**The Health of the Public: Social, Physical and Emotional Well-being**

*Session Moderator: Clarence Spigner, Health Services*

**MGH 231**

**1:30 PM to 3:00 PM**

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**The Transition Pipeline Project: Organizational Dynamics as Predictors of Veteran Mental Health**

*Shelby Carpenter, Recent Graduate, Arieh Liam (Ari) Lisitza, Senior, Biology (Molecular, Cellular & Developmental)*

*Mentor: Britney Hultgren, Psychiatry and Behavioral Sciences*

*Mentor: Mary Larimer, Psychiatry & Behavioral Sciences*

*Mentor: Annelise Smith, Psychiatry and Behavioral Sciences, CSHRB*

Soldiers who are transitioning to civilian life have alarmingly high rates of suicide, alcohol abuse, and mental illness. There are multiple facets that may influence these poor outcomes for veterans. Organizational dissatisfaction is a risk factor for poor mental health and lack of access to mental health support for veterans, but this has yet to be studied in-depth. The aim of this project is to assess how demographic variables and organizational dynamics impact mental health during the transition process. First, we will use preliminary data from The Network Study, one of the first longitudinal studies to follow the mental health, alcohol use, and socio-economic stressors of service members as they transition out of the Army. Multiple regression will be used to analyze the influence of interpersonal support and conflict within the Army on depressive and anxiety symptoms. Mental health symptoms were measured by the PHQ-9 and GAD-7, two common screening questionnaires used to briefly assess depressive and anxiety symptoms, respectively. We will additionally assess various demographic variables as moderators. Next, findings will be used to develop questions for qualitative interviews to be conducted with recent veterans. We predict there will be a positive association between organizational support and positive mental health outcomes, and qualitative interviews will show lower work-related stress and increased access to mental health supports as major themes for those with positive work relationships. In line with previous research, we predict these associations and themes will be strongest for women, racial and ethnic minorities, and those of lower rank. Support and intraunit conflict are potentially modifiable factors, so our research demonstrates a potential pathway for prevention of negative mental health outcomes for veterans.

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**From Heat Waves to Snow Storms: How Environmental Disasters Affect People Experiencing Homelessness**

*Ivan Foster, Senior, Geography*

*UW Honors Program*

*Mentor: Michael Brown, Geography*

*Mentor: Kam Wing Chan, Geography*

Homelessness and environmental disasters are two issues that are becoming more widespread and concerning in the wake of increasing housing prices and climate change. People experiencing homelessness are at a greater risk of harm from environmental disasters, however there has been very little empirical evidence gathered on the way these two problems intersect, with most of the existing research relying on a more theoretical framework. In this project, I collect and analyze data on the effects of environmental disasters on people experiencing homelessness in both Seattle and New Orleans in order to provide more quantifiable research on this subject. I collect the cause of death records from recent years for people who were experiencing homelessness to observe how many of these causes were related to environmental disasters, such as extreme heat or cold. This data provides evidence of how much of an impact these disasters can have on the health and safety of people experiencing homelessness. I also compare maps of the areas of these cities most at risk of environmental disaster with the areas where most of the homeless population lives to analyze how much overlap there is between the two. These maps show how much more vulnerable people experiencing homelessness are to environmental disasters from a spatial perspective. I compare the data from these two methods between the two cities in order to see how a city like Seattle, where environmental disasters are less frequent,
relates to a city like New Orleans, where they generally occur more often and with greater severity. I use the results of this project to either back up, or refute, the more theoretical claims regarding the vulnerability of people experiencing homelessness to environmental disasters, and explore potential reasons for why these results occurred.

