

Investigating Scapular Muscle Coactivation During Static Yoga Postures to Help Restore Muscle Balance

Shoulder pain is very common, particularly among older adults. Subacromial impingement syndrome (SAIS) is the predominant cause of shoulder pain. SAIS is defined as a mechanical compression of tissues in the subacromial space due to a narrowing of this space. Patients with SAIS show scapular muscle imbalance. There is extensive research on shoulder muscle coactivation using traditional strengthening exercises. However, very little is known about the effectiveness of yoga on shoulder rehabilitation. The purpose of this study was to investigate scapular muscle coactivation in yoga postures and determine which poses may be useful in shoulder rehabilitation. We examined fifteen yoga postures and collected shoulder muscle activity using surface electromyography from twenty healthy women. We identified that patients with upper trapezius hyperactivity may benefit from specific yoga exercises, including the plank, reverse tabletop, side angle, locust arms back, and upward dog. Patients with deltoid hyperactivity or supraspinatus weakness may use either the dancer's pose right or dancer's pose left, depending on the sympathetic side, while downward dog may be used bilaterally. This information may be beneficial in developing rehabilitation programs and yoga guidelines to help restore muscle balance in patients with shoulder dysfunction.

Are There Subtypes of Gamers, More at Risk of Developing Pathologies?

Video gaming is a common hobby among people of all ages. However, when enjoyed in excess, it can lead to disordered behaviours. Internet Gaming Disorder (IGD) is a disorder characterized by pathological gaming habits that last for at least twelve months (WHO, 2018; DSM-5, 2013). Little research distinguishes high- from low-risk gamers regarding the development of other disordered behaviours or comorbidity with mental health issues. The current study, an exploratory data analysis, assesses the risk of gamers' developing other pathological behaviours and comorbidity with mental health issues such as social anxiety, depression, ADHD, problematic gambling, or substance dependence. The study is a secondary analysis of an existing data set. We identified three different subtypes of gamers, with only one group showing significant emotionality, gaming habits, and addictive behaviours. The other two subtypes were a normative class and a class of gamers with high levels of pathological emotionality but no addictive behaviours other than the diagnosis of IGD.

Under Her Headscarf

Exploring the work–life balance of Hijab–wearing post–graduate students

This research project explores how the amount of education a Hijab-wearing woman has affects the extent to which she conforms to traditional gendered responsibilities within her domestic life. Semi-structured interviews were conducted with two female doctoral students, during which they were asked about their personal experiences with the Hijab, and whether they felt any pressure to adhere to traditional gendered responsibilities. The interview transcripts were then coded and analyzed, and it was found that most positive associations were made when participants spoke about the supportiveness of their families in terms of their careers. Conclusions suggest that Hijab-wearing post-graduate students are not pushed to conform to traditional gendered responsibilities by their families but may face criticism from friends and community members.

Sprinkles and Ellie

An investigation of girlhood experience and memory

In this research study, I analyze a cultural object from a childhood experience in the late 1990s and early 2000s. The research participant chose significant objects from her childhood: two plush toy elephants she'd named Sprinkles and Ellie, gifts received during periods of hospitalization. The purpose of the study is to explore an adult-memory, using photographs of the participant as a child with her toys, in order to understand what the toys represent. The ethnographic study uses visual research methods and textual analysis to investigate the memory of a childhood experience. The adult's memory of her relationship to the toys reveals the tension she felt between vulnerability and agency. Sprinkles and Ellie assume the role of transitional objects between the safety of home away-from-home and remain as keepsakes in the adult's current life.

BREANNA BERRY

Performing Indigenous Nationhood

The use of embodied knowledge in resistance and resurgence

In a settler colonial dominated society, Indigenous people's embodied potential for resistance to erasure and the resurgence (revitalization) of their nations lie in their world views. It is imperative to understand that (1) Indigeneity is a way of life that is active, lived, and relational, endlessly signified through Indigenous place-based ecological philosophies, (2) these worldviews are incompatible with a Eurocentric capitalist worldview, and (3) as such, these worldviews have been disparagingly portrayed as primitive and targeted for erasure. This essay centralizes the Indigenous body as a source of agency (capacity to act) and argues that gestural vocabulary, as embodied archives of Indigenous Knowledge, are political tools of resistance and resurgence as they counter colonial portrayals of Indigenous peoples, repatriate ancestral Indigenous Knowledge to the present, and (re)assert relationality to place. The first part of this exploration establishes the centrality of embodiment to Indigenous worldviews and provides examples to demonstrate how performance is used as a method of teaching and of realizing spiritual, social, legal, and political obligations. The second part focuses on the imperative of recentering ancestral knowledges in one's Indigenous being in order to be politically resistant and resurgent. Finally, through Martineau and Ritskes' use of "decolonial aesthetics," three examples of contemporary Indigenous performers—Sam Mitchell, Neil Morris, a.k.a. DRMNGNOW, and sister duo Piqsiq—are analyzed to illustrate how performance is used as a way to re-ancestralize the present, assert Indigenous political difference, and envision possibilities of Indigenous futurities outside the confines of the settler state.

