeium*

Caden Albright, Nausheen Sadiq

Faculty Advisor: Jeella Acedo

Bacteriocins are peptides produced by bacteria that exhibit antimicrobial activity against competing bacteria. These peptides are commonly used as food biopreservatives and as antimicrobial agents within the animal and veterinary sectors. In this study, we characterized a novel bacteriocin, corynacin, produced by *Corynebacterium jeikeium*. Our aim was to test its stability in food-like media and investigate its mode of action. Specifically, a broth microdilution assay was used to determine the minimum inhibitory concentration of corynacin and assess its thermal, pH, and salt stability. Corynacin was determined to be stable between 0°C and 60°C and at pH 4 and 8. Further testing is currently underway to assess corynacin's stability under additional relevant temperature and pH conditions, along with exploration of its salt stability. Consequently, the mode of action of corynacin will be investigated.

Restoring Freshwater Ecosystem Health in Alberta: Riparian Vegetation Condition in the Clearwater - North Saskatchewan Watershed

Malcolm Rogers, Charles Blanchard

Faculty Advisor: Lynn Moorman

Alberta's native riparian ecosystems support a high proportion of native species diversity, unfortunately much of this habitat has been lost due to anthropogenic land use changes. Using GIS, we can quantify riparian habitat impacts on a watershed scale with limited resources, similar to those of conservation organizations such as Trout Unlimited Canada (TUC). Specifically, we explored how native riparian vegetation cover increased or decreased in the Clearwater - North Saskatchewan watershed compared to historical levels, what kinds of landcover replaced these areas, and which sites have the greatest potential for restoration. Pioneering the use of Canadian data with the Riparian Condition Assessment Toolbox in ArcPy, we performed analyses to measure vegetation departure, condition, conversion type, and ecosystem recovery potential. Departure was significant across the study area, with landcover being converted to mostly agricultural and deforested land. High levels of recovery potential were found to be limited to natural areas in the Western regions of the watershed. Using GIS to assess the condition of riparian habitats on a large-scale gives stakeholders the means to prioritize resources towards the most degraded sites and/or those with the greatest recovery potential.

Regional Disparities in Access to Assisted Reproductive Technologies (ART)

Amirah Azmi

Faculty Advisor: Sarah Orton

Globally, it is estimated that one in six couples experience some form of reproductive health or infertility issue(s) during their lifetime. Infertility is diagnosed if females are unable to conceive after one year of unprotected sexual intercourse. To help individuals conceive, reproductive endocrinologists often suggest assisted reproductive technology (ART), which involves the in vitro handling of human gametes or of embryos. In vitro fertilization (IVF) is the most commonly used method of ART, with over 10 million babies having been born through IVF worldwide. While the global use of IVF is rapidly increasing, there are still many barriers to accessing fertility treatments that prevent individuals from building their families. This includes the high cost of IVF, lack of health coverage for IVF, and sparsity of fertility clinics located outside of urban centres. Furthermore, in some regions, IVF is still not deemed acceptable for moral and religious reasons. The first objective of this study was to summarize and analyze these barriers as they relate to economic, geographic, and cultural factors. The second goal was to compare the regional disparities in these barriers to IVF access that exist between developing countries and Canada.

Transparency and Authenticity in ESG Reporting: A Quantitative Analysis of Oil and Gas Industry Communications

Sebastian Soltes, Chuqing Dong, Ran Ju

Faculty Advisor: Ran Ju

Utilizing quantitative content analysis, this study aims to explore how oil and gas companies communicate their ESG activities/practices in their annual ESG reports. Oil and gas companies often face a highly volatile environment which negatively impacts their daily operations due to its controversial nature. Thus, ESG strategies become a venue for them to establish a positive reputation and gain legitimacy among stakeholders. However, although companies issue annual ESG reports to discuss various initiatives they undertake, little is known about how these reports employ different communication strategies. Based on the concepts of transparency and authenticity, two key ESG communication strategies, a quantitative content analysis is conducted to assess in what ways companies' ESG reports are transparent and authentic to readers, thereby creating a positive impression. We selected the 2022 ESG reports from 22 oil and gas companies and developed a codebook to measure these reports' levels of transparency and authenticity. This study represents the initial step towards a broader understanding of how ESG initiatives are communicated and the potential effects of these communications.

How National Parks Uphold Colonialism: A Case Study of Jasper National Park

Eliot Scharnau

Faculty Advisor: Aaron Johnson

The Canadian national parks system is celebrated as an achievement of environmental conservationism. However, for Indigenous peoples with historical and cultural connections to these territories, it represents the persistent colonization efforts of the Canadian government. Taking Jasper National Park (JNP) as a case study, we see how ongoing park development has perpetuated this cycle. JNP was created not to protect the environment but to advance tourism. Relying on the removal of all Indigenous presence from the land, this process promoted exploration of the now uninhabited wilderness to predominantly White, upper-class visitors. Despite Canada’s recent commitment to reconciliation, issues remain. Promotional materials for JNP continue to promote individualistic, Eurocentric connections with the land—the wilderness ethic. JNP continues to alienate Indigenous groups by banning their traditional practices and requiring them to concede land rights, all while avoiding genuine consultation. For reconciliation to truly occur, Parks Canada must restructure JNP management to meaningfully include Indigenous peoples, revive Indigenous presence in the park, and abandon the wilderness ethic.

Index of Care Assessment for an Individual with a Lower Leg Amputation Found in Shaanxi China, Zhou Dynasty

McKenna Poluk

Faculty Advisor: Rebecca Gilmour

This research evaluates the potential provision of care for a 50-70 years old male with an amputated left leg from the Chongpingyuan site in Shaanxi, China (8th-5th centuries BCE). A Bioarchaeology of Care lens is applied to this previously-published case study to re-examine the individual's experience of care using a tool called the "Index of Care". Although it is unclear what caused the leg amputation (punishment, surgery, and traumatic incident amputation are all possibilities) clinical literature suggests that people with leg amputations can experience pain, phantom limb pain, mobility challenges, emotional, psychological, and social challenges. Based on the skeletal evidence, the archaeological context, and the clinical symptoms, it is likely that this individual required accommodation for mobility challenges. However, the reality, practice, and amount of care this individual received cannot be determined due to the individual's lower status (which is not routinely documented historically) and the unknown cause of the leg amputation. The outcomes of this research provide insight into how healing, health, and occupations of individuals were impacted by their differing abilities and contexts, contributing to the growing understanding of lived experiences in the past.

Virtually Everywhere: A Scoping Review of the Use of Virtual Reality and Immersive Technologies in Goalkeeper Training

Sterling Kerr

Faculty Advisor: Anthony Chaston

This scoping review aims to summarize the present state of the use of virtual reality (VR) technologies in the training of goalkeeper athletes competing in goal-based team sports. Goalkeepers are unique in their positional demands when compared to their positional counterparts. Where outfield players in team sports often require a variety of mental and physical skills to excel in offensive, defensive, and transitional moments of their sport, goalkeepers are primarily responsible for protection of the team's goal. This defensive hyper-focus requires specialized training from coaches to maximize athlete performance, resulting in increased goalkeeper-specific coaching across athletic skill levels. This study will aim to summarize the use of immersive and non-immersive VR technology to train and prepare goalkeepers for the physical, psychological, and emotional demands of their sport. Relevant research articles will be collected, screened, read, and thematically coded by the sport of study, type of VR technology used, objective of training program, and expertise level of participants. Discussions of the current state of the use of VR technology in training goalkeepers will be presented, along with implications and potential future directions of research in the area.

