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Online Proceedings

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PUBLIC HEALTH

Session Moderator: Clarence Spigner, Health Services

MGH 231

12:30 PM to 2:15 PM

* Note: Titles in order of presentation.

Household Composition and Childhood Weight Status: Family Dynamics in China and Their Implications for Obesity

Rachel Hao Abramson, Senior, Anthropology: Medical Anth & Global Hlth

Mary Gates Scholar, UW Honors Program

Mentor: Steven Goodreau, Anthropology

As in many developing countries, China's overweight and obesity rate is increasing rapidly, and China's large population makes escalating obesity a concerning public health issue. Many factors contribute to increased obesity—changes in diet and nutrition, physical activity, urban environment, to name a few—but this research project seeks to determine the relationship between household composition and increased obesity. Traditionally, children were the social safety net for the elderly; now with the one-child policy, parents and grandparents feel pressure to ensure that one child is successful—with starvation in living memory, this often means being well fed. This “little emperor” phenomenon, as well as “4-2-1 syndrome” (four grandparents, two parents, one child), makes China a unique case study. This project aims to analyze the interactions of these family dynamics and their implications for obesity interventions. The specific aspects of household composition explored in this project are: 1) one child vs. multiple children, 2) nuclear family vs. multigenerational household (presence of grandparents), and 3) parental presence—no parents, father, mother, or both. Childhood weight status is quantified through body mass index (BMI) and assigned based on the World Health Organization (WHO) childhood growth table z-scores. This research uses data from the China Health and Nutrition Survey (CHNS), a longitudinal study since 1989 covering a sample of rural and urban households from 9 provinces. My sample consists of 1,741 children ages 5 to 18—902 boys and 839 girls, 632 from urban areas and 1,109 from rural areas—with an overall overweight prevalence of 22% and obesity prevalence of 9.7%. Preliminary analyses show that presence of grandparents increases risk and sibling presence decreases risk of being overweight by a

significant amount. To my knowledge, this is the first multivariable study of the effect of household composition on childhood weight status.

Triple P Implementation: Does Where You Work Predict How Well You Can Practice?

Marissa Leonore (Marissa) Bruno, Senior, Public Health-Global Health

Dominick Charles Canady, Senior, Public Health-Global Health

Mentor: Suzanne Kerns, Psychiatry & Behavioral Sciences

Mentor: Cathea Carey, Psychiatry and Behavioral Science

Public policy for families has shifted focus to population level evidence-based parenting interventions (EBPIs). EBPIs have been proven to reduce child maltreatment and improve emotional and behavioral health in research. As a result, there has been an increase in individuals trained in EBPIs, but this has not translated into successful implementation of EBPIs in the real world. One factor in the successful implementation of EBPIs is the practitioner's perceived self-efficacy in delivering the intervention. One EBPI with the potential to saturate at the population level is Triple P. Triple P (Positive Parenting Program) is a multi-level parenting intervention designed within a public health framework that allows individuals to deliver the intervention within the communities they reside in. In this exploratory study, we hypothesize that individuals in certain work environments will report differential levels of self-efficacy in the delivery of Triple P post training. Our sample population was comprised of individuals from five different work environments, including social services, health, education, and youth offending. They completed surveys on self-efficacy across three time points: at baseline, immediately following training, and 6-8 weeks after training. Results of the study will attempt to seek if work sector may be an influencing factor on an individual's self-efficacy following training in delivering Triple P. This is important because the qualities of Triple P training are highly

generalizable to other EBPIs, thus this study increases knowledge about the role of promoting self-efficacy when supporting successful implementation. The consideration of work environment in implementation science can be used to determine what changes should be made for conducive implementation of interventions.

Examining Impulsivity among Adolescent Social Media Users and Its Relationship with Substance Use