Religious Responses to Cultural Issues

Sikhism & its response to Indo-Canadian gang violence in the lower mainland, British Columbia, Canada

This article looks at gang prevention initiatives geared to second-generation Punjabi male youth in Surrey, British Columbia. Using a semi-structured interview method, I interview a community activist and co-chair of a community coalition to better understand social work responses to gang violence. I conduct a literature review of scholarly articles to critique the advocacy response and reveal sites of contradiction between generations of Punjabi Sikhs. The community coalition understands gang violence as male youths' alienation from Sikh religious institutions such as the Gurdwara (Sikh Temple). Using secondary sources, I uncover contradictions between first-generation and second-generation Punjabi immigrants about the use of religious responses to solve gang violence. On one hand, first-generation Punjabi immigrants believe Gurdwaras are the central hub of the community and must be included in a gang prevention response. On the other hand, second-generation Punjabi immigrants understand Gurdwaras as rigid spaces that lack strong leadership. I investigate a specific advocacy response by the community coalition held in collaboration with second-generation Punjabi youth, Sikh leaders, police agencies, and a collaborative community-university project. During a two-day residential summit, a collaborative gang-prevention action plan is created, with a recommendation to create an accessible resource booklet titled "Understanding Youth in Gangs," made available to Punjabi youth and families. However, I critique the funding process of this resource booklet, which is embedded in racist and political discourses dismissing Punjabi ways of family life and reinforcing Eurocentric ideologies of family and call on second-generation Punjabi male youth to exert their voices and power to build gang prevention strategies that support their visions and imaginings.

GUNJAN BHARDWAJ

If You Could Help Thousands, Would You?

Every year, thousands are incarcerated for non-violent drug crimes. Rehabilitation can break the cycle of recidivism. This paper examines the benefits of rehabilitation as compared to traditional jail sentences for non-violent drug offenders. Current research on the injustice faced by non-violent drug offenders in the criminal justice system is limited. A literature review comprising research articles, case studies, meta-analyses, and reports shows that rehabilitation centres help integrate non-violent drug offenders back into society, and rehabilitative programs are both cheaper and more effective than prisons. The author considers counterarguments (e.g., a prison sentence is just), but ultimately finds that prison systems are significantly less apt to reduce drug crime recidivism than rehabilitation centres and may even increase the likelihood that a non-violent felon would reoffend. Experimental research on recidivism rates, rehabilitation centres and prisons is called for.

GURNEET BHELA

Digital Technologies to Fill Gaps in HIV Management in Low-Resource Settings

HIV is one of leading causes of death in the developing world and continues to be a global health concern. The HIV epidemic affects the most vulnerable and marginalized populations around the world and is fueled by a broad range of environmental, political, cultural, and social contexts. The purpose of this research project is to explore ways in which digital technology can fill gaps in HIV management, with a focus on low-resource countries. Over half of the world's population is now online; text messaging and social networking sites offer an opportunity to improve the reach of health information and services to diverse and remote populations. A literature review was conducted to examine interventions involving digital technology to improve health outcomes, health behaviour, and delivery of health-care services for HIV positive patients. In low-resource settings, the use of mobile technology can be used for the delivery of HIV management and care. Going digital for health is no longer an option—it is the default.

Autism and Metacognition

This paper explores the link between metacognition—thinking about thinking, or the awareness of one’s own mental states—and mindreading—the ability to interpret the mental states of others—in people with an autism spectrum disorder. The purpose of this research is to understand how well autistic children can understand their own minds, as well as the minds of others. Findings from numerous experiments suggest that people on the autism spectrum have difficulty interpreting others, but metacognitive abilities are intact. Although mindreading is a challenge, theory of mind is unimpaired; they can understand their own mental life, judge accurately, and use feedback to correct mistakes. The finding that theory of mind remains unimpaired in people with autism is significant. Understanding the way autistic-like traits interfere with metacognition and mindreading abilities broadens therapy alternatives for people with autism.

WHO's Ready for the Next Flu Pandemic?

Global governance of influenza pandemic preparedness

In an increasingly interconnected world, viruses can spread faster and farther than ever before. Sometimes the spread of disease reaches pandemic levels, as has occurred with influenza. Pandemic preparedness is the means through which nations prepare for the population-level threat of infectious disease. National preparedness is not enough to counter a rapidly evolving virus like influenza; global coordination is needed. The World Health Organization's (WHO) role has been to lead this coordinated effort. How has the WHO used governance to address global influenza pandemic preparedness? This paper first explores the regulations and recommendations the WHO has developed for global influenza pandemic preparedness, the International Health Regulations (IHR) and Pandemic Influenza Preparedness (PIP) Framework. Next, the 2009 H1N1 pandemic is used as a case study. Occurring chronologically in between the adoption of the IHR and PIP Framework, H1N1 revealed the shortcomings of the former and need for the latter. The governance challenges of influenza pandemic preparedness are discussed, including the limitations of the WHO's approach. It was found that the pre-H1N1 approach was not well-suited for low-income countries, where health systems could not easily meet the IHR obligations established by the WHO. The more recent PIP Framework is non-binding, which risks stakeholders not following through with commitments should another influenza pandemic occur. Recommendations are made to improve the strategy of the WHO, including changes to governance, scope, funding, and enforcement. Pandemic influenza is an ongoing challenge for global health governance and the WHO has made progress in addressing this threat.

