



### **Board 201**

#### **Obesity and Short Sleep Duration Associations Depend on Age and Gender**

Adam Knowlden, Michael Grandner, Sara Nowakowski, and Megan Petrov

**Purpose:** Obesity and inadequate sleep in adults are both highly prevalent in the United States (US). In the US, 37.9% of adults are classified as obese, having a body mass index (BMI)  $\geq 30$  kg/m<sup>2</sup>. Stratified by sex, 35.2% of men and 40.5% of women meet the BMI cut-point for obesity. Similarly, sleep problems are commonplace, with an estimated 35.3% of men and women in the US receiving less than the recommended seven hours of sleep during a typical 24-hour period. **Methods:** 2013 Behavioral Risk Factor Surveillance System (n=385,054) data were analyzed for this study. Short sleep was operationalized as  $\leq 6$  hours; age was categorized into 5-year groupings, ranging from 18 to 80+. Body Mass Index (BMI) was based on self-reported height and weight (kg/m<sup>2</sup>); values  $\geq 30$  were classified as “obese”. Logistic regression analyses were stratified by age and sex; for each age group, the sleep-by-sex interaction was evaluated. **Results:** The relationship between sleep duration and obesity differed by sex for nearly all age groups, except later adulthood. Short sleep was associated with greater obesity risk in men between the ages of 18 and 74, with Odds Ratios (ORs) ranging from 1.19 (both 18-25 and 70-74) to 1.41 (both 30-34 and 35-39). For women, short sleep was associated with obesity for ages 18-69, with ORs ranging from 1.23 (65-69) to 1.64 (30-34). Short sleep duration was more prevalent among men (37.92-40.00%) than women (35.51-36.85%) between the ages of 25 and 49 (p<.0005). **Conclusions:** Both sexes had relatively equal prevalence rates of short sleep duration from ages 50 to 64, after which short sleep became more prevalent among women (27.65-28.53%) than men (20.91-26.75%) from ages 69 to 80+ (p<.0005). After adjustment for race/ethnicity, education, income, and smoking, these relationships were attenuated, but the pattern was maintained.

### **Board 202**

#### **Longitudinal Analysis of Socioecological Obesogenic Factors in a National Sample of U.S. Children**

Taeung Kim, Dong-Chul Seo, and Hsien-Chang Lin

**Objective:** Childhood obesity is a serious public health threat. Although many researchers conducted research on socioecological determinants of childhood obesity, their longitudinal effects remain inconclusive especially among young children. This study examined socioecological factors and associated transitions of children’s body mass index (BMI) status throughout children’s kindergarten to elementary school years, using data from a national longitudinal sample. **Methods:** The baseline sample of this study included 1,264 children (weighted N=379,297) extracted from the Early Childhood Longitudinal Study (baseline mean age: 5.24 years). The socioecological framework guided selection of socioecological obesogenic variables (e.g., family activity and parental involvement). Longitudinal ordered logistic regressions were performed to determine the associations between socioecological obesogenic variables and unhealthy/healthy changes in BMI status that captured transitions between healthy and unhealthy weight status (i.e., overweight, obesity, and severe obesity).



Results: Children with Hispanic ethnicity and nonwhite race, less socioeconomic and environmental support, and living in households with fewer family members were more likely than their counterparts to have unhealthy BMI status changes over time (all  $ps < 0.05$ ). Over the study period, girls were more likely than boys to experience transitions to unhealthy BMI status (all  $ps < 0.05$ ). Conclusion: As hypothesized a priori, the findings of the current affirmed multiple dimensions of how sociological obesogenic factors may influence children's BMI status changes in a longitudinal setting. In order to maintain children's long-term healthy weight, more attention should be paid to socioeconomic obesogenic factors surrounding children as well as individual determinants of obesity (e.g., being physically active and having well-balanced nutrition).

### **Board 203**

#### **Modeling Feelings of Body Dissatisfaction within a Sorority Using Two Different Relationships**

Tyler Prochnow, Megan S. Patterson, and M. Renée Umstatted Meyer

Purpose: Body dissatisfaction (BD), or negative perceptions toward one's own physical appearance, is reported by 91% of college age women. BD is linked to depression and a precursor and predisposing factor for disordered eating. BD is significantly impacted by social influences and comparisons. Social network analysis (SNA) is a theoretical framework and methodology that examines how individuals interact and influence each other. Because college students are particularly influenced by their social networks, the purpose of this study was to use SNA to examine network, behavior, and health-related characteristics related to BD scores among members of a sorority using two relational networks. Methods: Sorority members ( $n=208$ , 87% white, 39.1% freshmen) were asked to nominate up to 5 members they felt closest to (close-to) and 5 members they spent the most time with (time-with) in their sorority. SNA assessed relationships between BD and BMI, compulsive exercise, grade classification, and network characteristics (e.g. degree or amount of connections). Descriptive statistics were conducted using SPSS, quadratic assignment procedure (QAP) analyses were conducted using UCINET. Results: QAP regression analysis revealed significant models for both "close-to" ( $R^2=.404$ ) and "time-with" networks ( $R^2=.400$ ). Compulsive exercise, BMI, grade classification, and degree centrality were statistically significant predictors for "close-to", while compulsive exercise, BMI, and closeness were significant for "time-with". Close-to and time-with networks were correlated ( $r=.298$ ). Conclusions: More close connections within a sorority may mean more social support to serve as a buffer for BD. Younger members with more close connections to older members tended to have higher BD suggesting upward comparisons. In both networks, members that were further from the center of the network tended to report greater BD. Researchers or practitioners looking to decrease BD among sororities should focus on fostering meaningful social connections among class similar peers, new member bonding experiences, and the impact of "big-little" mentoring.

### **Board 204**

#### **Does Perceived Cardiovascular Risk align with Actual Risk in College-Aged Adults?**

Elizabeth W. Holt, Anna Cass, Haley Park, Shaniece Criss, Kelly Frazier, and Scott Murr



Background: The college setting provides a unique opportunity to implement behavior change interventions for lifetime Cardiovascular (CV) risk reduction. Because 18-24 year olds are not routinely screened for dyslipidemia, are not typically targeted for interventions to reduce CV risk, and hold a clear “optimistic bias” regarding CV health, behavior change interventions can be challenging to implement in a college-aged population. Purpose: We examined whether students’ perception of CV risk aligns with their actual risk, measured via family history, physical activity, and biochemical and anthropometric measures. Methods: 194 students enrolled in a comprehensive wellness course completed an in-class survey, and data was linked to biochemical values from a fasting blood draw. Perceived CV risk was measured using the Perceived Risk of Heart Disease Scale (PRHDS), and height, weight, physical activity, family history, and cholesterol screening were collected via self-report. Biochemical values were classified according to standard clinical guidelines. Results: The majority (58.3%) of students reported they had never been screened or were unaware of previous screenings for dyslipidemia, 8.9% had a BMI  $\geq 30$ , and 10.9% rated their overall health as poor or fair. Results from screening tests showed that 46.9% had 1 or more biochemical values (TC, HDL-C, LDL-C, Trig, and/or Gluc) outside of the “normal” range. Perceived CV risk did not differ by gender, race, amount of physical activity and/or any of the biochemical measures. However, CV “dread risk” subscale scores were significantly higher among students reporting a family history of heart disease, among students with fair or poor self-rated health, among students with a BMI  $\geq 30$ , and among upperclassmen ( $p < .05$  for all comparisons). Conclusion: Among a college-aged population, perceived CV risk aligns with some but not all markers of actual risk. These results reveal key opportunities to increase not only awareness of CV risk but also the initiation and maintenance of health protective behaviors in young adults.

### **Board 205**

#### **Diabetes Development and Decline of Cognitive Function among U.S. Older Adults: Results from an 8-year Longitudinal Study**

Yi-Han Hu, Yen-Han Lee, and Hsien-Chang Lin

Purpose: Diabetes has been linked to declining cognitive function and increased risk of dementia. However, it remains unclear how diabetes development is associated with cognitive decline. This study investigated the development of two diabetic conditions, including pre-diabetic status and newly diagnosed diabetes, and the decline in cognitive function over time among U.S. older adults. Methods: A cohort of 7,067 cognitively healthy older adults aged 65 and over were drawn from the 2006-2014 Health and Retirement Study, including 3,271 diabetes-free, 1,781 pre-diabetic (HbA1c ranged 5.7-6.4%), and 2,015 known diabetic participants at baseline. Two separate trajectories of cognitive function regarding diabetes progression were determined, including: 1) diabetes-free and pre-diabetic status to the first diabetes diagnosis, and 2) newly diagnosed and established diabetes status to the end of follow-up. Two multilevel models, adjusting for sociodemographic factors, were used to investigate the longitudinal association of pre-diabetic and newly diagnosed diabetic conditions with the aforementioned trajectories of cognitive function. Results: Participants with pre-diabetes had faster rates of decline in cognitive function than those with normal HbA1c ( $\beta = -0.04$ ,  $p\beta = -0.14$ ,  $p\beta = 0.84$ ,  $p < .01$ ). Conclusions: Pre-diabetic and diabetic conditions impair older adults’



cognitive function over time; the rate of cognitive decline accelerates as pre-diabetes progressing to diabetes. Nevertheless, newly diagnosed diabetic patients have a slower rate of decline in cognitive function than known diabetic patients. Encouraging lifestyle changes among pre-diabetic older adults may prevent not only the development of diabetes but also cognitive function decline. Future studies for identifying protective factors and designing relevant medical or behavioral interventions that delay the decline in cognitive function of newly diagnosed diabetic older adults are warranted.