James A. Kelley, Senior, Early Childhood & Family Studies, Psychology

Mary Gates Scholar, UW Honors Program

Mentor: Megan Moreno, Pediatrics

Impulsivity is defined as behavior characterized by little to no forethought of the consequences of an action, particularly one involving risk taking. Impulsivity is a multifaceted personality trait that can take on both pathological and non-pathological, but still problematic, forms. A period of time characterized in part by heightened impulsivity is adolescence, defined as ages 10-25 years. Currently, 81% of adolescents use some kind of social media; however, the manner in which impulsivity exists in this setting is largely unknown. Because social media has been demonstrated to affect older adolescents' relationship with substance use, understanding their impulsivity may inform interventions to prevent future problems with substance use. Therefore, this pilot study aims to understand the relationship between older adolescents' impulsivity, social media use, and substance use. Participants, ages 18-22, were recruited through a snowball sampling method on a college campus. Participants were invited and completed (1) a validated impulsivity questionnaire, (2) a social media profile evaluation of their Facebook account for displayed references to substance use on their Wall and Photos within the past 6-months, and (3) a semi-structured phone interview intended to provide self-reported relationships of impulsivity, social media use, and substance use. Analysis included examining correlations between participants' impulsivity scores provided by the questionnaire, displayed social media use and substance use, and content from the interview. Expected results include finding a positive correlation between participants' impulsivity, social media use, and substance use. Implications of this research will guide future studies examining impulsivity, social media use, and substance use, and potentially provide evidence for future interventions for adolescents.

Pain Catastrophizing Predicts Negative Lexical Emotional Expression among Children with Chronic Pain and Their Mothers

Qimin Liu, Senior, Psychology, Mathematics, Philosophy

Mary Gates Scholar, Innovations in Pain Research

Scholar, UW Honors Program

Mentor: Shelby Langer

Pain catastrophizing has been associated with increased pain experience and expression in children with chronic pain. Parental catastrophizing about child pain has been associated with increased parental distress and overprotection. This study sought to understand how catastrophizing might be reflected in pain-related parent-child communication. 70 children with chronic abdominal pain and their mothers participated. Mothers and children independently completed child- and parent-report versions of the Pain Catastrophizing Scale. Dyads then conversed for 10 minutes about the child's pain. Conversations were audio-recorded, transcribed and reduced using a linguistic analysis program. Dependent variables were the percentage of negative affect words uttered, including anxiety, sad and angry words such as worried, grief and mad, respectively. Multilevel modeling was used to estimate an Actor-Partner Interdependence Model assessing the effects of role (mother versus child) and catastrophizing on the percentage of negative affect words uttered during the conversation. Main effects of role emerged for the higher level category of negative emotion words and the subcategory of sad words (p values $< .001$), such that mothers uttered more of these words than did children. A main effect of catastrophizing also emerged for negative emotion words, such that those higher in catastrophizing uttered more negative emotion words than did those lower in catastrophizing, regardless of role ($p < .01$). The analysis for anger words was more complex, yielding role \times actor and role \times partner interactions (p values $< .05$). In essence, maternal catastrophizing was positively associated with both maternal and child anger word usage, whereas child catastrophizing was inversely associated with maternal anger word usage. Findings extend the literature on behavioral and interpersonal correlates of catastrophizing. Future research is needed to fully elucidate parent-child interactional patterns in the context of chronic pain. Findings could inform the design of cognitive-behavioral interventions aimed at reducing symptoms and disability.

A Survey of Prevalence of *Helicobacter pylori* within Vietnamese Community through the Vietnam Health Clinic (VHC)

Ky Ngo, Senior, Biology (Physiology), Biochemistry

UW Honors Program

Lisa Chang (Lisa) Ngo, Recent Graduate,

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Yogavedya (Yoga) Mukkamala, Non-Matriculated,

Jacky Vinh Tran, Recent Graduate,

Mentor: Scott Fung, Office of Minority Affairs & Diversity, Instructional Center

Helicobacter pylori (*H. pylori*) are gastric bacteria known to cause chronic gastritis, peptic ulcers, and can eventually lead to gastric adenocarcinoma in the long term. Prevalence of *H. pylori* among Caucasian, Hispanic and African-American populations has been previously surveyed in past studies. However, prevalence and distribution of *H. pylori*

among Asian communities has yet to be exhaustively profiled. While *H. pylori* exhibits worldwide circulation, studies have shown that infection is more prevalent in developing third world countries. The Vietnam Health Clinic (VHC) is a mobile clinic that provides free healthcare to underserved populations in Vietnam every year. The data collected from the roughly 3000 patients served from VHC trips between 2012 and 2014 presents an invaluable opportunity to learn more about *H. pylori* prevalence and distribution within the native Vietnamese community. By delving into the patient's background, medical history and previous treatment history of *H. pylori*, we give the dataset more meaningful resolution that can facilitate novel prevention and treatment processes in future VHC trips. Data and statistical analysis with Tableau and Excel is currently in progress and the consequent results will prospectively be available in May for the Symposium presentation. As this is a retrospective and exploratory study, a causation link cannot be drawn. However, by providing insight into a patient's demographic and connection with *H. pylori*, our research can help to provide a foundation for causally directed studies in the future.