Comparing Psychology and Non-Psychology Student Attitudes Toward Care Seeking

Despite evidence that counselling and other forms of psychotherapy are critical to mental health recovery (Corrigan, 2014), fewer than one third of people living with mental illness seek treatment (Maranzan, 2014). Stigma surrounding mental health deters people from seeking help. Our 2018 study found that York University (Toronto, Canada) students implicitly associate care-seeking activities with negative personal attributes. Exposure, in the form of contact and education about psychological support, reduces stigma and negative biases (O'Brien et al., 2010; Rudman et al., 2001). We hypothesize that students studying psychology should have fewer negative associations toward seeking treatment. Using the implicit associations task (IAT), we assessed whether this is the case. Twenty-nine psychology students and 29 non-psychology students from York University completed the IAT. First, participants classified different activities (e.g., counselling) as being related to care seeking or daily living, and different personality traits (e.g., antisocial) as being positive or negative. Second, they classified these activities and traits into paired categories of either congruent (care-seeking/ negative and daily living/positive) or non-congruent (care-seeking/positive and daily living/negative) stereotyped associations. The reaction times to classify each item into the congruent and incongruent categories were evaluated. While all students were faster in the congruent associations, the results showed an interaction between areas of study and association pairs. Being exposed to incongruent pairs—i.e., care seeking and positive personality traits—slows down non-psychology more than psychology students. These results suggest that exposure to psychology courses does contribute to reducing negative biases against mental health care.

Psychological Myth Buster

Do we really only use 10% of our brain?

The origins of the 10% myth are elusive. There are many early scientists (e.g., Albert Einstein, Pierre Flourens), philosophers (e.g., William James), writers (e.g., Dale Carnegie) and psychologists (e.g., Karl Lashley) who inadvertently contributed to the evolution and popularization of this myth. The 10% myth is attractive to us for many reasons; it opens up a world of unknown possibilities that are both mysterious and exciting and gives us hope for improving our quality of life. In fact, if any part of the brain was removed or inactive, there would be noticeable and lasting behavioural and cognitive effects. Our brains are complex machines that require all parts to be in working order for typical healthy functioning.

MITRI ELIAS

The Effects of Naphthalene on the Environment

Naphthalene is a type 2 carcinogen that metabolizes in the body through oxidative transformation. It can be found in the atmosphere and in water and soil as well as in day-to-day products such as insecticides, deodorizers, toys, antiseptics, mothballs, and tobacco smoke. It enters the body mainly through a gaseous form, but it can also be ingested or absorbed dermally.

Eat Dementia Away!

Nutrition has only recently been studied for its protective role in cognition. In order to find which nutrients are the key players for maintaining optimal mental health, a thorough bibliographic review of recent literature was conducted. Water, some fats (n-3 PUFAs), vitamins, minerals, and polyphenols were shown to play an essential role, mainly due to their role in brain development, their participation in neural mechanisms, and their antioxidant properties. The Mediterranean Diet is rich in these elements and is better for the brain than diets with high sugar and saturated fat.

Are We Doing Enough to Protect Black-Tailed Prairie Dogs?

According to the Committee on the Status of Endangered Wildlife in Canada, the black-tailed prairie dog is a profoundly threatened species with a drastically declining population, leaving only a small Canadian group remaining in southern Saskatchewan. This scoping review identifies their ecological role, high-impact threats, proposed management plans, and gaps in the effectiveness of these plans. Prairie dogs are keystone species that play a large ecological role in their communities, from maintaining nutrient and moisture-rich soil for plant species to serving as important prey for several rare and endangered species, and more. The two main threats of a significant population drop with low likelihood of recovery are the sylvatic plague and droughts. As part of a management plan, these species are held within the range of Grassland National Park. Although this initiative is useful for preventing human-induced threats (e.g., hunting or intentional poisoning by landowners), the high concentration in such a small area makes the threat of a plague outbreak among these highly social creatures more devastating and likely irreversible. Through our analyses, we argue that the existing management plan is not sufficient to protect these species, given the projected increase of extreme climate events. As the impacts of climate change become more severe, the frequency of droughts will rise, which will simultaneously weaken the animals' defenses against the plague. This will ultimately leave the black-tailed dog population vulnerable and there is bound to be a cascading population collapse within species in their community.

ADAM GARISTO

Ford Fest

Community barbeque or ethical nightmare?

Ford Fest is an annual barbeque organized by one of Ontario's most powerful families: the Fords. The main concern is that Doug Ford, the Premier of Ontario, uses the event to make voters beholden to the Progressive Conservative Party; therefore, the ethics of Ford Fest must be examined. First, it must be determined that Ford Fest is misleading the public. The event operates under the guise of a community barbeque; however, closer examination reveals its true nature as a political rally. Second, Ford Fest provides free food and entertainment for its guests; is this bribery? It seems that these perks are intended to make voters beholden to the Progressive Conservative Party of Canada and Premier Ford.; is this ethical? News media and the Party's and the Premier's social media about the event were analyzed using two competing theories: utilitarianism and deontology to determine the ethics of this event. The author concludes that political parties should not be able to bribe voters for support. Political parties should be expected to appeal to voters through messaging and policy, not barbeques and perks.