Poster Session 2 (11 AM - 12 PM)

A Melancholy Machine: Simulated Synapse Loss Induces Depression-like Behaviors in Deep Reinforcement Learning

Santina Duarte, Xena Al-Hejji

Faculty Advisor: Eric Chalmers

Deep Reinforcement Learning is a branch of artificial intelligence that uses artificial neural networks to model reward-based learning as it occurs in biological agents. Here we modify a Deep Reinforcement Learning approach by imposing a suppressive effect on the connections between neurons in the artificial network - simulating the effect of dendritic spine loss as observed in major depressive disorder (MDD). Surprisingly, this simulated spine loss is sufficient to induce a variety of MDD-like behaviors in the artificially intelligent agent, including anhedonia, increased temporal discounting, avoidance, and an altered exploration/exploitation balance. These results support a conceptual model of MDD as a reduction of brain connectivity (and thus information-processing capacity) rather than an imbalance in monoamines - though the computational model suggests a possible explanation for the dysfunction of dopamine systems in MDD. Reversing the spine-loss effect in our computational MDD model can lead to rescue of rewarding behavior under some conditions. This supports the search for treatments that increase plasticity and synaptogenesis, and the model suggests some implications for their effective administration.

What are the Barriers to Post-Secondary Education in Northern Canadian Indigenous Communities, and How Can Institutions Like Mount Royal University (MRU) Respond?

Clarisa Ghinescu, Skye Boucher

Faculty Advisor: Stasha Huntingford

In Northern Canada, post-secondary institutions are not as easily accessible as they are throughout the rest of the country (Report of the Task Force on Northern Post-Secondary Education, n.d.). This is a form of colonization, as individuals from the North who want to obtain their post-secondary education have to leave their home communities and families behind, as well as everything that they know (Report of the Task Force on Northern Post-Secondary Education, n.d.). The Truth and Reconciliation Committee of Canada developed the 94 Calls to Action as a response to the legacy of colonialism. A specific Call to Action that relates to the topic of barriers to post-secondary education in Northern Indigenous communities is: “We call upon the federal government to develop with Aboriginal groups a joint strategy to eliminate Commission of Canada educational and employment gaps between Aboriginal and non-Aboriginal Canadians” (Truth and Reconciliation Committee of Canada, 2015, p. 1).

3D-Printed Weapons in the Canadian Legal Context, Contemporary Forensic Evidence of 3D Printed Weapons and International Considerations Regarding Spread and Utility of 3D-printed Weapons.

Gordy Ha

Faculty Advisor: Janne Holmgren

Using an exploratory research design, this study collected data on fingerprint deposition and toll marking evidence related to 3D-printed firearms. Results from the two studies indicate. First, a novel method of fingerprint imaging was developed to demonstrate that fingerprint development is greatly influenced by where the print is placed on the surface of a 3D-printed object. Second, unique tool markings on the build plate caused by improper calibration will appear on 3D-printed firearms. These findings may enhance investigative techniques investigating 3D-printed firearms within the black market.

How do University Students Mitigate Factors of Burnout

Kayla Saraceni, Chloe Rapin, Wiktoria Sekula

Faculty Advisor: Michelle Brigel

Burnout is something that undergraduate university and college students are susceptible to facing during the years they complete their education. Course loads, work, and home life are various factors that can lead to the burnout they face. This study highlights how students mitigate burnout factors with self-care habits and how they affect them in the short and long term. The topic of burnout itself has been researched heavily within the medical field, but minimal studies focus on other disciplines. This research study focused on a quantitative survey to understand what university students currently do to mitigate the factors that lead to burnout focusing on their self-care habits and how their university programs promote self-care. This survey was sent to 30 students, with 18 responses from 17 different areas of study and 10 different post-secondary institutions within Canada and the United States. One of the common themes within the research was that body movement was the number one self-care technique that individuals used. The overall goal of this information that is being collected is to highlight where different university programs can improve when supporting students and what university students can do to build positive self-care habits in their personal lives.

Exploring the Impact of Work-Life Balance on Academic Performance for Post-Secondary Students at Mount Royal University.

Harman Brar, Ivy Lau, Marie Ortiguesa

Faculty Advisor: Carolyn Bjartveit

Using a quantitative research methodology, this study explores the effects of work-life balance on the academic performance of MRU students. Inviting full and part time student participants from diverse backgrounds, we aimed to identify key aspects of their work-life balance and academic work, including the challenges and strategies for managing these responsibilities. Past research indicates that most students are employed while pursuing post-secondary education and has negative affects on their studies. We recruited participants through random sampling and used an anonymous survey to collect data. The research findings uncovered factors that influence students' abilities to take on different roles and responsibilities and provide suggestions to support student well-being and academic performance. Our cross-sectional research focuses on students' current experiences and does not monitor changes over time. Future longitudinal studies might increase knowledge about the long term effects of work-life balance on academic performance. Our research raises awareness about challenges that students face while balancing academics and work and the resources and strategies needed for students' well-being.

Examining How the Immigration Process Influences Immigrant Parents' Parenting Practices

Isabel Melendez

Faculty Advisor: Ines Sametband

Canada is recognized for its embrace of immigration to foster cultural diversity and the inclusion of all its inhabitants. With increasing immigration rates, there is a heightened demand for comprehending the cultural integration of immigrants into Canadian society. The process of immigration creates substantial transformation for families, with parents having to navigate the challenges of parenting their children in an environment different from the one they were raised in (Liu et al., 2017). This study aims to better understand how immigrant parents describe their experiences of parenting children in Canada. A total of eight participants, consisting of adult immigrant parents who have been in Canada for at least 10 years, will participate in 1-hour semi-structured individual interviews. This study will contribute knowledge that may inform mental health professionals and educators working with this demographic and raise awareness about the unique challenges immigrants parents in Canada face.

Early Learning Educators' Preparedness to Support Immigrant and Refugee Children

Casey Arnott, Catherine Soulabaille, Coda Walker, Darianny Perez

Faculty Advisor: Michelle Briegel

The reasoning behind the study is our acknowledgement of Canada currently seeing an influx of refugee students due to the wars happening in the Middle East and Ukraine, and educators need to be ready to support these children, and learn about the unique facets of barriers that refugee children face. This research study examines early learning educators perceptions of how prepared they think they are to meet the needs of immigrant and refugee children in their care. This quantitative study asked early learning educators to complete a survey that included questions looking at how individual educators were getting ready to support immigrant and refugee children and how supportive their employers were to help educators receive immigrant and refugee children. The researchers implemented a cross-sectional design as they evaluated educator's perception on their preparedness to welcome refugee children and address their needs. The study used a quantitative approach to collect data through the use of online surveys for educators in the field. The results referencing the survey answers were expected to be either "strongly disagree" or "disagree". The study was crucial to recognize the gap in education and awareness amongst educators to support refugee families.

Assessing and Predicting Placement of PALS for Optimal Stream Flow Deflection with GIS

Benjamin Rudolph

Faculty Advisor: Lynn Moorman

Radiant Creek in Alberta was once a healthy, vibrant and complex stream, however it recently faced significant ecological decline due to a catastrophic flood in 2013. The creek became more linear and much less complex, which has been detrimental to local aquatic life. Recognizing the impacts this had, Trout Unlimited Canada (TUC) installed multiple Post-Assisted Log Structures (PALS) to create a healthier stream once again.This raises the question if TUC's PALS were placed at an ideal location compared to best practices based on restoration literature. Could there have been a better location and are there preferred locations to place PALS in the future? Geographic Information Systems (GIS) were utilized to model and identify the best locations to situate TUC's PALS. Digital Elevation Models (DEMs) derived from LiDAR, alongside orthoimages, provided detailed information and crucial insights into elevation, stream morphology, flow patterns, and riparian zone characteristics, which are essential for determining optimal PALS placement. The analysis included assessing the alignment of TUC's PALS with these optimal locations, refining effectiveness evaluations, and advising future placements to offer strategic guidance for TUC's ongoing restoration initiatives.