Regional Epidemiology in Chile: The Key to Implementing an Effective Universal Health Care System

Rachel Lynn (Rachel) Rinehart, Junior, Biochemistry, Public Health-Global Health

UW Honors Program

Mentor: Debra Skaar, Experimental & Clinical Pharmacology, University of Minnesota

Mentor: Bruce Alexander, College of Pharmacy, University of Iowa

Universal health care has been a topic of controversy, largely due to the question of resource management. As part of an Exploration Seminar through the University of Washington, a team of students conducted interviews with health centers in Chile to investigate universal health care. Each team member was responsible for posing questions relevant to their area of study and reporting on the research after the program ended. The goal of the program was to assess health system disparities in Chile. This presentation focuses on the role of regional epidemiology, which studies the population in a local area and tailors the universal health care plan to that region. Open ended interviews with community health workers were conducted at twenty-two medical sites throughout Santiago and Southern Chile. The sites ranged from the private sector headquarters to rural outposts in the Southern Archipelago of Chiloé. Translations between English and Spanish were performed when necessary. The study found that Chile has an overburdened public health care system, particularly in specialty areas. Eighty percent of treatments are not as effective as standards per guidelines. Regional epidemiology decreases waste and increases productivity, especially in the areas of primary care and prevention. The strengthened pri-

mary care system reduces the burden of care on the tertiary health system. Regional epidemiology is currently expanding to cities outside of Castro and Chiloé Island. Regional epidemiology is an effective tool for improving the Chilean universal health care system. More research should be done to predict whether regional epidemiology will be effective in private health care and other universal health care systems.

Marijuana Use at a Large NCI-Designated Comprehensive Cancer Center in Washington State

Maresa Woodfield, Senior, Public Health-Global Health

Mary Gates Scholar, UW Honors Program

Mentor: Steven Pergam, Medicine, Fred Hutchinson Cancer Research Center

Marijuana (MJ) has long been purported to alleviate symptoms related to cancer and cancer treatment. We set out to assess use in a large comprehensive cancer center in a state where recreational MJ is legal. An anonymous paper-based survey was developed from multi-disciplinary focus-groups of healthcare staff, patients and caregivers. The goals of the survey were to assess attitudes, interest and information on MJ use. The voluntary survey was offered over a six-week period in the ambulatory cancer clinic, and we obtained 925 responses. Most had strong interest in learning about MJ use during cancer treatment and wanted to receive such information from their cancer team. The majority of respondents had previously used MJ and a quarter were currently using. Active users used frequently, most at least weekly, and primarily through inhalation or consumption of edible products. Patients used MJ primarily for stress/coping, pain, and nausea. The majority of active users had disclosed their use to a healthcare provider. As a supplement to the survey, random anonymized urine samples from the center's laboratory were tested for MJ metabolites, and found a similar percentage of recent users. The high interest in MJ use among cancer patients and their desire to receive information primarily from their cancer team indicate an unmet need for enhanced patient and provider education regarding MJ use in this population.

Gender Differences in Alcohol and Intoxication Terms of College Students on Facebook

Annie Yi, Senior, Biology (Physiology)

UW Honors Program

Mentor: Megan Moreno, Pediatrics

Alcohol use is associated with high amounts of significant injury and mortality among college students. Experimental research has revealed gender differences in how males and females communicate about alcohol use, with females favoring more moderate terms such as "tipsy." However, it is unclear whether these gender differences are present on social media. The purpose of this study was to explore the gender differences in alcohol and intoxication terms in status updates (SU) posted among college students. Incoming freshmen from two

large state universities were identified through registrar lists and recruited to a longitudinal study. Participants accepted a Facebook friend request from the study team. During freshman and sophomore year, participants' Facebook posts were evaluated for references to alcohol using a validated codebook. SU with alcohol references underwent further analysis. Content analysis included reference type (i.e., alcohol state, type of drink, etc.) and whether alcohol use was problematic based on a validated problem drinking criteria. Interrater agreement was 83.3%. A total of 166 alcohol references were eligible for further analysis. Of 'alcohol state' posts (i.e., drunk, tipsy, etc.), females used the term 'drunk' 88% of the time with no mention of tipsy or buzzed. No gender difference between displays of problematic alcohol use was observed. Overall, the gender differences frequently present in studies of non-digital settings were often not observed on Facebook. This data could prove useful in gender-specific prevention and intervention efforts, and understanding the differences in interactions observed on social media compared to real life interactions.