Clinical Characteristics and Sociodemographic Factors Predicting Engagement Barriers for Adolescent ADHD Treatment

Maggie Johansson, Senior, Psychology  
Mentor: Margaret Sibley, Psychiatry & Behavioral Sciences, University Of Washington School of Medicine

Engagement barriers are barriers that prevent individuals from participating in Attention Deficit Hyperactivity Disorder (ADHD) therapy. Kazdin et al. (1997) found that having fewer engagement barriers serves as a protective factor to prevent treatment dropout. Despite knowledge behind the importance of having few engagement barriers, who experiences what barriers is largely unexplored. By understanding what engagement barriers can arise during behavioral therapy, and who experiences them, therapists can generate tools to overcome these barriers, thus improving the treatment of adolescent ADHD. Our purpose of this study was to ascertain and understand any relationships between engagement barriers in behavioral therapy and clinical characteristics/sociodemographic factors. Participants were 121 adolescents with ADHD (which came from an ethnically diverse sample) and their parents. Twenty-five different barriers were sorted across three subtypes (cognitive/attitudinal, behavioral, and logistical), three sources (parent, teen, or dyadic) and three treatment phases (engagement, skills, and planning). Minority status, gender, ADHD medication status, family adversity, Oppositional Defiant Disorder (ODD) comorbidity, and parental ADHD served as independent variables. I used multiple regression models to analyze relationships between each independent variable and barrier subtype, source, and treatment phase. ODD comorbidity and parental ADHD each significantly predicted a primary outcome of an overall increase in barrier frequency. Significant secondary outcomes included ODD comorbidity and parental ADHD each significantly predicting greater cognitive barriers, teen barriers, engagement phase, and skills phase barriers frequencies. ODD also predicted significant increases in planning phase barriers frequencies, while minority status significantly predicted lower planning phase barriers frequencies. These results demonstrate that populations of adolescents diagnosed with ADHD and comorbid ODD or who have parents that are also diagnosed with ADHD are at risk to experiencing more engagement barriers. Additional research is required to develop therapeutic tools. These tools will help therapists better serve adolescents with comorbid ADHD/ODD, and parents with ADHD.

The Quality of Popular Press Reporting on Scientific Findings: A Comparative Analysis of Psychological and Biomedical Online News Coverage

Jared Naik, Senior, Psychology, Physics: Biophysics  
Lexi Liu, Junior, Psychology, Drama  
Mentor: Yuichi Shoda, Psychology

Culture tends to view psychology as interesting but medicine as important. These two perceptions, while not mutually exclusive, may differentially influence journalistic practices around scientific reporting and create disparities in the fidelity and nuance with which news outlets convey scientific information on these topics to the general public. The capacity for even the most well-intentioned news media to sensationalize, misrepresent, or oversimplify information makes it important to characterize how the popular press talks about research findings, especially those pertaining to mental and physical
health. The present study aims to build this understanding. Using a web-scraping algorithm, we collected articles reporting psychological and/or biomedical findings in popular press outlets worldwide. A team of trained raters reviewed these articles and systematically evaluated the extent to which each article (1) describes the findings’ limitations; (2) identifies the specific samples (of people, methods, and contexts) involved in the cited study and how they potentially constrain the findings’ generalizability; and (3) avoids making unsubstantiated claims without providing caveats. We expect that the popular press frequently neglects to call attention to scientific findings’ constraints on generality (COGs) and other limitations, and frequently makes unsubstantiated claims without caveats when reporting on such findings. In particular, we hypothesize that these problems are more prevalent when findings are relevant to psychology and/or mental health compared to when they are relevant to biology and/or physical health. This investigation provides important information to researchers, journalists, healthcare providers, and consumers about the current state of scientific reporting, how to constructively navigate it, and how to improve it.

Barriers and Facilitators of Adolescent Friendly Healthcare Services in Low and Middle-Income Countries: A Systematic Review
Rhea Sanghavi, Junior, Biology (Physiology), Public Health–Global Health
Mary Gates Scholar
Mentor: Manasi Kumar, Global Health, University of Nairobi/UW