Bull Trout Need PALS Too! A Spatial Research Project

Brandon Bradbury, Sydney Cochlan

Faculty Advisor: Lynn Moorman

The health of streams, crucial for Native Bull Trout in Alberta, relies on complexity and sinuosity. A healthy stream is clean, cold, complex, and connected, featuring diverse habitats like pools, riffles, and runs. Sinuosity, the ratio of stream length to valley length, indicates health, favoring meandering streams. Human developments threaten sinuosity and complexity, harming Bull Trout. Post Assisted Log Structures (PALS), act to mimic natural barriers that cause water to deflect stream flow and promote sinuosity, enhancing complexity, and diversifying habitats downstream. Using GIS and orthoimagery from 2020 and 2023, we have analyzed stream habitats, measured sinuosity, and assessed the PALS' impact. GIS provides quantifiable measurements of environmental changes, aiding effective stream management. This research integrates GIS, elevation models, and orthoimagery, to understand and address human-induced alterations to stream sinuosity and complexity. The primary research question is: How have PALS influenced the health of Radiant Creek, considering complexity, sinuosity, and habitat diversity, particularly for the context of Native Bull Trout population in Alberta?

Re-analysing a Bioarchaeological Case Study From a Late Woodland Period Individual Using the Index of Care Method

Tamara Bryant

Faculty Advisor: Rebecca Gilmour

A case study from 2006 was conducted on an individual whose skeletal remains exhibited significant signs of deformities, suggesting potential impairments. The individual showed evidence of a Bilateral Cleft Palate based on a fragmented yet well-preserved cranium. Cleft palate can manifest during early fetal development, characterized by incomplete fusion of the palatine and maxillary hard palate tissues. This condition poses life-threatening challenges for infants, hindering breastfeeding due to insufficient suction and leading to later-life difficulties in speech, hearing, eating, and psychological well-being.The individual, a male aged between 20 and 30, was discovered in a mortuary context dated to the Late Woodland Period (300-1000 AD). This study seeks to reanalyze the potential care provided to this individual using the Index of Care method, while also identifying the strengths and limitations of this model. The results yielded inconclusive findings regarding the level of care received by the individual. Additional research into Ancient Native American societies, in collaboration with Indigenous archaeologists, is essential to deepen our understanding of past caregiving practices and to improve the accuracy of results obtained through the Index of Care Model.

Doing Nothing Kills: "Not in my Backyard", Harm Reduction, and the Opioid Crisis

Samantha Vinje

Faculty Advisor: Scharie Tavcer

The population of interest in this study is people with living and lived experiences using drugs (PLLE), especially those using synthetic opioids and stimulants. This study is an exploratory analysis of harm reduction programs and policies, such as safe consumption sites, and the effect of the NIMBY (“Not in My Backyard”) mentality on their implementation. How is NIMBY a source of strain for PWLLE? Does the closure of these programs illicit more drug use as an adaptation to strain? Since the early 1980s, the volume of prescription opioids in Canada has increased significantly, with non-medically supervised use of fentanyl first reported in Alberta and British Columbia in 2011. This study looks at Canada, with special attention to paid to Alberta, British Columbia, and Ontario, with 90% of apparent opioid toxicity deaths (AOTDs) occurring in these provinces. In 2023, there were 23 AOTDs per day in Canada. Despite the evidence surrounding the effectiveness of safe consumption sites in reducing opioid-related harms, there are competing public health and criminality discourses. The research design of this study is an exploratory sequential integrative literature review using symbolic interactionism as the methodological framework. This study utilizes a mixed methods approach.

Effects of Protein Intake on Gastrointestinal Symptoms in Runners

Amy Moss, Byrnn Lindstrom

Faculty Advisor: Jill Parnell

High-protein foods are avoided pre-run to minimize GI issues, however, a threshold has not yet been established. This study determined the effect of a high whey protein shake (HP) versus a low whey protein (LP) shake on running-induced GI symptoms. Thirteen (n=5 male, n=8 female) runners were administered a HP (0.4 g/kg body weight) or LP (0.15 g/kg body weight) shake one hour prior to a 10 km run at 85% of their race pace in a single-blind, randomized, cross-over design. The carbohydrate and water intakes were consistent. Exercise-induced GI symptoms were measured pre-shake, 60 minutes post-shake, and post-run. Common symptoms experienced after consuming the LP shake included belching (62%), urge to urinate (54%), and flatulence (46%). Symptoms frequently experienced after ingesting the HP shake were belching (62%), stomach cramps/pain (54%), bloating

(46%), flatulence (46%), urge to defecate (46%), and fullness (46%). Symptom severity was generally mild. Participants reported an increase in bloating while running after the HP shake as compared to the LP shake. Moderate protein intakes in the pre-run period can be advised, however, should be trialed prior to competition due to individual tolerances.

CougarStats: An R Shiny App for Statistical Data Analysis

Michael Myer

Faculty Advisor: Ashok Krishnamurthy

CougarStats is a free, and open-source R Shiny application designed to conduct statistical data analysis. CougarStats is currently hosted at https://www.cougarstats.ca. CougarStats aims to simplify statistical concepts and foster learning with a user-friendly browser-based interface. In the context of statistical education, there is a need for intuitive and comprehensive tools that are accessible to a wide range of users, from students to instructors. CougarStats is designed to address this need, providing a platform to conduct statistical data analysis across a growing list of topics while presenting detailed calculations. Current pedagogical topics include Descriptive Statistics, Probability Distributions, Sample Size Estimation, Statistical Inference for Population Means and Proportions, Chi-Square tests, Analysis of Variance (ANOVA), Simple Linear Regression, and Correlation Analysis. Our future work is to add advanced statistical topics such as Nonparametric Statistics, Time-Series Analysis, Multiple Linear Regression and Logistic Regression covered in upper level courses such as Statistical Data Analysis (MATH 2444) and Regression and Time Series Analysis (MATH 3454).

Applying the Bioarchaeology Index of Care to an Early Anglo Saxon with Osteogenesis Imperfecta

Amber Broda, Rayne Seip

Faculty Advisor: Rebecca Gimour

This study re-analyzes an archaeological case of osteogenesis imperfecta from early medieval England (6th century AD) from a Bioarchaeological of Care perspective. The grave site was disturbed from plowing, limiting the skeletal evidence to one complete left femur bone recovered without archaeological context. Using the Index of Care, we use this case study to examine health and disability related practices amongst the Anglo Saxons. Osteogenesis imperfecta, as evident in this case, causes weakened bone matrix, resulting in numerous fractures and other complications related to mobility and the respiratory system.The state of the element and the contextualization of this approach, suggest that this individual would have required acts of care, especially related to mobility and bodily maintenance. Anglo Saxon’s experience of, or access to care may have differed depending on social identity factors that could not be controlled in this study, due to the absence of archaeological context. Through this bioarchaeological lens, we contribute information regarding the lifeways and social experiences of impairment in the early Anglo Saxon period, but suggests that the Bioarchaeology of Care allows for care provision to be best investigated in well-documented archaeological contexts.