### **Board 206\***

#### **Effectiveness of a Diabetes Education Program among Adults with Type 2 Diabetes Living at the Texas-Mexico Border**

Matthew Lee Smith\*, Lixian Zhong, Starr Flores, Joe Flores, Samuel D. Towne\*, Shinduk Lee, and Marcia G. Ory

Background: With the rise of obesity in current years, the proportion of older adults living with diabetes is substantial and expected to increase in forthcoming years. Along the Texas-Mexico border, 20% of adults have diabetes and an additional 73% are at risk of developing it. Diabetes-related deaths in border counties are higher than rates in all non-border counties combined. This study examines the effectiveness of a diabetes education program (DEP) offered as part of Healthy South Texas, a state-legislated initiative to reduce health disparities in 27 counties in South Texas. Methods: DEP is an 8-hour interactive workshop taught in English and Spanish during one full day or four weekly sessions. After the workshop, participants receive quarterly lab work and continuing education with a health educator for one year. Data were collected from 5,333 DEP participants with Type 2 diabetes living in South Texas at five time points (baseline, 3-months, 6-months, 9-months, 12-months). A series of independent sample t-tests and linear mixed-model regression analyses were used to identify changes over time. Results: The majority of participants were ages 45-64 years (58%), female (60%), Hispanic (67%), and had a high school education or less (75%). At baseline, the average weight was 208.76 pounds, body mass index (BMI) was 34.46 kg/m<sup>2</sup>, and hemoglobin A1c was 8.57%. The most substantial reductions in weight, body mass index, and hemoglobin A1c were identified from baseline to 3-month follow-up ( $P < 0.0001$ ); however, these initial reductions remained significant at 12-month follow-up ( $P < 0.05$ ). Conclusion: Findings support the effectiveness of DEP with ongoing follow-up for sustained diabetes risk management. While such interventions foster clinical-community collaboration and can improve patient adherence to recommended lifestyle behaviors, opportunities exist to complement DEP with other resources and services to enhance program benefits. Expansion efforts are currently underway to disseminate this program statewide.

\*Research Scholars Mentoring Program

### **Board 207**

#### **Impact of Diabetes Distress on Hemoglobin A1c Levels in a Self-Management Diabetes Intervention**



Nipa Kamdar, Amber Amspoker, LeChauncy Woodard, and Aandand D. Naik

**Purpose.** As prevalence of diabetes increases, helping individuals self-manage their diabetes is a priority. Empowering Patients in Chronic Care (EPIC) is behavioral-change intervention that encourages individuals with diabetes to set goals and action plans. EPIC is efficacious in improving hemoglobin A1c (HbA1c). A possible mechanism for improvement in HbA1c is through lowered diabetes distress. Diabetes distress consists of four subscales: emotional, physician-related, regime-related, and interpersonal distress. It impacts an individual's motivation for self-care behaviors. This study examined if EPIC (compared to usual care) improved HbA1c by reducing diabetes distress and or its subscales. **Method.** We randomized 280 participants with uncontrolled diabetes to receive EPIC or usual care at five Veteran Affairs primary care clinics. Diabetes distress (and its subscales) were measured using the 17-item Diabetes Distress Scale. We measured diabetes distress and HbA1c levels at baseline, post-intervention, and 6 months post-intervention. We assessed mediation using multiple linear regression. We estimated indirect effects using 95% bootstrap confidence intervals generated in PROCESS on SPSS. **Results.** Participants were mostly men (94%) and 67.2 (SD= 8.4) years old. At baseline, EPIC and usual care had no difference in diabetes distress ( $t(271) = 0.35, p = .72$ ) or HbA1c ( $t(278) = -0.31, p = .75$ ). Controlling for baseline depression, diabetes distress, HbA1c, and insulin use, post-intervention diabetes distress partially mediated the relationship between treatment group and post-intervention HbA1c (indirect effect= -0.12, 95% CI [-0.24, -0.03]). Regime-related distress was the only subscale that partially mediated the relationship between treatment group and post-intervention HbA1c (indirect effect= -0.14, 95% CI [-0.25, -0.05]). **Conclusions.** EPIC participants had a greater reduction in diabetes distress (specifically regime-related distress) compared to usual care. This reduction contributed to a lower post-intervention HbA1c. Future intervention should focus on assisting individuals to feel that they are capable of adhering to their treatment and lifestyle regime.

### **Board 208**

#### **Are Women Willing to Make the Transition to Primary HPV Testing instead of Pap Testing?**

Erika L. Thompson, Sarah Matthes, Morgan O'Neal, Annalynn M. Galvin, and Ashvita Garg

**Background:** Revised US guidelines for cervical cancer screening provide the option of primary human papillomavirus (HPV) testing, Pap testing, or co-testing. Primary HPV testing has not yet been an option for women in the US, and women may be reluctant to change screening method. HPV testing may provide more accurate screening for cervical cancer. The objective of this study is to assess information, motivation, and behavioral skills associated with willingness to receive an HPV test instead of a Pap test among women. **Methods:** Women, ages 30-65 years, without a hysterectomy, completed an online survey in June 2018 (n=812). The Information, Motivation, and Behavioral Skills (IMB) model was used to measure predictors of willingness for HPV testing. The outcome variable was willingness to receive the HPV test every 5 years instead of the Pap test every 3 years (yes/no). A stepwise logistic regression model was used to estimate IMB factors associated with willingness for an HPV test, using SAS 9.4. **Results:** Over half of the sample (57.3%) were willing to receive the HPV test. Significant motivating factors



included: confidence in the test (OR=1.59, 95%CI 1.09-2.33) and less frequent discomfort (OR=1.58, 95%CI 1.02-2.45). Negative attributes (i.e., tempted to not see physician in off years; concern about test accuracy) of the HPV test were inversely related to willingness. Women were significantly more willing to get the HPV test if a provider recommended it (OR=3.13, 95%CI 1.89-5.18). Enabling factors associated with willingness for the HPV test were learning more about the test and ease of scheduling. Conclusion: Emphasizing positive attributes of HPV testing compared to Pap testing may promote the use of this screening technique as this guideline transition takes place. Adoption of this guideline change has the potential to reduce cervical cancer cases nationally.

### **Board 209**

#### **“One man’s fight to wipe HPV off the face of the planet” – the power of personal narrative in online news**

Philip Massey, Elad Yom-Tov, Matthew Kearney, Preethi Selvan, and Amy Leader

Purpose: To describe potential exposure to online stories about the human papillomavirus (HPV) vaccine in a major U.S. city. Methods: Using data from Bing queries, we identified the 20 most viewed online news websites in Philadelphia Metro zip codes (including Camden, NJ). From January 1, 2017 – May 1, 2018 we searched all titles of stories published on these 20 websites that included any of the keywords: HPV, vaccine, or Gardasil. We analyzed the number of articles by site, title, and keyword. Results: From the 20 most viewed websites in the Philadelphia Metro area (national=16 – e.g., MSN.com and abcnews.com; local=4 – e.g., philly.com and abc6.com), 2,575 online articles were collected over a 16 month period. Of these, 5.6% of the articles were related to HPV (n=145), representing 76 unique stories. Of the 76 stories, 23 were published on more than one online source. The most accessed story was entitled, “One man’s fight to wipe HPV off the face of the planet” (n=11 websites February 2018), followed by “1 in 9 men in US infected with oral HPV” (n=10 websites October 2017) and “1 in 4 US men have cancer-linked HPV genital infections (n=9 websites January 2017). All three stories focused on men, HPV infection, and cancer. Conclusion: Understanding drivers of news coverage can help public health researchers and practitioners better communicate and frame health information to the lay audience. Given that the most accessed online story about the HPV vaccine was a personal story, we should continue to leverage the power of narrative when disseminating information about HPV and the vaccine via websites, blogs, and social media. More research is needed to develop and evaluate methods for building a narrative around scientific evidence, through storytelling and discourse, tapping into emotion, transportation, and identification.

### **Board 210**

#### **Assessment of Written and Multimedia-based Cultural Components Included in Culturally Tailored, Evidence-based Adolescent Pregnancy Prevention Curricula**

Sarah Maness, Shristi Bhchhibhoya, and Marshall Cheney



Background: Adolescent pregnancy is at historic lows, but minorities remain disproportionately affected. Cultural tailoring of adolescent pregnancy prevention programs has been utilized as a way to reduce these disparities. However, little research has explored the depth and consistency of cultural tailoring. This study explored how cultural components are included in evidence-based adolescent pregnancy prevention programs. Methods: This study qualitatively assessed curricula of federally supported evidence-based adolescent pregnancy prevention programs specifically tailored for African American and/or Hispanic youth (¡Cuidate!, Project Image, Sisters Saving Sisters, SiHLE, HORIZONS, and Aban Aya). Curricula were obtained and a codebook was created using concepts from past literature on strategies for cultural tailoring. Patterns were analyzed within and between programs by two independent coders. Coders met to discuss themes and areas of disagreement. Results: Cultural components fell into five major themes: cultural art forms, traditions, history, community, and language. Four programs incorporated multimedia with African American or Hispanic actors and culturally-tailored music and/or language. The most commonly included area was traditions (i.e. values, pride). Between programs, content differed in frequency and topic areas. For example, two programs extensively included elements of cultural history (i.e. historical knowledge, racism), while four added Swahili or Spanish words in the English-based curriculum. Conclusions: Variations exist in the cultural components both within and between adolescent pregnancy prevention programs in terms of topics and depth of instruction. The majority of programs were developed over a decade ago and it is not clear often cultural components within programs should be updated to maintain relevance for changing trends among adolescent populations. All programs are evidence-based, however, little information is published regarding how cultural components affect program outcomes, which future research should assess. While curricula are often proprietary, it is transparency is recommended about program development processes of cultural tailoring.