Reconsidering Citizenship

Canada's policy approach to migrants with disabilities

Under the Live-In Caregiver Program, Karen Talosig, a Filipino caregiver, applied for permanent residency in Canada for herself and her daughter. Her daughter was initially unable to join her because the daughter was deemed “medically inadmissible” due to her profound deafness. The purpose of examining Talosig’s case is to illustrate how Canada’s medical inadmissibility clause unfairly targets migrants with disabilities in what is supposed to be a diverse and inclusive society. I investigate how Canadian domestic law contradicts its international legal obligations and how the economic interests of a state can be used to justify closed borders. Canada has an obligation to migrants with disabilities and should consider the economic contribution temporary foreign workers have made to the country. Although Talosig lacked formal citizenship, she carved a space for herself in Canada and constructed an informal sense of belonging as she worked as a caregiver and took on three additional jobs over seven years. Understanding Canada’s obligations to migrants with disabilities and temporary foreign workers is assessed through economic, legal, and social justifications. The goal of this study is to provide various recommendations for the Canadian government on how it can alter current policies in order to uphold multiculturalism, diversity, and inclusion in the country.

Looking on the Bright Side

Comparing long-distance relationships and geographically close relationships

Long-distance relationships (LDRs) are increasingly popular (McCoy, Hjelmstad, & Stinson, 2013). Approximately 35–40% of college students and 1 million American adults report being in a long-distance relationship at any given time (Belus, Pentel, Cohen, Fischer, & Baucom, 2018; Du Bois et al., 2015; Lee & Pistole, 2012). As relationship and sexual satisfaction is an important aspect of personal well-being and a common reason for seeking therapy, counsellors and college counsellors need to know how to deal with LDRs (Kelmer, Rhoades, Stanley, & Marman, 2013; Lee & Pistole, 2012). Previous research on relationship satisfaction in LDRs compared to geographically close relationships is examined and found to be contradictory. This paper explores the challenges and benefits of LDRs and reviews current theoretical literature and potential therapeutic applications. The paper identifies gaps in current literature and proposes a study analyzing sexual frequency and satisfaction in long-distance relationships compared to geographically close relationships. Understanding more about sexuality in LDRs could help couples cope with and prepare for the unique challenges presented by this type of relationship (Dargie et al., 2015).

Why Labour Migrants Should Have the Same Rights as Citizens Throughout Member States in the European Union

This research paper argues that migrant workers should be granted the same rights as citizens in the European Union. To accomplish this, scholarly texts and documents produced by European Commission (EU) were examined. Since the Treaty of Paris and the European Coal and Steel Commission, the integration of migrant labour into Europe has increased, an increase which brings many benefits to EU member states. Permitting migration and free movement to countries also brings various social benefits. Along with multiculturalism, migrant workers introduce new ideas into a country and generate jobs in several sectors. In particular, temporary migrant workers fill employment needs. Yet some people view migrant workers negatively because labour rights grant migrant workers the opportunity to access state welfare programs. EU member states have different rules outlining how temporary and permanent workers can function in their countries, and the possibility of becoming a citizen or resident of a country can, in turn, grant people EU status. The treatment of migrant workers affects their living and working conditions, factors that are affected by treaties and policies. With persisting anti-immigrant sentiment occurring throughout the EU, this topic is crucial.

Climate Change Solutions

Electric mobility at York University

Our intention is to ensure that York University transitions to 100% renewable energy sources over the course of the next few years in light of Canada's climate emergency declaration. We aim to mitigate carbon dioxide (CO₂) emissions on campus through innovative transportation methods, infrastructure, culture, and art. To enhance this research, we reviewed scholarly literature and used geographic information system (GIS) mapping and Helioscope to calculate the possibility of photovoltaic energy. We conclude that the transition to renewable energy sources is not only possible, but entirely feasible, and will move the university toward carbon-free status. Suitable means of transport include electric bicycles, electric mobility charging stations, and micro grid solutions. Based on simulation results, we design a pilot plan and locate the most efficient places on campus for locating renewable facilities. Current research suggests that humanity has approximately ten years to mitigate and reverse the effects of climate change to ensure the future of our planet, its biodiversity, and the human species.

The Role of Lipids in Neuronal Plasticity

A link to autism spectrum disorders

Autism spectrum disorder (ASD) is a neurodevelopmental disorder defined by deficits in social communication and by restricted and repetitive behaviours. ASD impacts 1 in 66 children and is four times more likely to appear in males. Recent research provides evidence for the link between abnormal lipid (or fats) signalling in the brain and ASD. Lipids are critical for healthy brain development, including synaptic plasticity. Synaptic (or neuronal) plasticity involves the dynamic changes of connections formed in the brain between neurons (or brain cells). Previous studies demonstrated abnormal levels of prostaglandin E2 (PGE2), the major bioactive lipid in the brain, which can be influenced in pregnancy by environmental factors such as air pollution, aspirin, or inflammation and lead to ASD. Our lab investigates how molecular mechanisms of abnormal prenatal levels of PGE2 affect brain pathology and lead to ASD. The goal of this study is to determine if changes in the level of PGE2 can influence neuronal plasticity. We tested this in vivo in the mouse cerebellum through analysis of neuronal morphology and in vitro detection of nitric oxide (NO) production, an indicator of synaptic plasticity. We used Golgi-cox staining, confocal microscopy, and open-source software to analyze stage and sex differences of aspects of neuronal morphology. Additionally, the influence of PGE2 in regulating nitric oxide production in differentiating neurons was investigated, using time-lapse fluorescence microscopy. Our novel findings show that healthy brain development is influenced by sex and neurodevelopmental stage. Furthermore, we provide evidence that exposure to PGE2 leads to increased production of nitric oxide in differentiating neurons in vitro. Our study provides insight into the importance of PGE2 signalling in neuronal plasticity; abnormal levels may influence brain development and can lead to neurodevelopmental disorders such as ASD.