Determining the Antioxidant Activity of Anthocyanins in *Hibiscus sabdariffa*

Easton Helfrich

Faculty Advisor: Chris Lovallo

Anthocyanins can be naturally occurring compounds that exist in varying plants and are commonly consumed on a daily basis. Given that anthocyanins are antioxidants, they exhibit protective qualities against neurodegenerative diseases and tumor growth. These qualities stem from the result of the human body overproducing oxidants. As such, the oxidants get converted to various free radical species. Antioxidants can quench these radical species directly by accepting the radical electron, thus producing H2O, H2O2, and HOO- respectively. Hibiscus sabdariffa is

a plant that carries strong antioxidants. Some of these antioxidants are delphinidin-3-glucoside, cyanidin-3-glucoside. These anthocyanins are evaluated for their antioxidant activity through computational methods. As such, the basis set 6-31+G(d,p) with the density functional theory M06-2X are used to determine what properties of these compounds correlate to their ability to scavenge radicals. The lipophilicity, bond dissociation enthalpy, ionization potential, proton affinity, Gibbs free energy of reaction, alongside electron characterizations are evaluated. The delphinidin-3-glucoside cation has been optimized with a total free energy of -1714 hartrees. The antioxidant activity is yet to be determined.

Radiant Creek Land Cover and Stream Classification

Alfred Jageregger

Faculty Advisor: Lynn Moorman

Trout Unlimited Canada is a non-profit organization with the goal of conserving and restoring freshwater ecosystems; as part of their efforts, TUC has been operating in Radiant Creek in western Alberta. To evaluate the effectiveness of their restoration efforts, TUC requires measurements of changes in land cover and stream complexity of Radiant Creek.Using Geographic Information System (GIS), drone-based orthoimagery was classified to create land cover and stream complexity maps of the years 2020 and 2023. A change detection analysis of the two maps was performed to determine change in area of land cover and the stream channel. GIS can be used to classify data based on spectral response, assess accuracy of classifications using confusion matrices, and compute change between multitemporal datasets. The results of classification show the land cover and stream habitats present in the area for each year. With an overall accuracy greater than 80% in each confusion matrix, the resulting classifications are reliable. The change analysis shows there has been an overall increase in the stream channel area over the study period. Future monitoring of Radiant Creek will be necessary to ascertain that this trend continues to grow.

Poster Session 3 (12 PM - 1 PM)

A Walk to Remember: Effectiveness of 3MDR in Older Adults

Zakari Mulrooney

Faculty Advisor: Katherine Bright

BACKGROUND: Older adults may find themselves facing a range of life changes: retirement, loss of loved ones, and declining health which may have a great impact on these individuals. These changes can trigger memories and emotions associated with past traumas. RESEARCH Qs: Do older adults with unresolved trauma find Multi-Modal Motion-Assisted Memory Desensitization and Reconsolidation (3MDR) to be a feasible, effective, and acceptable approach to trauma treatment? How do older adults describe their overall experiences of 3MDR including their self-reflection and meaning making of what happened because of completing 3MDR therapy? METHODS: This proof-of-concept study will recruit older adults with unresolved trauma who meet criteria for Post Traumatic Stress Disorder. Quantitative Components: Older adults will complete a baseline assessment exploring a variety of mental health symptomology. These questionnaires will be re-administered at 1, 3, 6 months post-intervention. Qualitative Components: The impact of 3MDR will be assessed through qualitative interviews at 1, 3, and 6 months post-intervention to understand participants' self-reflection and meaning making. OUTCOMES: Older adults with unresolved trauma indicate that 3MDR is effective, acceptable, and feasible.

Different Approaches to Postcolonial Issues in Contemporary African Epistolary Narratives

Jenna Miles

Faculty Advisor: Ademola Adesola

This research project compares the epistolary narratives of two African women. Epistolary narratives are "…a series of letters written to someone or by letters written back and forth between two or more characters" as defined in Gloria Samuel's "In Defense of the Epistolary Narrative". These two narratives are Mariama Ba's So Long a Letter and Gloria Samuel's Dear Kelechi. This comparative reading will examine how postcolonial themes like, race, gender relations, marriage, and womanhood, are explored and addressed in these texts. Additionally, this comparative reading of these texts will underline how they engage the concepts of "social death" and "intersectionality." In all, this project will emphasize the fact that contemporary African women's epistolary fiction is relevant to several topical issues of our time.

Stand By Me: Peer Support for Youth with Mental Health Concerns

Aliya Jomha, Daniel Devoe

Faculty Advisor: Daniel Devoe

Background: Mental health disturbances plague much of society's youth population. Peer support interventions may be an effective way to treat mental illness symptoms. Methods: This scoping review included peer reviewed articles that implemented peer support interventions for treating youth with mental health disorders, or youth at risk for developing mental health disorders. Results: Of the 70 studies included, most studies focused on depression (n = 22) and/or anxiety (n= 18); the remaining 30 studies on a wide array of mental health complications. The average age across the interventions was 19.5 (range of 13 to 30). There were more females (62.3%) than males (37.1), and some participants did not identify as male or female (0.5%). Of the treatment studies included, 53 studies included a report of peer support intervention efficacy, of which 43 of these studies (81.13%) reported the intervention to be significantly effective. Conclusions: Peer support can be effective for youth, but may require more intensive peer interventions to yield significant results. Future studies should focus on long-term outcomes of already established intervention techniques in high quality randomized control trials.

Applying the Index of Care to the Survival of the Ohalo II Man with Osteomyelitis and Erbs-Duchenne Brachial Palsy in the Upper Paleolithic

Claire Barnes, Charlie Hodges

Faculty Advisor: Rebecca Gilmour

The grave of a well preserved skeleton representing a 30-40 year-old male, dating to 19,000 years BP, was excavated from the Ohalo II site off the coast of the Sea of Galilee, Tiberias, Israel. This individual exhibited unique pathological conditions, including chronic osteomyelitis of the sternum and degeneration in the left shoulder, diagnosed as osteomyelitis and Erbs-Duchenne Brachial Palsy, respectively. These conditions likely obstructed movement of the rib cage and left shoulder girdle. Our research re-examines the published case of H2 using the "Index of Care" to interpret the individual's experience of their pathological condition, potential impairment, and care provision. We hypothesize that due to their pathological conditions, H2 likely required some care and accommodations to fully participate in the economic and domestic activities of his settlement. However, it is also clear that H2 was able to remain physically active during the course of their impairments, as evidenced by the robusticity of his legs and opposing right arm. H2 surpassed the life expectancy of his population, and demonstrates a continued active life, suggesting that they adapted sufficiently to their paresis, during which time their community may have provided supportive care.

Unveiling the Mind: Insights into Neurocognitive Functioning in Bulimia Nervosa

Tia McNeil, Connor Campbell, Daniil Stolear, Khadija Abbas, Xander Greig, Morissa Lloyd, Morgan Gillies, Gina Dimitropoulos, Daniel Devoe

Faculty Advisor: Dan Devoe

Background: Growing evidence indicates that cognitive impairments in bulimia nervosa. No meta-analyses have yet explored these deficits in BN. Method: Searches were conducted in: Health Source, CINAHL, Cochrane Library, MEDLINE, and PsycINFO. This review included peer-reviewed publications that examined central coherence, decision making, and set-shifting in individuals with BN compared to HCs. Data were evaluated using several random effects pairwise meta-analyses, stratified by cognitive tasks, and reported as the mean difference (MD) between individuals with BN and HCs. Results: 30 studies were included in this review, 964 individuals with BN and 1,567 HCs. Results showed no significant difference between BN patients and HCs in set-shifting tasks. Similarly, no difference was found on TMT-A, but a significant difference on TMT-B. BN patients performed significantly worse than HCs on decision-making tasks. Discussion: This meta-analysis found mixed results in cognitive abilities of BN individuals compared to HCs. BN individuals showed significant impairment in cognitive flexibility and executive functions, decision-making abilities, and planning and organization. Future research should focus on interventions to address these deficits, which could impact treatment and retention.