### **Board 211**

#### **Enhancing Prenatal Attachment to Reduce Maternal Health Behavior Risks Associated with Unintended Pregnancies**

Karina M. Shreffler, Stacy Tiemeyer, Lucia Ciciolla, and Julie Croff

Purpose: Approximately 45% of pregnancies in the U.S. are unintended. Adverse birth outcomes, including preterm birth and low birthweight, are more common for unintended pregnancies due to a variety of factors including inadequate prenatal care and greater exposure to harmful substances. Prenatal attachment—lower among women with unintended pregnancies—has been linked to maternal health behaviors during pregnancy. The purpose of this study was to assess the effectiveness of an intervention, “BLOOM (Baby and Mom, connected by Love, Openness, and Opportunity),” designed to promote prenatal attachment among women who experienced an unintended pregnancy through the use of at-home fetal Doppler monitors. Methods: Forty pregnant women with unintended pregnancies were randomly assigned to one of four conditions: Doppler only; mindfulness exercises only; both Doppler and mindfulness; or control group with no intervention. Pre- and post-tests assessing prenatal attachment and health-related behaviors during pregnancy were conducted at the beginning and end of the two-week intervention. Results: Doppler use significantly increased maternal self-reported prenatal attachment across the two-week period. The greatest gains in prenatal



attachment were for women who were assigned to the Doppler and mindfulness group.  
Conclusions: At-home Doppler use is an effective strategy to increase prenatal attachment among women with unintended pregnancies. These findings have critical implications for maternal health behaviors during pregnancy.

### **Board 212**

#### **Consistency of Reported Barriers for Colorectal Cancer among Adults Who Have Never Been Screened**

Cherie Conley, Amanda Dillard, Constance Johnson, John Updegraff, and Isaac Lipkus

Purpose: To assess, among adults ages 50 -75 who have never been screened for colorectal cancer (CRC), the consistency between their reported barriers for screening at baseline and at a six-month follow-up. Methods: A nationally representative sample of 560 participants recruited from GfK's Knowledge Panel completed a baseline and a six-month post-baseline survey. At baseline, participants were asked what may prohibit them from having CRC screening; at follow-up, participants who did not obtain screening were asked what kept them from doing so. Results: Among participants who completed both assessments (n=400), 362(90.5%) did not get screened. Reporting 'no barriers'(n=28) at baseline predicted getting any form of CRC screening (OR=3.667, CI= 1.445, 9.303). Overall, 79% of individuals who did not screen reported a different barrier at follow-up compared to baseline. At baseline, participants identified 27 barriers, which were categorized into structural (e.g., transportation issues), patient-level (e.g., not motivated to screen), patient fears (e.g., fear of procedure), and health system (e.g., not recommended by a doctor) barriers. From baseline to follow-up, there was a significant increase in structural (17% to 26%, p=0.0003) and patient level (23% to 35%, p<.0001) barriers, a significant decrease in patient fears (17% to 12%, p=0.033) and no significant change in health system barriers (5% to 6%, p=0.843). Conclusions: Individuals often reported different barriers at baseline and at follow-up. Structural barriers and patient factors were reported more often at follow up. Implications: Among people who have never been screened, population-based interventions should focus on addressing structural and patient level barriers. More research is needed to help adults who have never been screened achieve greater insight into their barriers for screening to design more efficacious tailored interventions to increase screening.

### **Board 213**

#### **Predicted Prevalence of Oral Human Papillomavirus (HPV) by Periodontitis Status and HPV Vaccination Status**

Justin T. McDaniel, Joan Davis, Robert McDermott, Izaak Maxfield, and Kombe Kapatamoyo

Purpose: Risk for oral HPV has been shown to increase when an individual is diagnosed with periodontitis and does not receive the HPV vaccination. The purpose of the present study, given a paucity of literature on the topic, was to examine differences in oral HPV prevalence among adults based on HPV vaccination status and periodontitis status. Methods: Data from the 2011-2012 and 2013-2014 National Health and Nutrition Examination Surveys (n = 822) were





retrieved in order to predict prevalence of oral HPV in 24 separate demographic groups (age by sex by race) based on the following characteristics: HPV vaccination status and periodontitis status. A multiple logistic regression model, controlling for gender, age, race, smoking behavior, alcohol consumption, and sexual partners, was calculated in order to generate prevalence estimates. Results: Median predicted oral HPV prevalence rates per 1,000 across 24 demographic groups in 2011-2012 were highest among non-vaccinated individuals with periodontitis (median  $\bar{x}$  = 34.13, interquartile range [IQR] = 105.66), followed by non-vaccinated individuals without periodontitis ( $\bar{x}$  = 23.94, IQR = 76.25), vaccinated individuals with periodontitis ( $\bar{x}$  = 23.05, IQR = 73.60), and vaccinated individuals without periodontitis ( $\bar{x}$  = 16.12, IQR = 52.49). Median predicted oral HPV prevalence rates per 1,000 across 24 demographic groups in 2013-2014 were highest among non-vaccinated individuals with periodontitis ( $\bar{x}$  = 10.46, IQR = 34.63), followed by non-vaccinated individuals without periodontitis ( $\bar{x}$  = 7.29, IQR = 24.35), vaccinated individuals with periodontitis ( $\bar{x}$  = 7.01, IQR = 23.45), and vaccinated individuals without periodontitis ( $\bar{x}$  = 4.88, IQR = 16.41). Conclusion: Interventions that integrate primary care and dental care are needed, given increased risk for oral HPV among unvaccinated individuals with periodontitis. In particular, dental clinics should consider the inclusion of a medical care provider to administer HPV vaccination after routine dental cleanings.

#### **Board 214**

##### **A Comparison of Knowledge Gained from Online versus In-person Delivery of Tobacco Dependence Education within Behavioral Health Centers**

Lorraine R. Reitzel, Kathy Le, Bryce Kyburz, Daniel P. O'Connor, Timothy Stacey, Isabel M. Leal, and Virmarie Correa-Fernandez

Introduction: Cigarette smoking is known to increase morbidity and mortality risk. While 14% of adults in Texas smoke, this rate ranges from 40-75% among behavioral health center clientele (individuals with mental and non-nicotine substance use diagnoses). Taking Texas Tobacco Free (TTTF) works to address knowledge and resource gaps in behavioral health clinics by providing education, cessation resources, training, and tobacco-free workplace policy implementation through multi-component programming ([www.takingtexasobaccofree.com](http://www.takingtexasobaccofree.com)). TTTF's educational curriculum includes 1- or 2-hour educational sessions about tobacco use and cessation within this population, delivered to non-clinical staff and clinicians, respectively. These sessions were conducted either on-site or via live webinar-based format. Here, we examine differences in knowledge gain by training format and illuminate lessons learned in the implementation of each modality to inform future dissemination and implementation efforts. Methods: Over 5,000 employees within hundreds of behavioral health centers across Texas participated in educational sessions. Educational session delivery modality was consistent within each local mental health authority (LMHA). A 10-item knowledge test was administered pre- and post-trainings. Data were clustered within LMHA for comparative analysis. Results: Knowledge increase was 24.1% for the on-site vs 23.9% for the webinar-based non-clinical staff trainings. Knowledge increase was 24.0% for the on-site vs 19.3% for the webinar-based clinician trainings. The difference between modalities in knowledge gained was statistically significant only for clinician trainings ( $p=0.040$ ); however, this was equivalent to <1 additional



correct response on the test. Conclusion: When implementing a statewide tobacco control program within behavioral health centers, online tobacco dependence education offers financial savings over in-person education. Results suggest little sacrifice to knowledge increases among non-clinical staff for webinar-based education, and although compromises to knowledge gained by clinicians may exist, they may not be clinically significant. Each presentation modality had challenges and benefits, which are reviewed in conjunction with knowledge gain results.

### **Board 215**

#### **Implementation and Tailoring of Tobacco Cessation Interventions within Behavioral Health Centers: A Qualitative Analysis**

Isabel M. Leal, Bryce Kyburz, Timothy Stacey, Virmarie Correa-Fernandez, Daniel P. O'Connor, and Lorraine R. Reitzel

Introduction: Despite the highest rates of tobacco consumption and tobacco-related morbidity and mortality, smokers with behavioral health disorders rarely receive tobacco dependence treatment within behavioral health settings. Taking Texas Tobacco Free (TTTF) targets this disparity by delivering a multi-component tobacco-free workplace program entailing staff education, clinician training, tobacco-free policy development and implementation, integration of cessation services, and community outreach to behavioral health centers across Texas. Here, we identify contextual factors affecting adoption of interventions so as to tailor the program to participating centers and explain processes influencing program outcomes. Methods: An explorative and explanative qualitative study was undertaken from January – December 2017. Eight focus groups were conducted with clinicians, and separately, clients, at 3 facilities, pre, mid, and post-implementation. Thematic analysis and constant comparison were used to code, categorize and summarize data into themes. Results: Data analysis yielded 5 themes impacting tobacco cessation efforts: 1) policy parameters and applicability; 2) organizational culture: values and practices; 3) tailoring program to community center; 4) staff attitudes towards clients; and 5) internal conflicts of addiction. Implementation barriers were multilevel, on the policy, organizational, community, interpersonal and personal level. Findings were applied to tailor program strategies and materials to individual centers which facilitated uptake and supported ongoing maintenance and improvement. Processes affecting program outcomes were changes in center leadership commitment to implementation, and lack of policy enforcement. Conclusions: Because behavior change is both affected by and affects various levels of influence, effective tobacco control is a multidimensional issue requiring adaptation to local contexts. Involving important stakeholders, including program adopters and recipients, is key to increasing program engagement, ownership and successful implementation. These findings contribute to the development of flexible strategies and interventions tailored to the real-world contexts impacting tobacco cessation efforts of program partners, thus enhancing the effectiveness and sustainability of the TTTF program.