Life Microinsurance as a Risk–Coping Mechanism for Canadian Households

Every household encounters some unexpected costly event at some point in time. The death of a family member seriously affects the household's finances. Not only are funerals expensive but also, if the deceased individual contributed to the family's total income, the family needs to reallocate its resources to deal with that shock. Many times, even when family members use all their savings, it is not enough to cover the full cost and they must look elsewhere. Having insurance could be an enormous help to families and would not put them in a situation where they use all their savings. Unfortunately, even with an established insurance culture, not everyone is able to afford insurance. Life microinsurance has been used in many developing countries to help low-income individuals deal with such unexpected events. However, there is little knowledge of whether and how microinsurance can be used in the context of a developed country like Canada. To address this knowledge gap, the Risk and Insurance Studies Centre (RISC) at York University collected data to assess the risks faced by low-income individuals in Canada and their risk management strategies. These data would help identify the potential market for microinsurance and help design an insurance product to meet the needs of Canadians. This paper looks at how life microinsurance can be used as a risk-coping mechanism for Canadian households. Life microinsurance has the potential to be successful in Canada. As long as Canadians are willing to pay the proposed premiums for the product and do not have negative attitudes toward insurance, it would be profitable. Due to the fact that life microinsurance is relatively easy to provide, it could be an opportunity to transfer any successful approaches to other lines of business.

CHRISTINA MARTON, ISRAT ERA, GORDON HAWKS,
SYED HUSSAIN, & ROSALYN KISH

Pingo Formation

The word pingo is gleaned from the Inuit word pinga. It describes the ice-cored conical hills of the Mackenzie Delta in Canada. Pingos form in high-latitude periglacial regions of permafrost in areas where thermokarst lakes exist. These lakes initially form due to the freeze/thaw action of the active layer. Due to their requirement of large amounts of water, pingos tend to grow in regions with a steady supply of groundwater or in areas where there is an accumulation of outwash material. Pingos form under the ground surface and grow upward from a depression of accumulated water. The freezing water is pushed toward the surface and forms an ice structure that appears as a lens. If properly insulated around the edges, a mini, human-made pingo can be used to demonstrate and study pingo genesis.

Progressive Conservative Ratification of Ontario Health

The ratification of Bill 74, titled “The People’s Health Care Act,” centralizes provincial responsibility for healthcare into a consolidated Ontario Health agency (Ontario Health), which contains a multitude of regional and provincial services. The objective of this essay is to elucidate how the consolidation of Ontario’s regional and provincial health services hinders positive progression. The centralization of health services fails to ameliorate the province’s complex and interconnected healthcare system. The current Progressive Conservative administration, under Premier Doug Ford, is critically analyzed according to dominant ideologies, theories, and methods. The essay seeks to contextualize and explain the decisions of the elected party with respect to apparent health reforms. Previous attempts to consolidate health care within Canada are also discussed, including an in-depth analysis of Ontario’s Local Health Integration Networks (LHINs). Consequentially, the formation of the Ontario Health agency fails to advance the province in a meaningful and efficient way toward an interconnected healthcare system. The research for this essay was based on academic papers and on media sources. While acknowledging the need for reforms to Ontario’s healthcare system, the author opposes the ratification of Bill 74.

MICHAEL MONTELEONE

The Effect of Temperature on Active, Inactive, and Stereotypical Behaviours in Captive Polar Bears (*Ursus Maritimus*)

*Rising temperatures are the main threat to the survival of polar bears (*Ursus maritimus*). Studying how temperature affects their main behaviours can help determine the best way to assist their adaptation to the changing climate. The purpose of this study is to compare the behavioural profiles of five captive polar bears at the Toronto Zoo across a range of temperatures. Scan sampling was used to collect data; every fifteen minutes, the bears' locations and activities were recorded, while temperature and weather were recorded hourly. The results show that, as the temperature rises, the bears find different ways to cope. One of the five bears significantly increased stereotypical behaviours as the temperature rose. This is important because it shows that, even within a small temperature range, an increase in temperature can result in an increase in stereotypical behaviours and a decrease in animal welfare.*