Support Group for Parents of Transgender and Gender Diverse Youth

Maddie Maggipinto, Ashton Bennett, Allan Hein, Tara Nicholls

Faculty Advisor: Gio Dolcecore

Youth who identify as transgender and/or gender diverse (TGD) are prone to substantially higher rates of violence, discrimination, and mental health disorders in comparison to other genders of similar age groups. In contrast, parental support has been found to be one of the most significant protective factors in prevention of these outcomes, however not all caregivers feel inclined to support their child after hearing their gender or sexual orientation disclosure. In response to this, we have created a comprehensive proposal which explores common barriers, behaviours, and outcomes that stem from parental resistance and review how acceptance behaviours towards TGD youth can change these outcomes. This proposal includes a detailed twelve-week program outline designed to support caregivers of TGD youth in ways that meet their unique needs. Our program design includes a detailed breakdown of each session, conversation topics and activities, session and program goals, concluding with the documentation needed for the program to be operational in the community right away. This research topic and program is important today given our current provincial government’s proposal to restrict gender-affirming care as well as the current lack of services for parents specifically in the community.

Informed Consent in Online Studies: The Effects of Delivery Format and Form Length

Jenalyn Ormita

Faculty Advisor: Naomi Grant

Prospective research participants often neglect consent forms, jeopardizing the ethical principle of informed consent, the process where individuals acquire and comprehend information needed to voluntarily consent to a research study. This problem is exacerbated in online settings and as consent forms become longer. Using a sample of introductory psychology students, this study utilizes a 2 x 3 between-subjects experimental design to test two interventions for online consent forms: first, presenting a long or short consent form formatted with bullet points and second, delivering the consent form in different formats (i.e., a live delivery format, where the researcher reads the content aloud via Google Meet while participants follow alongside the written material, an audio delivery format, where participants listen to an audio recording with the written form, and the standard written format). This research design will allow us to evaluate the effectiveness of each intervention and how they may interact. The findings of this study will increase our knowledge of the informed consent process and the variables that help or hinder this process. Potential improvements to the consent process may also be provided to uphold ethical guidelines and help participants become truly informed.

Optimizing the Tracking of Vendor Performance in EPC Companies

Haider Ali, Manveer Dhaliwal, Rajbir Bhatti, Aditi Patil

Faculty Advisor: Rajbir Bhatti

This study investigates strategies for optimizing vendor performance tracking within Company X, an Engineering, Procurement, and Construction (EPC) company. Recognizing the critical role of vendors in project success, the study aims to identify the most effective approaches for optimizing and recording vendor performance. Various methodologies and tools for evaluating vendor performance were explored through a comprehensive literature review alongwith an empirical analysis. The findings underscore the significance of robust performance-tracking systems in enhancing project outcomes and mitigating potential risks. Implications for Company X and avenues for future research will also be discussed.

Comparison of the Time-course and Magnitude of Cardiorespiratory Responses of Surgical Masks or N95 Respirators During 20-min Treadmill Walking

Angela Faye Galeos, Rodion Isakovich, Valerie C. Cates, Anthony L. Marullo, Nicholas D.J. Strzalkowski, Trevor Day

Faculty Advisor: Trevor Day

Continuous masking can increase dead space and facilitate rebreathing of expired air, resulting in heat accumulation, hypercapnia, and hypoxia, particularly during physical activity. Previous publications reported conflicting results and there are limited studies assessing face microclimate temperature and end-tidal gases comparing surgical mask (SM) and N95 respirator (N95) during exercise. We hypothesized that participants wearing SM and N95 will experience mild face microclimate hyperthermia, hypercapnia and hypoxia during 20-min 3mph treadmill walking. Participants (n=18; 8F) randomly-wore (a) no barrier (NB), (b) SM or (c) N95 during a 10-min standing baseline (BL), 20-min treadmill walking (3mph), and a 10-min standing recovery. We continuously measured face microclimate temperature, end-tidal gases (PETCO2, PETO2), and SpO2. Aside from a barrier effect, face microclimate temperature was not increased during exercise. Average 20-min walking PETCO2 (higher; $P<0.0001$, $P=0.0001$) and PETO2 (lower; $P=0.0003$, $P=0.0178$) were significantly different from BL. The Δ between the 20-min average vs BL were higher for ΔPETCO2 NB vs. N95. There was no difference in SpO2 across all barrier conditions. These effect-magnitudes were not physiologically-meaningful, and immediately reversed.

The Prevalence of Psychiatric Comorbidities in Anorexia Nervosa: A Systematic Review and Meta-analysis

Chantal Savard, Sambrela Ang, Micaela Ribeiro, Xena Al-Hejji, Daniel Devoe

Faculty Advisor: Dan Devoe

Background: Anorexia nervosa (AN) is often accompanied by psychiatric comorbidities. This study aimed to evaluate these comorbidities. Methods: A peer-reviewed literature search was conducted in the following online databases: MEDLINE, PsycINFO, Embase, CINAHL, ERIC, and SCOPUS. Eligibility was restricted to studies reporting prevalence data for psychiatric comorbidities in individuals with AN. Series of random-effects meta-analyses were performed on eligible studies to estimate pooled proportions and 95% CIs on both current and lifetime prevalence data. Results: Analysis of 203 studies revealed MDD as the most prevalent current comorbidity (38%), followed by mood disorders (33%) and anxiety disorders (26%). AN-BP showed higher prevalence rates for MDD (55%), mood disorders (70%), and anxiety disorders (51%) compared to AN-R. Lifetime prevalence of MDD was notably high at 49%, with AN-BP again exhibiting higher rates (66%) than AN-R (54%). Lifetime comorbidities with anxiety disorders were significantly elevated (18%), including GAD (23%), OCD (19%), and social anxiety (18%). Conclusion: This meta-analysis highlights the significant impact of psychiatric comorbidities on individuals with AN, emphasizing the urgent need for clinical screening and longitudinal monitoring.

Visualizing Statistics: A Computerized Approach to Anscombe's Quartet

Axyl Carefoot-Schulz

Faculty Advisor: Roberta La Haye

This research project uses linear regression ideas, linear algebra techniques and computer science to investigate Anscombe's quartet. The quartet consists of four data sets that share many statistical features yet have distinct graphical displays. It is unknown how Anscombe created the data sets that possess the best-fit line and correlation coefficient. This is surprising since Anscombe revealed the quartet in a 1973 paper that has been cited thousands of times. Under the direction of my advisors, I was able to create a program to construct the data sets and display the resulting graphs. The program I created generates and solves systems of equations for each dataset. The program employs linear algebra techniques and linear regression equations to calculate the data points used to match a given best-fit line. The program can further be used to generate more examples of data sets meeting Anscombe's criteria. The poster and accompanying program explain Anscombe's quartet and underscore its value and provide one method to construct it. This project is a practical example of how programming and mathematical processes can be harmonized for use in data analysis and visualization.