### **Board 216**

#### **Perceived Living Environment and Stress Levels among Sheltered Homeless Men and Women**



Chisom Odoh, Shaili Bhavsar, Tzu-An Chen, Julie Neisler, Michael S. Businelle, Darla E. Kendzor, and Lorraine R. Reitzel

Introduction: In shelter settings, homeless individuals often congregate and sleep in proximity to one another, with limited secure places for belongings: a living environment that may engender perceived vulnerability to victimization. Fear of victimization and mistrust of others in the shelter environment may result in greater stress, particularly for women who may be comparatively more vulnerable to victimization relative to men. On the other hand, high levels of social cohesiveness among peers could result in less stress. Here, we aim to examine the associations between fear/mistrust, social cohesion, and stress among sheltered homeless adults, and explore moderation by sex. Methods: Data were from a convenience sample of adults from a homeless shelter in Dallas, TX (N=238, Male=74%, White=31%, Mage=45.2±10.9). Participants completed the Fear & Mistrust scale, the Social Cohesion & Trust scale, and the Urban Life Stressors Scale. Linear regressions were used to measure associations between the living environment variables and stress, adjusted for age, race, and sex. Moderation was assessed with an interaction term. Results: Fear and mistrust was positively associated with stress (Beta=0.54,  $p < .001$ ). Conclusion: Stress is associated with undesirable health outcomes that can further exacerbate the known health disparities experienced by homeless individuals. In this shelter environment, fear and mistrust was associated with stress in ways that did not differ between women and men. Thus, although more research is needed, results suggest that interventions aimed at reducing fear and mistrust within a shelter setting may reduce stress for both male and female guests. Increasing social cohesion among guests, however, does not appear to be a promising avenue for reduction of stress. Future research should investigate environmental sources of fear and mistrust to provide further direction for interventions.

### **Board 217**

#### **Deportation Fears and Barriers to Physical Activity among Immigrant Latino Adults**

Nadia Garcia Marroquin, Shreya Desai, Arleen Longoria, Rosenda Murillo, Hua Zhao, Ezemenari Obasi, Lorna McNeil, and Daphne C. Hernandez

Background: US Latinos have the lowest rates of leisure-time physical activity (PA) of all racial/ethnic groups. In order to understand why this is the case, PA barriers must be understood. However, there is a dearth of studies examining the barriers related to PA among Latinos. Further, the current political climate has increased deportation fears, and these fears could magnify the barriers to physical activity. Purpose: Conduct a pilot study to evaluate the association between deportation fears and PA barriers. Methods: Self-identifying Latino immigrants between the ages of 21-35 participated in a cross-sectional pilot study at a community center in the south (n=40). Deportation fears were assessed using a 1-item question measuring the anxiety of deportation on a 5-point Likert scale from, not at all worried to extremely worried. This item was created for this study based on immigration stress subscale within the Hispanic Stress Inventory-2 (Cervantes et al., 2016). Barriers to PA was assessed using a 15-item subscale regarding perceived barriers to engaging in PA. Items were on a 5-point Likert Scale from never to very often. Items were summed with higher score indicating



greater perceived barriers to PA. Analysis: Linear regression models were conducted to predict greater perceived barriers to PA as a function of deportation fears, controlling for age, education, employment, marital status, income, and years in the US. Results: Adults were approximately 30 years of age, from Mexico (68%), and living in the US for about 12 years. Greater deportation fears ( $\beta=3.38$ ,  $p<.05$ ) predicted greater perceived barriers to PA. Conclusions: While the sample size is small and the design is cross-sectional, the findings suggest that heightened deportation fears and could potentially magnify perceived PA barriers.

### **Board 218**

#### **Nature Contact in the Home and Stress: The Impact of Flowers on Perceived Stress among Women**

Erin Largo-Wight, Hana Kusumoto, Michael M. Binder, Peter S. Wludyka, Stephanie Hooper, and Julie W. Merten

Background: There is a growing recognition that built environments with contact with nature impact stress and well-being. This experimental study was designed to examine the effect of an emerging type of nature contact – flowers. Methods: A representative sample of 170 women (ages 18-65) completed stress-related surveys including the Perceived Stress Questionnaire (PSQ) and mood surveys for 12 consecutive days. The women were blindly randomized into one of the following groups: flower delivery (n=58), candle delivery (n=55), and no delivery control (n=57). The comparison (candle) group and flower group received their “thank you gift” at home on day five or six of the study – both gifts were prepared and delivered by a local florist and represented similar value. Results: There were no significant differences in baseline stress or demographic variables among groups. Each group had lower PSQ stress scores at posttest and there were no significant differences in stress reduction among the groups, but the flower stress reduction values were approaching statistical significance ( $p=0.0825$ ). The flower group had significantly greater stress reduction after the delivery than the comparison gift group ( $p = 0.0457$ ; 95% CI: 0.06-6.3). There were no significant differences or trends in daily mood changes among the groups. Women in the flower group reported statistically better mood ( $p= 0.0334$ ;  $X^2= 10.45$ ) and enjoyment ( $p= 0.0089$ ;  $X^2= 13.55$ ) compared to the comparison candle group in a post-only perception survey. Discussion: Findings suggest flowers reduce stress more than candles and respondents believe they significantly impact their mood and enjoyment. These findings are consistent with environmental restoration theories and are important because passive environmental exposure to nature does not require effort (like other stress reduction approaches) to reduce stress. Indoor nature contact is an innovative, simple public health solution to stress and stress-related health issues.

### **Board 219**

#### **“They really helped me destigmatize it...it’s okay to go get help:” Social Factors Influencing University Students’ Decisions to Seek Mental Health Counseling in a University Setting**

Alexandra R. Budenz and Philip Massey



**Purpose:**To examine the ways in which social factors influence university students' decisions to seek university-based mental health counseling. **Methods:** We conducted qualitative one-on-one interviews with 21 undergraduate and graduate students attending a private, Mid-Atlantic university in the United States who were accessing the university counseling center at the time of the study. We developed an interview guide to explore social factors influencing participants' decisions to seek counseling and analyzed interview data using inductive coding. **Results:** Most participants reported that social factors influenced their decisions to seek university-based counseling and that family, friends, partners, and online/social media acquaintances were the primary social influences in this decision. Nine participants disclosed that mental health-related stigma from family, friends, culture, or the wider society acted as barriers to care-seeking, and that stigma often delayed entry into counseling. Fourteen participants expressed that their decisions to seek counseling had also been indirectly influenced by social factors, citing, for example, observations of positive counseling outcomes among both in-person and social media acquaintances and fears of overburdening loved ones with their mental health concerns as motivating factors to seek counseling. Finally, nine participants reported that counseling recommendations from influential social contacts, both in person and on social media, were integral to their decisions to seek counseling. **Conclusion:** A myriad of social factors influence university students' decisions to seek university-based counseling, which can serve as either barriers or facilitators to care-seeking. Additionally, counseling recommendations from both in-person and social media contacts can positively impact students' decisions to seek counseling. These findings demonstrate opportunities for university counseling centers and student organizations to leverage the influence of online and in-person social networks to increase university-based counseling utilization by encouraging students to engage in stigma reduction efforts, to share successful counseling experiences, and to give personal recommendations for university-based counseling.

### **Board 220**

#### **Behavior Change Techniques Used in Theory of Planned Behavior Physical Activity Interventions Amongst Older Adults: A Systematic Review**

Valerie Senkowski, Clara Gannon, and Paul Branscum

**Purpose:** The Theory of Planned Behavior (TPB) has long been used to guide development of health promotion interventions, however little is known about how interventions target theory constructs. The purpose of this systematic review was to determine behavior change techniques (BCTs) used and theoretical constructs targeted in TPB-based interventions to increase physical activity among older adults. **Methods:** The PRISMA guidelines were used to conduct this systematic review. Using 5 databases (e.g. Medline), 7 interventions (three RCT, three quasi-experimental, one n-of-1) from four countries (US, UK, AU, NL) were found and included in the final review. Researchers independently coded BCTs using the Behaviour Change Technique Taxonomy (BCTTv1), a hierarchical taxonomy of 93 behavior change techniques. **Results:** The number of unique BCTs used in each intervention ranged from 4 to 15. The most frequently coded BCTs included "Goal setting" (n=5 studies), "Action Planning" (n=5 studies) and "Credible Source" (n=5 studies). Seven interventions targeted the TPB construct perceived behavioral control, five targeted intentions, five targeted attitudes, and only one targeted



subjective norms. In three articles the proposed relationships between BCTs and the intended target constructs could be identified (e.g. self-monitoring (BCT) was used to target attitudes (target construct)), while in four articles the relationships were unclear, either because they were not reported or the relationships were reported in aggregate (e.g. the program affected the target constructs). Conclusions: Physical activity interventions among older adults can vary widely in the techniques used to promote changes in behaviors or psychosocial determinants of behaviors. When interventions target multiple theoretical constructs using multiple BCTs, it is important to report relationships between specific BCTs and constructs so that the underlying mechanisms of interventions can be understood. Only 26 BCTs were found in these interventions, which indicates there are intervention opportunities to evaluate less commonly used techniques with this population.

