UNIVERSITY of WASHINGTON

Undergraduate Research Symposium May 19, 2017 Mary Gates Hall

Online Proceedings

Poster Session 1

Commons West, Easel 7

11:00 AM to 1:00 PM

Characterizing and Explaining U.S. Food Desert Movement between 2010 and 2015

Ernie Tao, Senior, Political Science, Biochemistry
Mary Gates Scholar, UW Honors Program
Mentor: Howard Greenwald, School of Public Health

The USDA defines a food desert as any census tract where at least 20% of the residents earn below the poverty line and at least 33% of the residents live more than one mile (urban locations) or ten miles (rural locations) from a supermarket selling fresh groceries. The presence of a food desert has been correlated with negative health outcomes in obesity, diabetes, and heart disease. The Healthy Food Financing Initiative launched in 2010 hoped to eliminate food deserts by 2016, but this result has yet to be seen in communities across America. However, since 2010 the geographical location and density of food deserts has shifted. It is unknown whether this shift is due to government intervention or demographic changes. Likewise, the census tracts where food deserts have appeared or disappeared have yet to be characterized. This study utilized data from the USDA, US census, and American Community Survey to identify how demographic changes and government spending is related to food desert movement between 2010 and 2015. This data was also used to characterize individual census tracts for poverty, SNAP enrollment, and other factors that may explain food desert movement. A regression analysis produced a more complete explanation of this phenomenon through an empirical and quantitative examination of the relationship between these metrics. Ultimately, this geographical and statistical study will serve as both a policy and a demographic analysis that explains trends in recent food desert movement. Researchers and policymakers can expand upon the conclusions of this study to create more targeted, effective, and efficient programming that improves food access across the United States.

Poster Session 1

MGH 241, Easel 164

11:00 AM to 1:00 PM

A Pilot Study Assessing the Feasibility of Internet-Delivered Cognitive-Behavioral Pain Management for Adolescents with Sickle Cell Disease

Alexie Anne Carletti, Senior, Biology (Molecular, Cellular & Developmental)
Innovations in Pain Research Scholar
Mentor: Tonya Palermo, Anesthesiology and Pain Medicine

Sickle cell disease (SCD) is a genetic blood disorder characterized by recurrent painful episodes. Having frequent pain is a key predictor of morbidity and mortality. Cognitive-behavioral therapy (CBT) interventions for other chronic pain conditions lead to symptom reduction and improved health-related quality of life, and may also be beneficial for adolescents with SCD. However, most adolescents with SCD do not have access to CBT. Internet-based interventions have been used in other populations for providing access to pain self-management strategies. Thus, the primary goal of this pilot study was to determine the feasibility and acceptability of an internet-based CBT program for pain management (Web-MAP), an 8-session program used effectively to reduce pain-related disability in youth with other chronic pain conditions. Twenty-five adolescents, aged 11-18 years (M= 14.76, SD= 2.05), and their parents were randomly assigned to internet CBT (n = 15) or internet pain education (n = 10). They completed assessments at pre-treatment, post-treatment, and six months follow-up. Eight parent-child dyads randomized to CBT also completed qualitative interviews. Results showed that adolescents and parents were highly engaged with Web-MAP, completing an average of 6 out of 8 modules and logging in on average 16.7 and 17.4 times respectively over 8 weeks. 75% of families interviewed would recommend Web-MAP, although they would prefer a program more tailored to youth with SCD. In conclusion, this pilot study suggests that Web-MAP is a feasible and acceptable treatment for adolescents with SCD and their parents, and may be helpful in improving pain-related disability. Future work will focus on specific tailoring of Web-MAP for SCD to better meet the needs of this population.

Poster Session 4

Balcony, Easel 95

4:00 PM to 6:00 PM

Does Studying Faces and Names of African Americans Increase Liking of and Identification with Them?

Yiyu Wang, Senior, Psychology
UW Honors Program
Mentor: Tony Greenwald, Psychology

Developed in the 1990s, the Implicit Association Test (IAT) is one of the most widely used measurements for implicit attitudes. Previous research has found that mental rehearsal of unfamiliar stimuli can increase both implicit liking and association with self. The present study further explored the mental rehearsal procedure and its potential mitigating effects on bias in implicit attitudes and identities. Subjects learned and remembered faces and names of either African American or European American jazz musicians. They then completed two types of IAT, the race attitude and the identification IAT. The race attitude IAT measures one's implicit preference for one group of people over the other; the identification IAT measures whether one identifies with one group over the other. Three experiments were conducted and varied the difficulty of the rehearsal task. Face picture stimuli in IATs were either those rehearsed in the experiment or those used in the standard race attitude IAT. We hypothesize that the mental rehearsal procedure can reduce implicit bias for both attitude and identification IATs. The IAT and self-report results of this study allow an evaluation of the possible use of the mental rehearsal procedure to reduce implicit biases.

POSTER SESSION 4

Balcony, Easel 96

4:00 PM to 6:00 PM

Testing Mental Rehearsal Procedure as an Intervention to Mitigate Implicit Biases

Christine Yu, Senior, Psychology
UW Honors Program
Mentor: Tony Greenwald, Psychology

Lai et al. tested nine interventions to reduce implicit racial biases. Although all interventions immediately reduced biases, the effects produced did not last for long with duration of a couple of hours. Kirby and Greenwald made a discovery, termed "mental ownership", whereby active rehearsal of novel stimuli increases implicit liking for the stimuli and identification of it with self. Inspired by this finding, we conducted a series of experiments in attempt to test if a procedure developed from "mental ownership" could be effective in terms of mitigating implicit biases. We randomly assigned University of Washington undergraduate students to complete mental rehearsal procedures of one out of two complementary categories; they actively rehearsed and memorize exemplars of either insects or flowers. To measure their implicit biases, subjects then completed Implicit Association Tests. D scores, measuring their performances on the tests, were used to assess the effects of the mental rehearsal procedures. We expect for the procedure to produce a significant effect, and we should see an increase in subjects' implicit liking for the category from which exemplars have been rehearsed. If our hypothesis is correct, more studies will be conducted to test the duration of the effect and compare it to that of the traditional nine interventions.