Sexually Exploited Youth in Care: An Integrative Review of Treatment Models and Policies

McKenzie Thompson

Faculty Advisor: Scharie Tavcer

This comprehensive integrative literature review examines sexually exploited youth in group care from a Canadian perspective. The focus was on treatment models and intervention programming available in Canada for sexually exploited youth and youth at risk of sexual exploitation in group care, the Canadian perspective of child sexual exploitation and the risk factors associated with sexual exploitation. Youth are at an increased risk of sexual exploitation due to normative developmental changes and vulnerabilities. Moreover, youth in group care are a specifically vulnerable population: they are often unhoused, without persistent caregivers, and under trauma and stress. Furthermore, risk factors highlight that those most vulnerable are girls, indigenous youth, runaway youth from care, and LGBTQIA+. This literature review highlighted the lack of understanding about youth in group care. It also highlighted the need for ongoing research to inform policymakers. This literature review also aimed to learn more about and critically examine treatment models and intervention programming available in Canada. In conclusion, by synthesizing existing literature, policies, and programs, this review aims to promote the safety, well-being, and empowerment of youth within group care.

The Sport Commentator and Spectator Assessment of Soccer Goalkeeper Ability

Sterling Kerr

Faculty Advisor: Carrie Scherzer

This research project studies the effect that sport commentary has on spectator assessment of goalkeeper skill level when watching a soccer match through a sport media medium. Research on altered participant perceptions in response to sport commentator subjective opinion has been well documented in influencing perception of aggression, violence, and athlete characteristics. This study aims to examine this commentary effect in how it pertains to spectator perception of athlete skill, specifically of the goalkeeper. Participants completed a repeated measures within-subjects experimental design to compare ratings of goalkeeper skill in a non-commentary condition, where professional soccer match goals were observed absent of commentary audio; and a commentary condition, where sport commentators describe the goalkeeper's error leading to a goal in real time. As a result of this study, a more complete understanding of how sport commentary influences spectator perception of play is expected. In comparing soccer experience data along with difference scores between goalkeeper skill ratings

between commentary and non-commentary conditions, researchers hope to better define how commentary influences how spectators rate goalkeeper ability with varying previous soccer experience.

The Lunule of Bivalve Shells – Is It Functional?

Kendra Kangas, Logan Cushway

Faculty Advisor: Paul Johnston

Bivalves are commonly shallow marine suspension feeders, possessing adaptations reflected in shell morphology. Samples from the Paleogene Castle Haynes Formation include Arcinella cornuta and two Mercenaria species. The present study focuses on the morphology and possible function of the lunule, a conspicuous feature located anteriorly on the shell in many but not all bivalve species. Studies by Lison reveal that the lunule's shape depends on the directive plane and the angle of incidence. Lison's analysis models the lunule's formation, role in bivalve shell geometry and evolution as evident from shell ontogeny, as regulated by mantle cell proliferation and biomineralization. However, Lison's work leaves a gap in clarifying the function of lunules, prompting questions as to their adaptive significance, if any. Some studies suggest a well developed lunule acts as a pressure plate to minimize recoil during burrowing. However, among bivalves we examined, the epifaunal Archinella shows a prominent lunule, which is clearly not a burrowing adaptation, and some burrowers lack a lunule altogether. We conclude that the lunule has no function and is an artifact of the intersection of hinge plate growth and the external shell. Therefore, the lunule is simply fabricational noise.

Exploring Key Themes in ADHD-Related Content on TikTok

Alyssa Peppler

Faculty Advisor: Malinda Desjarlais

Social media use has become deeply ingrained in the lives of young people today, and a lot of content is shared about mental-health related topics, with little to no regulation. There is growing concern that videos on social media platforms may be spreading misinformation or causing people, especially younger users, to mistakenly identify themselves as having mental health disorders such as ADHD. This research is being conducted to determine who is sharing mental-health related content, why they are sharing it, and what exactly they are sharing, including the messages they are sending to their viewers. This research project will aim to explore the ten most popular videos that appear on TikTok under the “#ADHD” hashtag using content analysis, a method suitable due to its qualitative, exploratory, and in-depth nature. Key themes that are expected to emerge from the coding of this project’s results are the different purposes of the content posted, the accuracy of the content, and the credibility of the creator. The findings from this research will hopefully guide users in consuming mental-health related content on social media.

Assessing Habitat Restoration for Bull Trout Using GIS and Mobile Data Collection

Joshua Wolfel

Faculty Advisor: Lynn Moorman

Radiant Creek is a tributary of Alberta’s Clearwater River and is considered a critically important habitat for the native Bull trout. Flooding has caused this area to become a less suitable ecosystem for Alberta’s bull trout, leading to threatened populations. Trout Unlimited Canada (TUC) has goals of restoring diversity of habitat to the area by installing Post-Assisted Log Structures (PALS). While PALs are thought to improve stream conditions by increasing channel complexity and diverting water, the effectiveness of TUCs intervention is still to be determined. The aim is to develop an onsite mobile data collection app that can further enable additional Geographic Information System (GIS)-based spatial analysis tools to help assess the impact of PALS on stream health and the surrounding area. Esri’s ArcGIS Pro and Field Apps Designer will be utilized to create a customizable map of a project area containing input forms, tailored with elements required for collecting and tabulating spatial features of physical and ecological characteristics within the project area. Collected data is expected to support GIS analysis tools, like providing ground truth data for land cover classification and elevation data for calibrating digital elevation models.

Poster Session 4 (1 PM - 2 PM)

Prevalence of Orthorexia in Eating Disorder Populations: A Systematic Review and Meta-Analysis

Kaitlin Essex

Faculty Advisor: Dan Devoe

Background: Orthorexia Nervosa (ON) is marked by an obsession with the nutritional quality of food often resulting in restrictive eating. There is literature illustrating the prevalence of ON in at-risk populations however, there have been no systematic reviews assessing the prevalence in ED populations. This study aimed to investigate the prevalence of ON in ED populations and the differences in reported prevalence between ON scales. Method: An electronic database search was conducted from inception to November 2023 yielding 6 eligible studies including 683 individuals with EDs and 365 with ON. Results: Random-effects meta-analyses were conducted to estimate pooled proportions and corresponding 95% confidence intervals (CIs). Random effects pooled estimates show the overall prevalence of ON in all EDs was 59% (k=9; CIs: 0.45-0.73). There was no significant difference between ON scales for assessing prevalence of ON in EDs. Discussion: Three out of five individuals diagnosed with an ED will also meet the criteria for ON diagnosis. Regarding scales, there appears to be no difference in their ability to detect ON in EDs. Future studies are required to understand the impact of ON and to help inform treatment in individuals with EDs.

Canadian Schools of Social Work May Have a Deficit In Curriculum for Assisting Some Marginalized Communities

Sarah Secreto

Faculty Advisor: Stasha Huntingford

This is a proposal for secondary research that builds on various previous research. New information to be gained through an online survey. Research to assess whether transgender (T) and Indigenous two-spirit (2S) social work students feel curriculum content is preparing all students to assist T and 2S clients. All Canadian social work students will be emailed but only T or 2S invited to access the anonymous survey link. Respondents are invited to share experiences and insights. Questions are varied and ask T and 2S students experiences with biases, conflict, and phobias related to gender in their programs, aim to determine if T and 2S students feel equity, diversity and inclusivity are upheld at their schools. If their instructors seem prepared and comfortable delivering this content without biases or phobias. Results will give Canadian schools current, valuable curriculum information to better prepare social work students assist these marginalized people, and if students know their school's nondiscrimination policy.