### **Board 221**

#### **The Longitudinal Association of Psychological Resources with Chronic Conditions and the Mediating Roles of Allostatic Load and Health Behaviors**

Jihun Woo, H. Matthew Lehrer, Erum Whyne, and Mary Steinhardt

Purpose: Research suggests beneficial associations between psychological resources and chronic conditions. It is important to examine the mechanisms underlying such associations. The purpose of this study is to investigate the longitudinal association of psychological resources with the prevalence of chronic conditions, and the mediating roles of allostatic load and health behaviors. Methods: Participants (N=850) from the Midlife in the United States (MIDUS) cohort completed psychological resource surveys, biomarker data collection, and a health assessment over the course of 10 years. Structural equation modeling tested the direct association of psychological resources (baseline) with chronic conditions (7-10 years follow-up), and indirect associations via allostatic load and health behaviors. Psychological resources (a latent composite variable), health behavior index (smoking, exercise, sleep, alcohol intake, fruit/vegetable intake), allostatic load (composite of 23 biomarkers), and chronic conditions (sum of diabetes, hypertension, anxiety/depression, stroke, joint/bone problems, heart conditions) were included in the model. Age, sex, race, and education were controlled for. Results: Psychological resources were negatively associated with chronic conditions directly ( $b = -.219$ ,  $p < 0.001$ ). Psychological resources were negatively associated with allostatic load ( $b = -.075$ ,  $p < 0.05$ ), and positively associated with health behaviors ( $b = .132$ ,  $p < 0.001$ ). Allostatic load was positively associated with chronic conditions ( $b = .255$ ,  $p < 0.001$ ), but no association was found between health behaviors and chronic conditions ( $b = -.061$ ,  $p = .060$ ). Allostatic load partially mediated the association between psychological resources and chronic conditions ( $b = -.019$ ,  $p < 0.05$ ), but health behaviors did not mediate the association ( $b = -.008$ ,  $p = 0.093$ ). Conclusions: This study highlights the importance of psychological resources and their protective influence on chronic conditions, and the mediating role of allostatic load on the association between psychological resources and chronic conditions.

### **Board 222**

#### **Evaluating Mental Health First Aid (MHFA) among University Faculty & Staff**



Jessica Garcia, Amy Gatto, Jennifer Bleck, and Rita DeBate

**Purpose:** Mental Health First Aid (MHFA) is a training program aimed at improve participants' abilities to approach, support, and aid those in distress of mental health (MH) issues and increase help-seeking behaviors. This study evaluated the effectiveness of the MHFA training program among faculty and staff at a large urban university. **Methods:** A longitudinal, pre-, post-, and 3-month follow-up study design was used to assess the impact of MHFA training on 120 faculty and staff participants. Using an adapted version of the Mental Health Beliefs and Literacy Scale (MBLS), grounded in the Unified Theory of Behavior Change framework, the following constructs were assessed: 1) attitudes and beliefs on difficulty, reward, and positivity of MHFA, 2) personal and perceived social beliefs on MHFA and MH problems, 3) self-efficacy in respect to confidence and control, 4) behavioral intention, 5) knowledge of MH issues, 6) cues to action, 7) behavior, and 8) perceived behavioral change. **Results:** Preliminary analysis revealed statistically significant improvements across several outcomes, including personal beliefs towards performing MHFA ( $p=.014$ ) and individuals with MH illness ( $p=.046$ ). In regards to MHFA actions, perceptions of difficulty level ( $p=.006$ ), belief in positive results ( $p=.001$ ), and perceptions of reward ( $p=.017$ ) had significant positive changes after training. Participants indicated improvement in self-efficacy, specifically in self-confidence to perform MHFA actions ( $p=.001$ ) and control over those actions ( $p=.026$ ). Significant increases in the intent to use helping behaviors ( $p=.021$ ) were observed. From pre- to post-test, participants felt MHFA was less difficult, more rewarding, and more likely to produce positive results. Participants held greater positivity towards MHFA and MH illness and confidence in their ability to help others in distress upon completion. **Conclusions:** MHFA is an effective MH intervention with numerous benefits. It has the potential to positively impact the response to MH issues among college students.

### **Board 223**

#### **An Examination of Depressive Symptoms among Care-givers Versus Non-Care-givers: Results from the 2017 Health Information National Trends Survey.**

Ehikowoicho E. Idoko, Ann O. Amuta-Jimenez, and Idethia S. Harvey

**Introduction:** Caring for one or more dependents can sometimes translate into caregiver stress followed by adverse health outcomes. The stress endured by a caregiver very often leads to depressive symptoms that may be overlooked in the caring process and thus further deterioration in the absence of help-seeking. This study intended to compare the likelihood of caregivers versus non-caregivers to report depressive symptoms. **Methods:** Data from the 2017 Health Information National Trends Survey (HINTS), a nationally representative survey was used. Depressive symptom (dependent variable) was analyzed on a 4-point Likert scale: how often (daily to never) they feel 'little interest or pleasure in doing things,' and 'feeling down, depressed or hopeless.' Caregiving status (independent variables) were for either caring for a child, a friend, relative or not caring for anyone. Socio-demographic variables were controlled for in all analyses. After making jackknife survey adjustments, multiple linear regressions were modeled. **Results:** The sample ( $N=3,285$ ) consisted of 1303 males and 1914 females. Mean age of participants was 53 years. Care-giving for a child positively influenced depressive

symptoms ( $b = 0.313$ ,  $p = 0.024$ ), while caring for a spouse ( $b = 0.153$ ,  $p = 0.355$ ) and friend or non-relative ( $b = -0.172$ ,) did not have a statistically significant relationship with depressive symptoms. Caring for no one showed a strong negative association with depressive symptoms ( $b = -0.400$ ,  $p < 0.000$ ). Conclusion: Caregivers of one or more children were more likely to report depressive symptoms than those who were not providing care to anyone, leading to the inference that wholesomeness of the family unit should be prioritized when delivering health programs. Consequences of caregiving, such as depression, should not be minimized. More specifically, policies governing community health/mental health programs should ensure that coping skills' education and counseling for caregivers be made more available and accessible.

### **Board 224**

#### **Examining The Relationship Between Peripheral Nerve Impairment And Depressive Symptomology**

Gabriel A. Benavidez, Kelly R. Ylitalo, and Jackson O. Griggs

Purpose: Peripheral nerve impairment (PNI) is well understood as one of the most common complications of diabetes mellitus, but emerging evidence suggests that one in ten adults without diabetes may have PNI as well. Common symptoms of PNI like numbness and burning pain can have deleterious impacts on health-related quality of life. The purpose of this study was to measure the association between PNI symptoms and depressive symptoms among patients with and without diabetes mellitus. Methods: Patients of a large, federally-qualified health center were administered the 15-item Michigan Neuropathy Screening Instrument (MNSI) and the 8-item patient health questionnaire depression scale (PHQ-8). Patients with an MNSI score  $\geq 4$  were categorized as symptomatic of PNI and patients with a PHQ-8 score  $\geq 10$  were considered to have current depression. Logistic regression was used to analyze the relationship between PNI and depressive symptoms in the total sample population and stratified by diabetes status. Results: 406 patients (72.2% female, 27.8% male) were included in the final analysis. There were no statistically significant differences by diabetes status in PNI symptom (Diabetes=61.8%; No diabetes=55.4%;  $p=0.20$ ) or in depression status (Diabetes=37.6%; No diabetes =36.6%;  $p=0.83$ ). After adjustment for covariates, PNI was significantly associated with clinical depression (OR=3.52; 95%CI: 1.73, 7.16) among the total sample population. After stratifying by diabetes status, PNI remained significantly associated with clinical depression only among individuals without diabetes mellitus (OR=4.81; 95%CI: 1.87, 12.36). Conclusions: Over half of patients with and without diabetes reported at least 4 symptoms of peripheral neuropathy. PNI may be an under appreciated risk factor for the development of depression, especially among populations without diabetes who have not been traditionally screened for PNI. More work is needed to understand the etiology and potential utility of intervention for depression symptoms among patients with neuropathy.