Currently, it is not well understood how young people in Low and Middle-Income Countries (LMICs) access health services such as primary care and mental health services, which are easier to access in other parts of the world. Since adolescents are a significant, unique population in these countries, there is evidence to suggest that health services need distinct features and considerations to be adolescent-friendly and responsive. However, there is no universal, comprehensive definition of adolescent-friendly health services. To fill this gap in the body of knowledge, we are conducting a systematic review to collate, synthesize and identify the barriers and facilitators of adolescent-responsive health services. We worked closely with a research librarian to perform a robust search through a range of databases (CAB Direct, CINAHL, Cochrane, Embase, Global health Medicus, PsychINFO, and PubMed) which resulted in 4751 unique abstracts. During the title and abstract screening, two members of the team reviewed each article. Currently, 171 articles have been selected for full-text screening to confirm they are appropriate for inclusion and for analysis. Next, we will create a narrative synthesis of the features of service, keywords, factors, and outcomes identified. The research will provide a clear, comprehensive definition of adolescent-responsive health care and services in LMICs. This information will be particularly useful to international organizations, like the UN, healthcare providers, and policymakers as it will inform new programs, initiatives, or guidelines to improve the quality of adolescent health services in LMICs.

Exploring the Disability Parent Community in WA: Reliance on Community in Navigating the Healthcare System for a Child With a Developmental Disability
Hailey Starr, Senior, Anthropology: Medical Anth & Global Hlth
UW Honors Program
Mentor: Heather Clark, Anthropology, University of WA

This research aims to understand why such a reliance exists within the disability parent community in Washington State in terms of navigating healthcare, and how the healthcare system can do a better job of supporting families who have children with developmental disabilities. There is an incredible disconnect and lack of support at the time of diagnosis for these families, and often it is not the healthcare providers that support these families and assist in their navigation of the health system. Rather, the experience of other parents that have gone through the process of navigating the health system for their child with a developmental disability are the best resources for these newly diagnosed families. My major research question is: How can the disability community and the healthcare system work more in unison to ensure that families are able to maneuver through the health system successfully from the start of their journey with a child with a disability? I have conducted ethnographic research through interviews with disability parents, healthcare providers in developmental medicine, patient navigators, and various in-person and Facebook disability parent support groups. The results of this work are presented as a written thesis, highlighting the challenges these families face, the nature of the reliance on community to navigate care, and proposed suggestions for the healthcare community to assist families in accessing parent support networks. This research highlights the strength, reliance, and efficacy of the disability parent community in helping one another navigate a health system that is lacking adequate support for newly diagnosed families. This research is being utilized to bridge a gap between the healthcare system and the disability parent community, so that they can work more in unison to serve families with children with developmental disabilities, and most importantly, improve the lives of these children.

Digital Health Intervention for Improving Family Caregivers’ Emotional State
Yinzhou Wang, Senior, Mathematics
Mentor: Weichao Yuwen, School of Nursing & Healthcare Leadership, University of Washington Tacoma

In the United States, caregivers carry a higher level of physical and emotional stress than non-caregivers. According to
the National Alliance for Caregiving, over 60% of caregivers consider their caregiving situations to be moderate to highly stressful. In response to the multifaceted needs of family caregivers, a team of health researchers and engineers initiated a research project called COCO ("Care for Caregivers Online"). COCO’s goal is to design and implement innovative methods to support caregivers emotionally. We have implemented a system with two platforms connecting family caregivers with healthcare providers: a web app with a conversational agent ("chatbot") for caregivers and a provider platform using artificially intelligent (AI) technologies for healthcare providers to provide effective and efficient support through the mobile app. We conducted a pre-post study with forty caregivers who chatted with COCO through the system. The initial result shows that COCO significantly reduces caregivers’ negative feelings including guilt, sadness, and fatigue. We are expecting more positive results after deploying the mobile application with the chatbot embedded. Additionally, I, along with other researchers, conducted research on chatbot’s ability of emotion detection. We collected caregivers’ emotional state data through a two-week diary study and I personally preprocessed and analyzed the data. We then used these data to develop a natural language understanding (NLU) model. In simplicity, we incorporated the ability of common-sense into the chatbot, achieving better results in emotional state inference and grounding response recommendation. I am currently leading a digital human project, creating a virtual human profile for COCO to achieve better user experience. The integrated care approach COCO takes with AI-enhanced empathetic and therapeutic dialogs has the potential to address the critical needs of millions of family caregivers in an accessible, scalable, and cost-effective way.