Mode of Action of Corynacin, a Novel Bacteriocin against *Lactococcus lactis*

James La

Faculty Advisor: Jeella Acedo

Bacteriocins are a family of antimicrobial peptides produced by bacteria that can eliminate or inhibit the growth of bacterial strains. Currently, bacteriocins are used in the food industry as a biopreservative to inhibit the growth of many foodborne pathogens. As antimicrobial resistance progresses, combination therapy becomes an area of interest, as the treatment of antibiotics along with bacteriocins has been found to be effective against antibiotic-resistant strains. However, applications of bacteriocins are restricted because of a limited knowledge on the mode of action of these antimicrobial peptides. This project focuses on the mode of action of corynacin (CojA), a novel leaderless bacteriocin produced by *Corynebacterium jeikeium*. The minimum inhibitory concentration (MIC) of CojA, which is the lowest concentration that inhibits bacterial growth, was determined to be 1 μM against *Lactococcus*

lactis through a broth microdilution assay. Time-kill assay was performed revealing that CojA exhibits bactericidal activity, eliminating *L. lactis* cells after 5 minutes of treatment. Confocal laser scanning microscopy, along with a cell viability kit, is yet to be performed to assess the cytotoxicity of corynacin against L. lactis.

Applying the Index of Care to a Case of Infant Paleopathology

Jenna Ross & Luiza Rozpara

Faculty Advisor: Rebecca Gilmour

Using the Bioarchaeology of Care, an approach that explores care experienced by a person in the past, we re-examine osteological remains of a one-year old infant from Homol'ovi, near the Little Colorado River, Arizona. This infant exhibits maxillary-mandibular asymmetry, cribra orbitalia, and atypical cervical and thoracic vertebral morphology. The published case study proposed a diagnosis of Klippel-Feil Syndrome, a congenital disorder. Using the Index of Care, we examined possible impacts of pathology across their short life, including its cultural, social, biological, and personal dimensions. As all infants require some degree of care, such as feeding, dressing, and bathing, the challenge is identifying instances in an infant where care exceeds what was normally provided. However, we did identify two areas our individual would have likely required additional care due to their life limiting oral morphology: feeding and sleep. These findings emphasize the bioarchaeological importance of having an Index of Care that can be specific to the life course of infants and children. We believe through applying our research we can further make the Index of Care more accessible to all age demographics, while also providing additional insight into the caregiver experiences.

Applied and Public Anthropology: Parks Canada Work-Integrated Learning (2024)

Tom Fothergill

Faculty Advisor: Samanti Kulatilake

In this project, I present my experiences as an archaeology student intern at Parks Canada. I secured this position to obtain more hands-on experience that will enhance my future career while incorporating work-integrated learning for my degree at Mount Royal University. To complete the tasks assigned to me, I utilized numerous skills from my training as an anthropology major, applying my knowledge beyond the academy. I worked with material remains from several important sites in Alberta and expanded my knowledge by accessing existing literature. The tasks I completed included taking photographs of artifacts, using Geographical Information Systems (GIS) and following laboratory protocols to catalog artifacts. My personal experiences and related literature reviews on the materials I have worked on enriched my learning. More importantly, this experience was transformational: I acquired a variety of new skills and was inspired to explore future archaeological endeavors. This work-integrated learning project, in conjunction with the course ANTH 3359 - Applied and Public Anthropology at Mount Royal is the first of its kind, and would serve as an example for future students who would benefit from connecting their academic skills and anthropological competencies in their careers.

More Than Medicine: Psychosocial and Peer-based Approaches to Understanding and Affirming Transgender Identity in Children and Youth

Sarah Lappin, Maddox Nelles

Faculty Advisor: Gio Dolcecore

This research responds to recent legislation in the USA and Canada restricting gender-affirming care for transgender youth. We consolidate evidence on transgender identity, the importance of diverse forms of gender-affirming care, and how legislative trends impede access and cause harm. Highlighting community strengths, we examine different professionals' roles in supporting these youth. Our research answers the essential questions:

what is gender-affirming care beyond medical-surgical interventions, why is it important, and how can professionals navigate providing it within restrictive legislative contexts? We emphasize that medical-surgical interventions are lifesaving; however, the common universal focus on them inadvertently neglects the vital significance of psychosocial gender-affirming care, which, by its very existence, plays a crucial role in sustaining transgender youth's lives. We review a decade of research on transgender identity and psychosocial gender-affirming care along with community and legal perspectives to underscore professionals' duty to provide gender-affirming care and advocate for legislative change within the contemporary context. Our research is relevant to practitioners, policymakers, and all other professional allies who support transgender youth.

A Novel Measurement of Loop Gain Via Voluntary End- Expiratory Breath Holds During Acclimatization to High Altitude: Relationship to Central Sleep Apnea

Benjamin Mackenzie, Rodion Isakovich, Jessica Dickenson, Spencer Skaper, Nicholas Strzalkowski, Jeff Kerrie, Abigail Bigham, Tom Brustaert, Trevor Day

Faculty Advisor: Trevor Day

Central sleep apnea (CSA) is universal at high-altitude (HA), with high variability. CSA increases with time spent at HA (>3,000m), due to ventilatory acclimatization (VA). Increases in chemoreflex loop gain (LG), with response/stimulus LG ratios >1.0, may characterize LG and predict CSA. Using a novel breath-hold protocol to assess LG before and after acclimatization to HA, we hypothesized that (a) LG would be <1.0 before ascent (Day 0; 1400m), and >1.0 with ascent to HA (Days 6-8; 4300m), suggesting VA and susceptibility for CSA, and (b) LG at HA would be correlated with CSA severity. At 1400m and 4300m, we used a series of five ~10-sec voluntary end-expiratory breath holds (EEBHs) to quantify LG at both altitudes and utilized portable sleep monitors to assess CSA via apnea-hypopnea index (AHI) and oxygen desaturation index (ODI) that same night. LG using the 1st breath following apnea (LG1) was 1.54±0.75 (P=0.0401). The severity of AHI and ODI increased with ascent (P<0.0001). LG1 was strongly correlated with AHI (r=0.76, P=0.007) and moderately correlated with ODI (r=0.66, P=0.029). Our novel EEBH protocol quantified VA to HA via chemoreflex LG during wakefulness and may have utility for predicting the severity of CSA in the context of HA fieldwork or in clinical populations.

Should a Person with FASD be Allowed to Parent?

Peter Choate, Rima Gromykin, Jaida Northey

Faculty Advisor: Peter Choate

The stigmatization of Fetal Alcohol Spectrum Disorder (FASD) hinders the implementation of preventative measures, including research and early intervention. Parents with FASD involved in the child welfare system are especially vulnerable to having their children removed from their care due to this presumptive bias. Individuals with FASD face many obstacles due to stigma, for example, in the child welfare system, justice, healthcare, social services, education, employment, access to services, and in their roles as parents. Once parents with FASD become involved in the child welfare system, they are seen as disabled and have difficulties demonstrating their ability to parent. This study examined court cases involving parents with FASD and reviewed the literature from the previous five years which was built upon prior research. Of the 11 cases that involved parents with FASD, only one parent was granted custody of their child, albeit on a temporary and conditional basis. There is a lack of research in this area, indicating a need for additional understanding of the capacity of a parent with FASD. It is necessary to reframe the narrative of parents with FASD from a deficit view to a strengths-based view.

Is Home Here?

Julie Patton, Kobe Tulloch, Connor Balsillie

Faculty Advisor: Patti Edgar

In September of 2023, the City of Calgary announced its strategy to address the housing crisis: Home is Here. But is home here? In our multimedia website we explore this question by breaking down what the Home is Here strategy proposes and how it will affect homeowners, renters, and the unhoused population. Through interviews with city officials, industry experts, academics, and struggling Calgarians we explore the pros and cons of the Home is Here strategy. Specifically, we dive into the Rezoning for Housing Strategy, an object of Home is Here, to explore how Calgarians can expect the city to change over the next few years. Additionally, we question the movements made by the city council and ask experts where the shortcomings may be. A journalism project made by Calgarians for Calgarians, we hope to answer the questions homeowners, renters, and the unhoused have so that we may all understand the future of our city.