### **Board 225**

#### **Influence of Social and Emotional Support on Feelings of Depression among U.S. Adults: Implications for Mental Health Programs**

Nicole A. Khan, Ehikowoicho E. Idoko, Ann O. Amuta-Jimenez, and Idethia S. Harvey





Introduction: Characterized by an overwhelming sense of sadness, hopelessness, and apathy, depression interferes with life on a day-to-day basis. The quality of social and emotional support provided for and received by an individual can protect against the development of depression. Most studies have focused on convenient and/or non-representative samples. Therefore, this study aimed to examine the influence of social and emotional support on depressive symptoms among a nationally representative sample of U. S. adults. Methods: Secondary cross-sectional data from the 2017 Health Information National Trends Survey ( $n = 3285$ , males = 1,303 and females = 1,914) was used. Descriptive statistics, multiple linear regression, and hierarchical regression examined the factors associated with depressive symptoms (dependent variable) and social and emotional support (independent variables). Socio-demographic variables were controlled for in all analyses. Results: Mean age of participants was 53 years. Less emotional ( $\beta = -0.135$ ,  $p < 0.000$ ) and less social ( $\beta = -0.122$ ,  $p < 0.001$ ) support was associated with higher reported depressive symptoms respectively. In step one, demographics alone predicted 30% in the variance of depressive symptoms. Emotional and social support was later added in step 2 and the variance increased to 34%. The F change was statistically significant ( $p < .001$ ). Conclusion: Social and emotional support are a vital part of mental health. Research shows that social isolation plays a significant role in morbidity and mortality, which is in line with the results. The less socially connected and emotionally supported individuals feel the more severe depressive symptoms they report. These findings are helpful for planning and implementing mental health education programs that emphasize the building of social capital within communities that will go toward prevention and management of depression.

### **Board 226**

#### **Psychometric Properties of a Mental Health Literacy Scale among College Students**

Emily Walters, Amy Gatto, Jennifer Bleck, and Rita Debate

Purpose: To date, there are few tested and validated scales to assess mental health literacy. The purpose of this study was to evaluate the psychometric properties of a mental health literacy (MHL) scale being utilized to evaluate an interactive online health literacy module, called Kognito, among college students. Methods: During Summer 2018, new incoming students completed Kognito and its accompanying pre/post-tests. The questionnaire consisted of a 24-item Likert scale measuring the components of MHL with higher scores indicating higher levels of MHL. Total MHL was measured as a composite score of five factors: knowledge of mental illness (5 items), beliefs about mental illness (5 items), knowledge of support resources (5 items), behavioral intentions toward seeking and recommending help (4 items), and self-efficacy for recognizing, approaching, and discussing mental illness (5 items). Reliability analysis and exploratory factor analysis were conducted. Results: Analysis of the 24-items indicated a good Cronbach's Alpha ( $\alpha = 0.90$ ) and a five-factor structure that accounted for 60.01% of the total variance. Factors generally aligned with hypothesized constructs and had adequate reliability ( $\alpha = 0.76 - 0.92$ ). The construct of behavioral intentions did not have adequate reliability ( $\alpha = 0.65$ ) and the items failed to load onto a single factor. Removal of the behavioral intention items resulted in a five-factor scale accounting for 65.76% of the total variance and comparable reliability ( $\alpha = 0.89$ ). Conclusions: The MHL scale used to assess Kognito was found to be reliable and adequately assessed the intended constructs. However,



issues regarding behavioral intention items were identified, suggesting that the scale does not adequately measure this construct. Additional modifications to this scale are needed to improve the assessment of behavioral intention. The development and psychometric assessment of this scale can be used for MHL program evaluation among college students.

### **Board 227**

#### **Mental Health Service Use among Asian American Youth: What are the Barriers and Facilitators?**

Wenhua Lu, In Young Lee, and Anderson Sung Min Yoon

Background: In contrast to the myth of “the model minority”, growing evidence indicates that Asian American (AA) youth are at higher risk for mental disorders, including depression and anxiety, but least likely to seek out help for professional mental health services among all racial/ethnic youth groups. This study aims to understand the help-seeking behavior of AA youth with mental illness and investigate factors impeding or facilitating their use of professional mental health services. Methods: Focus group discussions and face-to-face interviews were conducted with 50 participants in two outpatient mental health clinics in NYC, including adolescents who are currently receiving mental health services for their mental illness (N=16), their parents (N=18), and bilingual clinicians serving mainly AA families (N=16). Interviews were audio-recorded, transcribed verbatim, and coded thematically using Nvivo 12. Results: Participants in this study identified multiple barriers that uniquely influenced AA youth’s attendance and adherence to mental health services, including parents’ concerns and stigma around treatment history and record, unrealistic expectations for treatment, cultural mistrust in clinicians’ expertise, as well as stigma or “losing face” in the small ethnic community. Adolescents’ privacy/confidentiality concerns, non-compliance/resistance to treatment, misconceptions of medication use, and logistic barriers such as transportation and schedule conflict with school or extra-curricular activities were further identified as barriers to treatment. In regard to facilitators, participants highlighted the importance of school and teacher referral, normalizing mental health service use, goal-setting and rapport and trust-building at an early stage in the treatment, as well as working alliance and commitment from both youth and their parents for the treatment. Conclusions and Implications: Culturally sensitive psychoeducation is needed to normalize mental health treatments in Asian American communities. Expanded service capacity and community outreach programs that meet particular social service needs of low-income Asian American families hold promise for engaging them into treatment.

### **Board 228**

#### **“Our health isn’t taken seriously”: Formative Research to Develop a Strengths-based HIV Prevention mHealth Intervention for Transgender Women**

Christina J. Sun, Kirsten Anderson, Liat Mayer, Tamara Kuhn, and Charles Klein

Background: HIV has severely impacted transgender women in the United States (US); yet, there is only one transgender-specific program in CDC’s Compendium of Evidence Based-Intervention and Best Practices for HIV. mHealth offer a promising strategy for addressing the



unmet HIV prevention and sexual health needs of transgender women. The purpose of this research is to determine the framing strategies, content, and format and functionality preferences for an HIV prevention mHealth intervention designed specifically for transgender communities. Methods: We conducted 4 focus groups and 20 in-depth interviews with transgender women. Focus groups and interviews were audiorecorded and transcribed. Transcripts were double-checked and data were analyzed using a grounded theory method. Results: A total of 57 racially diverse transgender women from nine different states in West, South/Southeast, Northeast and Midwest US participated. Structural factors, mental health and substance abuse/sobriety are seen as more pressing life issues than HIV and sexual health. Transitioning is the most common transgender health need, and finding culturally competent health care remains a challenge for many transgender women. There is a need to expand PrEP awareness and situate PrEP within the realities of transgender women's lives. Connecting with other transgender women is valued but can be challenging. We propose 22 activities and app features that would meet transgender women's needs and priorities. Conclusion: A strengths-based mHealth approach may be an effective means to frame HIV and sexual health promotion within the broader context of transgender women's lives and support connection to people, services, and resources.

#### **Board 229**

#### **Cumulative Health Risk Behaviors, Future Orientation, and Mental Health among Adolescents**

Yunyu Xiao

Purpose: This study aimed to examine the level of cumulative health risk behaviors (HRBs) and its association with mental health among adolescents using a nationally representative sample. Methods: Data from 4,899 adolescents aged 10 to 19 years from Wave I-II of the National Longitudinal Study of Adolescent Health (Wave I-II) were used. A Cumulative HRBs index was computed based on 14 HRBs under five lifestyle activities: dietary pattern, physical activity, sleep, social media use, and safety behaviors. Multiple linear and logistic regression models were used to analyse the associations among cumulative HRB index, future orientation, and adolescent mental health, adjusting for sociodemographic variables and social support across contexts. Complex survey design was accounted by employing sampling weights and clustering. Results: Black adolescents had a significantly higher level of cumulative HRBs than their White ( $b = 0.71$ ) and Hispanic ( $b = 0.29$ ) counterparts. Increased cumulative HRBs index was also associated with older ( $b = 0.09$ ) and male ( $b = 0.26$ ) adolescents. Cumulative HRBs was associated with higher risk of depression ( $b = 0.36$ ), suicidal ideation (OR = 1.07) and suicide attempt (OR = 1.25), after accounting for all covariates. Lower future orientation was found among adolescents with high score in cumulative HRBs ( $b = -0.04$ ). Interaction between cumulative HRBs and future orientation on suicidal behaviour was significant, suggesting that higher future orientation could buffer the negative impact of cumulative HRBs on adolescent suicidality. Conclusions: Findings of this study identify significant disparities in HRBs across different racial, age, and gender groups. Special attention shall pay attention to Black, older, and male adolescents when promoting multiple health behaviors. Future orientation mitigated the negative impact of cumulative HRBs on adolescent mental health, which indicates that



multiple health behaviour change interventions could benefit by incorporating elements that nurture future orientation.

### **Board 230**

#### **Associations of Subjective Social Status and Mindfulness on Readiness to Quit Smoking in Homeless Smokers**

Valentina Maza, Lorraine Reitzel, Tzu-An Chen, Darla E. Kendzor, and Michael S. Businelle

Background: In the United States, the prevalence of cigarette smoking among adults who are homeless is ~75%, about 5 times higher than the domiciled adult population in the United States. It is important to identify characteristics associated with greater readiness to quit smoking for intervention development and targeting. Factors associated with an increased readiness to quit smoking among domiciled smokers include greater community Subjective Social Status (SSS-C; relative ranking socially within a self-defined community) and mindfulness (awareness and connection with the present moment). However, it is unknown if these associations generalize to homeless smokers. The current study redressed this gap. Methods: Participants were homeless adult smokers from Dallas, TX (N=161; 74.53% male). Self-report data were gathered via questionnaires administrated on a laptop. Hierarchical linear regressions were used to understand the association of SSS-C and mindfulness, respectively, and their interaction, on readiness to quit smoking controlling for age, sex, race, lifetime number of months homeless, cigarettes smoked per day, income, and educational achievement. Results: Results indicated that higher community social status was independently predictive of greater desire to quit smoking ( $p < .0001$ ), but neither mindfulness ( $p = .405$ ) nor the interaction between SSS-C and mindfulness ( $p = .741$ ) was significant. Conclusions: Targeting individuals with higher social status for smoking cessation services within limited service settings (e.g., shelters) may be advisable, based on likelihood of greater readiness to quit. Interventions to increase community social standing may engender a desire to quit among homeless adults, but definitive conclusions await future study. Unlike findings with domiciled adults, neither mindfulness nor the combination of low community social status and low mindfulness resulted in particularly low readiness to quit relative to low social status alone.

