

Undergraduate Research Symposium May 18, 2018 Mary Gates Hall

Online Proceedings

POSTER SESSION 1

Commons West, Easel 5

11:00 AM to 1:00 PM

How Does Smoking Provide a Coping Mechanism to Help Hispanic Males Manage Agriculture Work-Related Stress?

*Nancy Tovar Garcia, Senior, Public Health-Global Health
McNair Scholar*

Mentor: Sarah Ross-Viles, Health Services

Smoking is the world's leading preventable cause of death and it is responsible for millions of deaths annually. Smoking costs the United States billions of dollars each year due to medical care and lost productivity. There is very little research that addresses Hispanics working in agriculture jobs. This study evaluates whether and to what extent smoking is a coping mechanism for Hispanic males to manage agriculture work-related stress. This qualitative research study includes 5-10 short formal interviews with Hispanic males residing in Wenatchee, WA who smoke and work in agriculture. Results are analyzed using thematic analysis. Expected results are that Hispanic males who experience agriculture work-related stress use smoking as a coping mechanism, and experience negative health effects caused from either stress and/or smoking. This project will help health centers create programs that promote awareness on smoking and work-related stress that Hispanic males may be experiencing due to job roles.

POSTER SESSION 4

Commons East, Easel 44

4:00 PM to 6:00 PM

Mobile-Phone Use while Driving in Uganda: Distracted and Deadly

Sandra Genevieve Matthews, Junior, Public Health-Global Health

Mentor: Bert Stover, Health Services

Mentor: Amy Hagopian, Global Health & Health Systems

In 2015, the WHO reported 27.4 deaths for every 100,000 people per year in Uganda were attributable to road crashes. Road crashes are one of the top ten causes of premature death in this East African nation of about 41 million people. While youth and young men are at the highest risk, the ripple effect

of even a single death includes costs of treatment, lost wages, and compromised health of a whole family. We used roadside observational methods to measure the frequency of phone use while driving. In a roadside spot survey of Ugandans, we also asked about attitudes, knowledge, beliefs, and personal usage of cellphones while driving. While it is illegal in Uganda to talk on the phone while driving, drivers' frequency of phone use was comparable to rates seen in the U.S. In our survey, those who admitted to using their phone were more likely to be educated on the law and believe their behavior was dangerous compared to those who did not use their phones while driving. One explanation for this finding is that businesses are requiring employees to use their phones while driving, and those with these jobs could be more aware of the law in order to conceal their behavior. The Ministry of Health, police, business, and many other transportation related departments all have a policy role in reducing distracted driving. Action from these groups has been shown to influence and reduce risk behavior.

POSTER SESSION 4

Commons East, Easel 83

4:00 PM to 6:00 PM

Light and Noise Pollution Data Collection from Online Sources for Public Health Research

Taylor Kalei Demotta, Senior, Psychology

Elizabeth Anne Shipley, Senior, Early Childhood & Family Studies, Nursing

Saakshi Subhash Dulani, Senior, Biology (General)

Mentor: Michelle Garrison, Health Services

Past research on sleep has primarily been focused on adolescents and adults, but there is limited research on sleep in preschoolers. Therefore, our population of focus are preschoolers with a specific focus on the effects of light and noise pollution on sleep. Before beginning to investigate these relationships we found a lack of detailed instructions to find and record light and noise pollution, so we created protocols to address this issue. We began with finding databases that record environmental noise and light pollution. Through the use of online resources, we located two maps: the Light Pollution Map made using data from NOAA and the National Transportation Noise Map that provide public noise and light information. From there we developed protocols for researchers to easily and uniformly navigate these sites for

data collection. Our work thus far has resulted in light and noise pollution protocols. The light pollution protocol directs users to visit the online link to the map, to check the correct filter, where to input the address and how to find the correct radiance value to enter. For the noise pollution protocol, users are directed to an online link, where to enter the address, and how to read the colors associated with each noise decibel value. Our next step includes the pairing of the light and noise pollution data with the addresses of preschoolers from the Sleep Health in Preschoolers study (SHIP) from Seattle Children's Research Institute. This will be done in order to find a relationship between quality of sleep and light and noise pollution. The protocols we have created will not only be useful for our future work with sleep, but also for studies looking to efficiently analyze light and noise pollution data.

POSTER SESSION 4

Commons East, Easel 84

4:00 PM to 6:00 PM

How Children's Books Portray Nighttime Routines

Linh Tieu (Linh) Huynh, Junior, Education, Communities and Organizations, Psychology

Yeji Lee, Senior, Biology (Molecular, Cellular & Developmental)

Mentor: Michelle Garrison, Health Services

Although bedtime stories are often read to children as a part of their nightly sleep routines, how sleep is depicted between these books varies. Thus, our research's primary purpose is to examine how sleep behaviors and habits are portrayed in sleep-related bedtime books in order to determine whether or not these books actually depict positive sleep routines. We hypothesize that majority of bedtime stories available on the market contain a low percentage of pages that demonstrate positive nighttime routines and sleep benefits. To support our purpose, we selected 200 sleep-related children's books to be analyzed by two different evaluators. Books were selected based on their availability from the library and Amazon and association with keywords relating to children's books about sleep. As part of our qualitative analysis, we utilized rating sheets containing Yes-No ratings and Likert scales in order to examine a wide variety of characteristics including number of positive and negative sleep pages and the protagonist's activities prior to and at bedtime. With this research, we can hopefully relate this back to how book's positive and/or negative sleep routines translate into children's nighttime routines. We expect that most of the books analyzed had more negative sleep pages than positive ones, 54% of all pages were directly related to sleep and 45% of those pages included positive sleep behaviors. Similarly, very few bedtime stories contained parental participation in the protagonist's bedtime routine with 53% of analyzed books receiving a rating of "none" or "low" in this category.

POSTER SESSION 4

Commons East, Easel 85

4:00 PM to 6:00 PM

Sleep and Media in Early Adolescents: Standardizing Media and Design Characteristics in Video Games

Anthony Wade Newsome Moffa, Junior, Public Health-Global Health

Mentor: Michelle Garrison, Health Services

By only focusing on a single element in the media-sleep relationship such as violence or vigilance, conclusions drawn from current research are limited in usefulness when developing targeted interventions in clinical settings. Thus, the SLUMBER study seeks to extend upon this research by exploring the elemental characteristics of bedtime media use associated with sleep problems in early adolescents. After expanding upon the V2 Matrix, researchers hopefully gain a more holistic view of video game features that may impact sleep. The V2 Matrix is a rating sheet that allows rating based on game characteristics including violence, vigilance, art style and perspective. However, due to the subjective results from having individual raters, a training and rating protocol was developed to standardize the rating process in a way that is accessible and produces consistent data for researchers. Together, the V2 Matrix and the rating protocol allow us to identify the media content and design characteristics that affect the media-sleep relationship as well as behavior and health. 53 total versions of 42 different mobile games were rated using the V2 Matrix. From data across three entries, we found that games with high continuous vigilance (34.58%) and games with no vigilance (24.5%) make up the largest segments of our current game pool respectively in terms of vigilance. When looking at harm and violence, games with no violence (42.14%) and low violence (21.38%) make up the largest segments of the game pool, respectively. Additionally, a large majority of games contain no gore (68.5%). Concluding, we hope to develop a massive searchable database of game ratings across a broad spectrum of platforms and genres for researchers and primary care providers. In doing so, we will widen the scope of research into the relationships between media, childhood sleep, and behavioral health and develop more individualized interventions and recommendations.