The Prevalence of Excessive Exercise in Eating Disorders: A Systematic Review and Meta-Analysis

Connor Campbell

Faculty Advisor: Daniel Devoe

Individuals with eating disorders (EDs) may present with maladaptive behaviours such as excessive exercise (EE). Despite this, no systematic reviews have been conducted on the prevalence of EE in individuals with EDs. This study aimed to assess the current and lifetime prevalence of EE in those diagnosed with EDs. A comprehensive electronic database search of the peer-reviewed literature was conducted in the following online databases: MEDLINE, PsycINFO, Embase, CINAHL, ERIC, and SCOPUS. Review eligibility was restricted to research studies reporting prevalence data for EE in those with EDs. Fifty-six studies met the inclusion criteria, including 21,489 individuals with EDs (mean age: 22.34 years; 95% female). Random-effect pooled estimates demonstrated that the overall current prevalence of EE in all EDs was 48%. Current prevalence was highest in AN (48%), followed by BN (45%), EDNOS (38%), and BED (11%). The overall lifetime prevalence of EE in those with EDs was 63%. Lifetime prevalence was highest in AN (72%), followed by BN (57%), and EDNOS (21%). Nearly half of individuals with an ED engage in EE. The prevalence data strongly suggests that clinical screening and longitudinal monitoring of EE in those with EDs is warranted.

Influencer Marketing versus Brand Marketing Factors and Outcomes

Cass Kamphuis

Faculty Advisor: AnneMarie Dorland

This study aimed to examine if university students are impacted differently by advertisements posted by social media influencers compared to advertisements posted directly by brands. Structured interviews were conducted with fifteen participants which proved that consumers will have a better attitude and reaction to an advertisement shared by an influencer that does not use disclosure language compared to if an influencer uses disclosure language or if a brand shared an advertisement. Another area that was explored in this study was if influencer marketing increases brand awareness, which resulted in a variety of data stating that there are different factors that impact brand awareness, and it does not depend solely on who posted the advertisement. Lastly, consumer trust and credibility play a role in if consumers take advice from a brand or an influencer and there are different factors that impact this.

Applying the Index of Care to a Case of Polyostotic Fibrous Dysplasia at Neolithic Catalhöyük

Talia Joffe

Faculty Advisor: Rebecca Gilmour

Individual Sk. 3368, found at Neolithic Catalhöyük, presents with a diagnosis of polyostotic fibrous dysplasia, a chronic genetic bone disease. The initial case study briefly discussed the individual's disease, positing that they were the recipient of some form of socially mediated reaction as they were buried deviantly in a midden. However, there was no discussion of said social reaction. The Index of Care was applied to determine whether the individual required or received care. A reconstruction of the individual's possible lived experience was undertaken by analyzing the effects of polyostotic fibrous dysplasia and how the effects may have impacted their existence within society. Using clinical, sociocultural, and excavation literature, it was determined that this individual likely did not require or receive care from others. However, due to the unusual burial context, it is argued that the individual was viewed as 'different' within their society. Applying the Index of Care to this case study allows for further understanding of the lived experience of this individual, adding to the greater conversation of disability and care within the bioarchaeological record, of which information regarding disability and possible need for care is underrepresented.

The Impact of Concussion and TBI in Sport: Policy and Prevention at Work

Nate Lutzer, Joaquin Nacinales, Claire Sutcliffe, Celena Davis

Faculty Advisor: Jenelle McAllister

The objective of this research poster is to comprehensively examine the landscape of concussion legislation and critical concussion cases in Canada. This entails several key aims, the first being to determine the current additions and changes to existing legislation governing concussion management and prevention. Second, to observe critical concussion cases documented in Canada, with a focus on understanding the severity and outcomes of these cases and to investigate any potential relationship between critical concussion cases and legislative changes over time. There is an aim to identify any correlations or patterns between the implementation of specific laws or regulations and changes in the incidence or management of severe concussions. Lastly, to recognize proposed legislation related to concussion management and prevention that was never implemented, shedding light on potential gaps or missed opportunities in addressing this public health concern at the policy level.

Technology's Influence on Child Trafficking

Phoebe Koenig

Faculty Advisor: Christina Tortorelli

This research investigates the impact of technology on child trafficking in Canada. It analyzes established and emerging trafficking tactics facilitated by technology to understand their implications for young Canadians. The study aims to equip social workers and child intervention workers with resilience strategies. With 92% of Canadian youths using the internet, online platforms have become key avenues for traffickers. Technology enables grooming, exploitation, and dissemination of violent content, perpetuating exploitation cycles. Social workers play a vital role in combating this but face challenges in addressing online-specific issues. Leveraging technological resources like Microsoft's research program and online courses can offer new intervention opportunities. Decolonial and anti-oppressive practices are also shown to be crucial for victim support. Organizations like #NotinMyCity raise this type of awareness and promote collective action, as collective dedication and advocacy are essential to harness technology for safeguarding children and youth in Canada.

Psychopathy and Resiliency in Youth Related to Criminal Offending Across the Lifespan: A Neurobiological Overview

Mackenzie Frampton

Faculty Advisor: Janne Holmgren

This literature review provides a foundation of current knowledge of psychopathy and resiliency in youth offenders. Child development and the importance of sensitive periods and possible life trajectories based on negative or positive impacts during development are explored. Implications of child maltreatment on a neurobiological level is a focus to help aid in the explanation of psychopathy and its tendencies relating to crime. Brain architecture is discussed with possible relationships made in connection to psychopathy or resilience, with use of evidence through brain imaging, in relation to changes that are observed in individuals who experienced childhood maltreatment. Targeted treatment efforts can be created to treat the root cause of psychopathy more precisely and promote resiliency, such as identifying abnormal brain structure and function. Finally, implications of such a study are crucial in continuing efforts to reduce childhood maltreatment by recognizing, understanding, and educating the population in its possible detrimental lifespan consequences, with the ultimate goal of reducing crime and helping those who may not have a voice.

Assessing Baseline Knowledge of Evidence-Informed Practice in Undergraduate Students In Health Discipline

Daniil Stolear, Colin King, Loriann Hynes, Jenelle McAllister, Lynne Lafave, Mark Lafave

Faculty Advisor: Mark Lafave

Objective: Evidence-informed practice (EIP) is a critical aspect of healthcare education as practitioners rely on the best available evidence to inform their decision-making. The Evidence-Informed Practice for Health Professions Instrument (EIP-HPI) was developed to measure attitudes, knowledge, and use of EIP concepts in athletic therapy. This study aims to continue establishing content validity and reliability of the EIP-HPI by surveying new cohorts of students. Methods:Undergraduate HPED students in an introductory research methods class completed the EIP-HPI. Descriptive data analysis was calculated on baseline EIP scores. Cronbach’s Alpha was employed to measure reliability. Results: Thirty-nine students completed the EIP-HPI with a mean knowledge score of 5.89 (SD=1.64). Cronbach's alpha for the baseline scores was 0.85. Conclusion: Baseline knowledge of EIP was measured on a new cohort of students at MRU than previously reported (AcadiaU). Cronbach’s alpha and mean knowledge scores

between the two cohorts at AcadiaU and MRU demonstrated similar results: .85 (M[knowledge]=4.68, SD=1.64) and .85 (M=5.89, SD=1.82), respectively. EIP-HPI use may aid in health education curricula design and delivery.