### **Board 231**

#### **Social Network Risks and Multiple Health Behaviors among Adolescents: The Moderating Role of Future Orientation**

Yunyu Xiao and Wenhua Lu

Purpose: This study aimed to examine the relationship between social network risks and multiple health behaviors among adolescents, with a special focus on the moderating effect of future orientation. Methods: Using a sample of 4,899 adolescents in 7th-12th grades from the National Longitudinal Study of Adolescent Health (Wave I-II), this study examined the independent and interactive effects of social network risks (e.g., family detachment, peer rejection, school disconnectedness, low neighbourhood support) and future orientation on adolescent multiple health behaviors, including diet, physical activity, drunk drinking, sleep, and



social media use. Multivariable logistic regression analyses were conducted, controlling for sociodemographic characteristics and adolescent depressive symptoms. Clustering effect and sampling weights were further adjusted to ensure that the sample was nationally representative and the statistical inferences were appropriate. Results: Results provided evidence that adolescents exposed to social network risks had more health risk behaviors (HRBs), such as not eating breakfast (OR = 2.28), lack of physical activity (OR = 1.63), drunk driving (OR = 3.00), and high screen time (OR = 1.92). In contrast, adolescents with higher levels of future orientation reported fewer HRBs, particularly in dietary and safety behaviors. Several significant interaction effects were found between adolescent future orientation and social network risks. Specifically, negative associations were found between peer rejection and drunk driving (OR = 0.12) and between peer prejudice and intake of fruits/vegetables (OR = 0.27) in adolescents with high future orientation. Conclusions: Findings of this study implicate the role of future orientation on mitigating the link between social network risks and HRBs. Higher levels of future orientation could significantly reduce HRBs through buffering the negative impact of social network risks, particularly among peer networks. Incorporating future orientation in multiple health behaviour change interventions could improve the efficacy and effectiveness of programming, especially for adolescents in disadvantaged social network environments.

### **Board 232**

#### **Elementary School Student's Exercise Intention and Behavior in Taipei City: Application of The Theory of Planned Behavior**

Tzung-Shiang Ou, Pi-Hsia Lee, and Hsien-Chang Lin

Purpose: Physical inactivity among elementary school students in Taiwan has been a pertinent concern. However, determinants of students' exercise behaviors and intention in Taiwan remained understudied in the extant literature. The purpose of this study was to apply the Theory of Planned Behavior to examine factors that determined the intended and actual behaviors of regular exercise among elementary school students in Taipei City, Taiwan. Method: This study applied the Theory of Planned Behavior to guide construct and variable selection. A total of 1,084 fourth grade elementary school students in 11 schools in Taipei City were surveyed during November to December, 2014, of which 1,074 provided valid responses. A follow-up evaluation was conducted six months later where 1,064 students provided valid responses and were included in the final analysis. Linear and logistic regressions were conducted to examine factors associated with the intended and actual exercise behaviors, controlling for sociodemographic factors. Results: Among the final study sample (N=1,064), 84.2% had a positive exercise intention, and 32.3% engaged in regular exercise. Attitudes toward the behavior, subjective norms, and perceived behavioral control were all positively associated with behavioral intentions ( $\beta=.21$ ,  $p<.001$ ;  $\beta=.05$ ,  $p<.05$ ;  $\beta=.55$ ,  $p<.001$ , respectively). Additionally, behavioral intention was an immediate determinant of regular exercise behavior (OR=2.63,  $p<.001$ ), while perceived behavioral control was associated with regular exercise behaviors (OR=1.84,  $p<.001$ ). Conclusion: The Theory of Planned Behavior constructs, such as attitudes toward exercise behavior, subjective norms, and perceived behavioral control, had considerably predictive power of exercise intention and behaviors among elementary school students in Taipei City, Taiwan. The results can be provided as evidence and a reference for the



government, schools, and health educators when making physical education curricula as well as designing exercise promotion programs to help elementary school students engage in regular exercise behaviors.

### **Board 233**

#### **Multiple Behavioral Risk, Adverse Social Exposures, and Elevated Blood Pressure in Young Black Females**

Jewel Scott, Susan Silva, and Leigh Ann Simmons

Purpose: The prevalence of hypertension in Black females is 46%, which is higher than all other females living in the United States. Behavioral responses to adverse social exposures (e.g., social isolation, discrimination) may contribute to disparate prevalence of HTN in young Black females. The objective of this study was to explore multiple risk behaviors and social exposures as potential indicators of increased risk for hypertension among Black females to identify possible pathways for intervention. Methods: Subjects were 668 Black females, ages 24-32, participating in the National Longitudinal Study of Adolescent to Adult Health. Health behaviors included sleep, diet, physical activity, and tobacco use, while social exposures included child abuse, discrimination, perceived stress, and social isolation. Blood pressures were measured and participants were classified as having hypertension or not using national guidelines. Bivariate and multivariable logistic regression was used to identify behavioral risk subgroups among those with and without hypertension. Results: Among the young women, 17% were classified as hypertensive. In bivariate analyses, sleeping more than nine hours and high perceived discrimination predicted hypertension. Having multiple risky health behaviors was not predictive of having hypertension ( $p=0.11$ ). In multivariable analyses, hypertension was associated with higher body mass index (OR 5.2,  $p<.0001$ ), long sleep duration (OR 2.6,  $p<.004$ ), and perceived discrimination (OR 1.6,  $p=0.05$ ). Conclusion: Hypertension is a significant public health issue among young Black females. Although multiple health behaviors did not predict hypertension, the extremely high odds ratio for elevated weight suggests that BMI may be acting as a proxy for the typical behavioral risks (e.g., diet and exercise) associated with hypertension. Understanding how behavioral responses to race- and sex-based stress may influence sleep and other health behaviors may aid in the development of tailored interventions to reduce morbidity and mortality associated with hypertension in Black females.

### **Board 234**

#### **Does Participating in Aerobic Physical Activity Impact Determinants of Participating in Muscle Strengthening Physical Activity? A Multiple Behavior Analysis**

Anthony McGaughey, Paul Branscum, and Grace Fairchild

Purpose: Aerobic physical activity (PA) and muscle strengthening PA are ideal behaviors for multiple behavior change interventions, given that they are interrelated, yet distinct, and provide unique benefits. Since rates of aerobic PA participation are almost double that of muscle strengthening PA the purpose of this study was to evaluate differences in theory-based determinants of muscle strengthening PA between those meeting and not meeting aerobic PA

guidelines. Methods: College students at a southwestern university completed a survey measuring constructs from The Reasoned Action Approach (i.e. intentions, attitudes, perceived norms, and perceived behavioral control (PBC)), and participation in aerobic and muscle strengthening PA. Regression models were created for students meeting (n=270) and not meeting (n=172) aerobic PA guidelines. Results: Participants meeting aerobic PA guidelines reported significantly more days per week engaged in muscle strengthening PA ( $m=2.89 \pm 2.0$ ) than participants not meeting aerobic PA guidelines ( $m=2.06 \pm 1.9$ ) ( $p<0.001$ ,  $d=0.42$ ). Regression models showed that attitudes, perceived norms and PBC explained a substantial amount of the variance of intentions for both groups [meeting (45.5%); not meeting (59.7%)], however, PBC moderated the relationship between intentions and muscle strengthening PA for those not meeting cardio PA recommendations, but this was not observed for those meeting cardio PA guidelines. Conclusions: Results from this study showed there are different theory-based determinants for muscle strengthening PA, based on an individual's participation in aerobic PA, which translates to a need for different intervention approaches and strategies for both groups. For students not meeting aerobic PA recommendations, to promote muscle strengthening PA implementational interventions are likely needed to build PBC (i.e. capability, skills and self-efficacy), while for students meeting aerobic PA recommendations motivational interventions are warranted to create favorable intentions and attitudes.

### **Board 235**

#### **Distracted Street-Crossing in College Students: Application of the Theory of Planned Behavior**

Andrew J. Piazza, Adam Knowlden, Elizabeth E. Hibberd, James Leeper, Angelia Paschal, Stuart Usdan, and Amanda Wilkerson

Purpose: The purpose of this study was to utilize the theory of planned behavior (TPB) to examine college students' behavioral intention to cross the street on campus while using a mobile device. Methods: Questionnaire data were collected from undergraduate college students between the ages of 18 and 24 attending a Southeastern university. Questionnaire development involved a literature review, face and content validity by expert panel, readability and comprehensibility by pilot test, stability reliability by test-retest, and internal consistency using Cronbach's alpha. Construct validity of the TPB for predicting behavioral intention to cross the street on campus while using a mobile device was assessed using linear regression analyses. Results: The final sample of 480 was majority non-Hispanic (96.3%;  $n = 462$ ), White (76.0%;  $n = 365$ ), and female (68.5%;  $n = 329$ ). Mean age was 20.18 (SD = 1.50). The TPB constructs of attitude toward the behavior ( $B = .395$ ,  $p < .001$ ), subjective norm ( $B = .328$ ,  $p < .001$ ), and perceived behavioral control ( $B = .158$ ,  $p < .001$ ) were significant predictors of behavioral intention and explained 48.4% of the variance. Conclusions: Attitude toward the behavior was the strongest predictor of behavioral intention. Such a questionnaire can be used in the design and evaluation of TPB-based interventions to decrease distracted mobile device use while crossing the street among college students. In this population, interventions could utilize strategies to increase negative attitudes toward using a mobile device while crossing the street on campus. Future investigation using the TPB should attempt to measure actual behavior and interventions should include an evaluation component.