Addressing the Gender Gap in Canadian Health Research Funding

Much research has been published on the inequities faced by women in research. In Canada, the Canadian Institutes of Health Research (CIHR) is the national investment agency for health research, providing a billion dollars annually to researchers through various grants and awards. In 2019, an article entitled “Are gender gaps due to evaluations of the applicant or the science? A natural experiment at a national funding agency” (Witteman, Hendricks, Straus & Tannenbaum) drew attention to the gender gaps present in CIHR funding. Through a comparison of three CIHR grant programs, the authors concluded that these gender gaps arose from grant reviewers evaluating women less favourably than men, rather than from differences in research proposal quality. Our project proposes that the CIHR modify their “Equity Strategy” to implement an “Equal Representation Policy” over ten years. Based on women’s representation within the general Canadian population, this will ensure that 50.9% of grant funding is given to women. Implementation of this proposal will involve reaching out to four key stakeholder groups. Once established, data collection, milestone setting, and compliance enforcement methods are suggested for evaluation and sustainability. Research is foundational to the practice standards, legislation, best-practice guidelines, and evidence-based practice that guide nursing and medical practice, all of which directly impact the health of Canadians. Until changes to society’s current gender biases and gender norms occur, we believe adopting a target-based policy to minimize gender biases in research funding is the most effective solution.

Smart Drugs?

Cognitive enhancing drugs and the consequences on healthy populations

Cognitive enhancing drugs (CEDs) are prescription medicines that facilitate cognitive performance. CEDs commonly refer to the pharmaceutical treatments for deficits and attention-deficit hyperactivity disorder (ADHD) through the prescription of Adderall (amphetamine), Ritalin (methylphenidate), or Modafinil. These drugs strengthen levels of alertness, allocation of attention, formation of working memory and long-term memory, and operation of executive functioning such as problem-solving and decision-making. In 2018, the Global Drug Survey revealed both the prevalence of and significant increase in the use of pharmacological cognitive enhancement since 2011. Cognitive enhancement refers to the misuse of prescribed CEDs for non-medical performance enhancement. Some scholars argue that neuroenhancement is beneficial for the general population by improving personal achievement and life quality. Others contend that the non-medical use of CEDs poses significant risks to the cognition (brain development) and behaviour (addiction, poor self-monitoring) of users. This paper reviews the literature on the practice of cognitive enhancement and argues that its usage should not be permitted in the healthy population as it causes detrimental neural effects on consumers and legal and ethical issues for society.

Time Flies When You're Having Fun

A fruit fly study on aging

Drosophila melanogaster is a species of flies that has been used as a model organism for over a century. *Drosophila* has a fully sequenced genome that contains genes equivalent to at least 75% of the genes found in humans. This makes it a great model organism to study biological questions pertaining to human health, including aging. Aging has long been attributed to the cellular and molecular changes inside a cell, but little is known about the genes which play a role in the process of aging. Although studies have attempted to elucidate the function of these genes, often ignored is the accessibility of these genes to DNA-reading molecular machinery, which likely influences their expression and contributes to the processes of aging. Studies have noted that females often survive longer than males, and this is true across multiple species, including *Homo sapiens* (humans) and *Drosophila melanogaster* (common fruit fly). It has been suggested that the highly condensed, or heterochromatic, male Y chromosome, which is inaccessible to the cell's DNA-reading molecular machinery, causes shorter survival rates. This study explores the relationship between heterochromatin and aging. Research methodology included laboratory experimentation, including a genetic experiment, to compare the gene expression profiles for flies with normal, modified, and partially absent heterochromatin, and a literature search on the biochemical function of these genes. The study determines that six key genes are strongly implicated in aging and that these genes remove the toxic by-products created by cells when they produce energy. It concludes that organisms containing a greater amount of heterochromatin have a reduced ability to produce these key anti-aging genes.

JOANNE ONG

Does Being Confident Matter Equally for Women and Men?

Being confident matters, but does it matter equally for women and men? Extending research on the gender gap in confidence, we consider whether the economic return of being self-confident is gendered. Analyzing data from Statistics Canada's 2016 General Social Survey (N= 19,294), we find that not only are women less self-assured than men but the earning power of being confident is also less strong among women than men. In other words, gender moderates the impact of confidence on personal income. The economic return for being self-confident is lower among women than men, while compensation for men is higher than what should be observed in a non-discriminatory world. The fact that being confident is rewarded unequally between genders suggests that social bias against women is one major source for women's lack of confidence. If left unaddressed, the unequal economic return of self-confidence will continue to obstruct the movement toward equal pay for equal work and lead women to accept that their underestimation is a normalized aspect of personal and community life.

SHADAE ROCHELLE ROACH

The Trial of the Death of Cindy Gladue

#CinduGladue: Degradation, representation, and competing ideologies

Each year, women and girls from Aboriginal and Indigenous communities are missing or murdered, with no justice served. The trial of the death of Cindy Gladue (2015) was one that could set precedent for women who are Indigenous and for women who are sex workers. I reviewed and analyzed the trial and media trends and found three common themes: degradation ceremonies, representation of women, and ideological contestations. This review focused on the denunciation of Cindy Gladue, on consent and sex workers, and on the ideologies of indigenous communities and sex workers. The paper concludes that the Canadian criminal justice system continues to fail women of colour and Indigenous communities; however, the growth of social media channels has increased public knowledge and increased awareness about the rights and protection of individuals.

The Psychological Effects of Bullying on Students

Bullying is a significant problem because of its prevalent and its serious psychological effects on victims (Hertz et al., 2013). Bullying is an action of repetitive, unwanted, aggressive behaviour that includes physical actions such as hitting, kicking, or spitting, and verbal actions such as threatening, name-calling, teasing, or spreading rumors (Gan et al., 2014). This paper focuses on traditional bullying rather than on cyberbullying. Because bullying is common among school-age children and has serious effects, it is a public health concern and needs the attention of educators, policy makers, and health care providers (Bradley, 2013). Annually, 20–56% of young people are involved in bullying either as a victim, a perpetrator, or both (Hertz et al., 2013). A World Health Organization study places Canada sixth out of 38 countries for high rates of bullying, while the Canadian Institutes of Health Research report that one in three adolescents is bullied (Bradley, 2013). This paper concludes that victims of traditional bullying in schools are more likely to experience psychological issues such as social anxiety, low self-esteem, depression, and suicidal ideation than those who are not bullied.

The Cessation of Coal-Fired Power Plants in Ontario

Costs, benefits, and alternatives

During the 1960s, the desire to provide cheap electricity for industrialization in Southern Ontario, when the economy was booming from post-war development, led Ontario to build six coal-fired power plants; however, as the economy changed and Ontario began to deindustrialize in the 1980s, the province was producing an excess of electricity, thus leading to a fall in electricity prices. This drop led to the financial collapse and privatization of Ontario Hydro. In 2001, former Ontario Premier Dalton McGuinty proposed an ambitious plan to close all six coal-fired power plants in Ontario, and completely shift Ontario's electricity industry toward zero-carbon generation. This study explores in depth whether the closure of all coal-fired power plants in Ontario meets the definition of energy sustainability proposed by Mark Jaccard, and how the Government of Ontario was successful in closing all coal-fired plants. It explores the costs and benefits of closing these plants by analyzing future health-care costs caused by pollution, and environmental costs such as smog days in summer; furthermore, this paper discusses how the Government of Ontario replaced the electricity produced by coal-fired power plants by investing in nuclear energy, increasing capacity of hydroelectricity, and increasing investment in renewable energy such as wind. Finally, the author weighs the negative upstream and downstream effects of electricity generation from alternatives in Ontario, such as nuclear and hydropower, to discern whether closing coal-fired plants was financially and environmentally feasible. After analysis, the author concludes that closing all coal-fired power plants in Ontario led to energy sustainability, saved the Government of Ontario billions in health-care costs, and aided Ontario in mitigating climate change.

Healthcare Organization Employees and Influenza Vaccination

Through ethical reasoning, this paper will demonstrate several ways in which a mandatory requirement for all health-care staff to obtain the annual influenza vaccination, unless medically or religiously unable, can improve patient and health-system outcomes. The influenza virus vaccination is provided to protect individuals from obtaining various strains of the influenza virus. Health care workers staffed in organizations aimed at providing optimal person-centred care are vulnerable to viral infection. The results of an extensive literature review showed that, when health-care staff are protected against influenza, patients are better able to trust their care providers, thanks to staff commitment to duty of care. In addition, when health-care staff in an organization receive the influenza vaccination, patients have better health outcomes. Lastly, results show that, when staff are protected against influenza, there is less absenteeism and the financial costs of care are reduced. The paper concludes that, when health-care staff are protected against influenza with the influenza vaccination, individuals are able to receive optimal, patient-centred care.

Sticks and Stones

The psychological effects of corporal punishment on children

Society's approach to corporal punishment varies dramatically. Some people firmly believe that physically disciplining children leads to damaging results later in life: detrimental effects on mental health, cognitive development, aggression, reclusiveness, and anti-social behaviours. Others view physical punishment as an effective deterrent for undesirable behaviour. This project explores the psychological impact of corporal punishment on children. The author conducted an in-depth literature review of previous research and found both short-term and long-term detrimental effects on young children and on adolescents. The author concludes that corporal punishment is psychologically damaging for children and adolescents, a result that has implications for parenting practices.

Constructing Canadian National Identity

Confronting multiculturalism, whiteness, and the internal Muslim “other”

In this paper, I seek to understand the current terrain of the politics of multiculturalism. To do this, I look at how and why multiculturalism emerged historically. To answer the question, “Is our national identity socially constructed to manage diversity?” I look at the self-endowed power of the state in influencing how the masses perceive themselves in relation to one another, non-nationals, and the outside world. I do not intend to assess whether multiculturalism in Canada has succeeded or failed; rather, I want to explore the ways in which it permeates the perceptions Canadians of different backgrounds have of themselves. To that extent, I use the experience of Canadian Muslims whose ontological positionality within the global sphere is hotly contested, thus affecting their position within the Canadian imaginary. Specifically, I look at the current political landscape to explore how multiculturalism has been shaped by the state to subordinate Muslim Canadians to white Canadians. Overall, I argue that a master narrative of Canadian nationhood has been constructed that uses multiculturalism to sustain a racial hierarchy and erase certain parts of its history, while also concealing the power of whiteness in favour of national unity. I theorize this to have been deployed in stages of homogenization of the population. Furthermore, I argue that the adverse treatment of racial minorities today is due to the deep-rooted dichotomy of the self/other.

RIDA SHAH

The Dimensions of Sex Work and Human Trafficking

This research explores how Canadian legislation, societal norms, and the criminalization of sex work are all factors resulting in unequal treatment and safety risks of sex workers in Canada. Sex workers became more vulnerable under Bill C-36, which became law in 2014 and prohibits the purchase of sexual services; it also prevents sex workers from practicing in a safe environment and without the prejudice from powerful institutions such as the police and the law. Sex work and human trafficking are seen as interchangeable, and the bias associated with sex work has left many negative effects on women sex workers. Sex workers experience discrimination, abuse, harassment, and life-threatening situations. By means of a literature review and analysis of a court case, a bill, and a parliamentary debate, I explore how Canadian legislation poorly interprets sex work by criminalizing it and risking the safety of sex workers by isolating them legally and socially.

MANMINDER SINGH

An Urban, Ecological Site Analysis of Earl Bales Park

*This paper is part fieldwork, part storytelling, and part research and application of urban ecology theory in an actual physical space. The textbook *Urban Ecology* (2014), by Richard T.T. Forman, provides the backbone of urban ecological theory for this research. I expanded on Forman's concepts by synthesizing environmental history work, local historical texts and maps, policy documents, contemporary news, and development documents. I've attempted to tell a story that merges local history, natural science, social science, and urban ecology as a whole, through my research and my own photographs from my field visits. I've outlined where and when the park lies in space and time, creating a geological and hydrological context. Using this, I hoped to create a timeline and ultimately better understanding of what and why the park is the way it is today—a conglomeration of multiple uses for Toronto's citizens. I narrowed in on an important concept in the field of urban ecology—balancing human urban development and managing ecological sustainability with regard to land use. My research and field work note a future development encroaching on the park lands, which will be a possible point of future research. This development could offer data points for a study of the effect of human densification in nearby urban park ecosystems. I also looked at the strengthening of a popular urban ecology element—wildlife corridors—and concluded that this park is a prime candidate for their implementation.*

Security Sector Reform in Bosnia and Herzegovina

The limitations of “Europeanization”

Security sector reforms (SSR) generally refer to a process in Western-based international development and democratization to make changes to the security sector of a state toward good governance and its principles, such as freedom of information and the rule of law. SSR has become a vital part of the European Union’s (EU) efforts to transform the Western Balkans from a conflict-ridden area into a stable and democratic region of Europe. This paper focuses on SSR in Bosnia and Herzegovina (hereafter, Bosnia) as a case study of the multidimensional and complex Europeanization policies employed by the EU in the region. The research examines the changes in two sectors of Bosnia’s security system with the aim of providing an understanding of the EU’s impact on the domestic conditions of candidate states. The main argument is that the EU used police and intelligence reforms in Bosnia (both of which were part of the SSR efforts in the country) as state-building tools. However, due to Bosnia’s lack of domestic competence and the inexperience of the EU to properly and effectively implement SSR, the reforms have had very little success and reveal the limitations of the state’s Europeanization.

BREANNA SYNE

The Rebranding of Georgetown, Guyana

Urbanization is a global phenomenon that currently affects many developing nations striving for economic and political freedom from oppressors by developing their markets and economies. In South America, Guyana is on the verge of launching its new oil industry, predicted to help boost the economy and generate wealth. Whether or not this new industry will benefit the people of Guyana and how it will affect the country's future are major questions. This paper explores the potential risks and future implications of Guyana's new oil industry through a literature review and a comparative analysis of other developing nations that have undergone similar developments of their energy sectors. The author explores the implications of rebranding Guyana's capital city, Georgetown, and concludes that deals made with international oil corporations do not guarantee immediate benefits to the people of Guyana.

Indigenous Conservation in Canada

How Indigenous-led conservation is an alternative model for Canada

This literature-based paper will examine the state of Indigenous-led conservation in the context of conservation in Canada, historically and presently, and how Indigenous-led conservation philosophies differ from Canada's conservation philosophies. The results demonstrate that Indigenous-led conservation is a healthier and more sustainable conservation model than Canada's, which privileges scientific methodologies and ideologies. In particular, Indigenous-led conservation models focus more centrally on the interconnected systems of land and water, as well as nature and people. Still, the model is not solely a holistic model that excludes scientific methods. Further, Indigenous-led conservation models ultimately support and build reconciliation between non-Indigenous and Indigenous Peoples. I will close by exploring three successful examples that will illustrate the feasibility and efficacy of Indigenous-led conservation.

Deeper or Wider?

Future of the ever-closer union

Over time, the European Union has progressively evolved into what aspires to be an 'ever-closer union' among the peoples of Europe. In fifty years, the European Union has managed to grow from six members to twenty-seven, and two leading schools of thought have often been mentioned when speaking about the future development of the European Union: either deepening or widening. However, since the European sovereign debt crisis of 2009 and the European migrant crisis beginning in 2015, public opinion surrounding the two schools of thought has shifted. Through the use of Eurobarometer and Eurostat data, I analyze citizens' opinions and support for deepening or for widening. This project explores whether a member state's date of joining, Gross Domestic Product (GDP) per capita, and citizen education levels throughout the country have an effect on citizens' opinions and support for further deepening and/or widening of the European Union. The findings may assist in better understanding the future of the European Union.