### **Board 236**

#### **Movement in Middle School – Application of the Transtheoretical Model in Assessing Physical Activity Barriers and Behaviors**

Laura J. Rolke, Kerry A. Howard, Jacqueline Forrester, Sarah F. Griffin, Tracy Waters, and Kerry K. Sease

The CDC recommends that youth ages six to 17 years should do 60 minutes or more of moderate-to-vigorous physical activity daily. Daily physical activity has been shown to reduce the risk of developing chronic diseases, reduce symptoms of depression and anxiety, improve cognitive performance, and improve classroom behaviors in children and adolescents. While the benefits of physical activity are numerous, many children and adolescents do not meet the daily physical activity recommendation. The transtheoretical model (TTM) is an integrative behavior change model that identifies stages of readiness to meeting a behavior change goal. Each stage assesses current behaviors, as well as intention and self-efficacy to make the behavior change. A random sample of 1,436 students from eight middle schools in a public-school district in South Carolina completed a comprehensive education and well-being survey, including physical activity questions in Fall 2018. Students were categorized into one of the five TTM stages based on self-report daily physical attainment in the last seven days and follow-up questions assessing intention and/or maintenance. Logistic regression was used to assess the relationship between TTM stage, self-efficacy, and overall self-reported physical and mental health. TTM stage distribution is: 117 (8.2%) precontemplation, 521 (36.3%) contemplation, 479 (33.4%) preparation, 141 (9.8%) action, and 178 (12.4%) maintenance. Compared to students in other stages, students in the precontemplation stage were significantly more likely to report they are unable to do physical activity when sad or stressed (OR=7.4,  $p<0.00$ ) and in their neighborhood (OR=9.3,  $p<0.00$ ). Students in precontemplation and contemplation stages were more likely to report poor or fair mental health (OR=2.4,  $p<0.00$ ). These findings indicate that awareness and skill-based interventions emphasizing how physical activity can improve emotional health and strategies for addressing environmental barriers may be productive in helping youth move from precontemplation and contemplation to preparation and action.

### **Board 237**

#### **Healthy Food Options Contributed by International Food Markets (IFMs) in Jefferson County, Kentucky**

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Purpose: To characterize IFMs in Jefferson County by determining whether healthy foods are available (e.g. vegetables, fruits, whole grains, protein); visualizing the presence of IFMs in community areas and designated food deserts by national origin and diversity. Methods: Eighty IFMs in Jefferson County were identified and invited to participate in a food availability study. Current food availability was assessed using the Harvard Healthy Eating Plate form (HHEP) and the Food Environment Audit for Diverse Neighborhoods (FEAD-N). Healthy Food Option scores (HFO) using the HHEP, and Total Products scores (TP) from the FEAD-N were computed.





Geospatial relationships of IFMs, food desert areas, race/ethnicity, and Simpson's Diversity Index were mapped using ArcGIS, and distributions of HFO and TP scores were analyzed using SAS 9.4. Results: Sixty stores agreed to participate and were still open for business. HFO scores ranged from three to five, with 86.7% having all five healthy food groups. The range of the average TP scores (TPmax = 204) from all IFMs was 82, with a median of 26.8 (IQR = 16). Stratifying TP scores by food category showed that fresh produce made up the largest proportion; of the five stores where produce-specific TP scores were approx. 30% of the total number of fresh produce on the FEAD-N (TPmaxproduce = 132), four were Hispanic/Latino. Finally, IFMs were highly concentrated in four community areas that include subsections designated by the USDA as being low income and/or low access areas for fresh foods, including Southwest Core and Iroquois Park. Conclusions: IFMs may provide healthy products to all members of the community. However, there is a relatively low concentration of IFMs in areas with a high proportion of racial/ethnic minorities, reducing the likelihood that they could meet their basic nutritional needs.

### **Board 238**

#### **Examining the Relationship between Health-related Quality of Life and Diet in Healthy Adults**

Sahar S. Eshtehardi, Lorraine R. Reitzel, Ann Chen, Lorra Garey, and Darla E. Kendzor

Background: While health-related quality of life (HRQoL) is gaining recognition as an important patient-reported outcome, it may also be associated with health-promoting dietary behaviors among healthy individuals. Little is known about the association of HRQoL and fruit and vegetable intake in samples of healthy adults; this information may be valuable for healthcare providers and researchers. The purpose of this study was to evaluate the association between HRQoL and fruit and vegetable consumption in a low income, racially/ethnically diverse community sample of adults. Methods: Data from 238 adults (M age=43.9±12.8, 52% African American, 67% female, 39% uninsured, 65% ≤\$40,000 annual family income) participating in a mHealth study aimed at reducing sedentary behaviors were analyzed to evaluate the influence of overall HRQoL on fruit/vegetable consumption. The number of self-reported poor physical and mental health days in a 30-day period characterized sub-optimal HRQoL. The total number of self-reported servings of fruits and vegetables, excluding French fries, per day, was used to measure fruit and vegetable consumption. Results: Negative binomial regression models were applied to evaluate differences of respective HRQoL variables and fruit/vegetable consumption in the sample. Analyses adjusted for age, sex, race/ethnicity, marital status, employment status, income, and educational level indicated that fewer days of poor self-reported mental (p=.004), but not physical (p=.158), health was associated with greater fruit/vegetable consumption. Conclusions: Feeling good emotionally was associated with greater fruit and vegetable intake among a low income sample. Although not directly measured in this study, results may suggest the potential for behavioral health intervention to enhance health promoting dietary behaviors. Healthy dietary behaviors, in turn, may ultimately prevent premature morbidity and mortality among low income community samples. Work assessing the longitudinal impact of overall behavioral health wellness on all aspects of healthy dietary consumption are needed to delineate future directions in this area.



### **Board 239**

#### **African American Adults' Perceived Benefits and Barriers to a Vegan Diet in a Short-term Dietary Intervention**

Cynthia Horton Dias, Anthony E. Crimarco, and Gabrielle Turner-McGrievy

Background: Vegan diets offer many health benefits, however, cultural food preferences are important to consider for understanding African American (AA) adults' preferences for adopting a plant-based diet. The purpose of this study was to evaluate if eating at local vegan soul food restaurants helped increase perceived benefits and reduce perceived barriers to adopting a vegan diet more so than preparing vegan meals at home among AA adults living in the South. Methods: Non-vegan, AA adult participants (mean age  $43.7 \pm 12.1$  years, BMI  $36.6 \pm 9.1$  kg/m<sup>2</sup>, 100% AA, and 89% female) were randomly assigned to either a Restaurant (n=13; gift cards to local vegan soul food restaurants) or Grocery group (n=15; gift cards to grocery stores). Participants were provided counseling and materials for vegan soul food recipes and were asked to follow a vegan diet for three weeks. Participants completed a perceived barriers and benefits for plant-based diets questionnaire (5-point scale, 5=high barriers or benefits) at baseline and follow-up. T-tests for differences in barriers/benefits were conducted, controlling for baseline scores. Results: At follow-up, Restaurant group participants had higher perceived barriers in two areas: 1) indigestion (Grocery:  $1.9 \pm 1.0$  and Restaurant:  $2.9 \pm 1.1$ ,  $P=0.04$ ) and 2) concerns that vegan foods are low iron (Grocery:  $2.0 \pm 0.8$  and Restaurant:  $2.8 \pm 1.0$ ,  $P=0.03$ ). Grocery group participants had higher scores for perceiving a vegan diet as making them more "fit" (Grocery:  $4.4 \pm 0.5$  and Restaurant:  $3.8 \pm 0.9$ ,  $P=0.03$ ). For the combined sample, there were significant decreases in 11 perceived barriers and significant increases in 2 perceived benefits. Conclusions: Culturally-tailored, short-term dietary interventions can improve perceptions for adopting a vegan diet among AA adults in the South. Further, encouraging vegan cooking at home can decrease perceived barriers related to indigestion and iron content of plant foods, and increase perceived benefits of fitness more than eating at vegan restaurants.

### **Board 240**

#### **Co-associations between Maternal Monitoring of Fruit and Vegetable Intake and Sugar-Sweetened Beverage Consumption among a Sample of Low-income Hispanic Mothers**

Paul Branscum, Karina Lora, and Daphne C. Hernandez

The etiology of obesity is complex, and a growing body of research suggests that multiple behavior change interventions have a stronger impact than single behavior change interventions. Two behaviors related to childhood obesity in the Hispanic community is a lack of fruit and vegetable (FV) intake and high sugar-sweetened beverage (SSB) consumption. The purpose of this study was to evaluate theory-based determinants of monitoring practices of Hispanic mothers, using theoretical antecedents from two behaviors: those related to FV and SSB consumption. The Reasoned Action Approach was used as a theoretical framework. A valid and reliable survey was distributed to Hispanic mothers (n=238) of 2-5-year-old children, evaluating monitoring practices, intentions, attitudes, perceived norms and perceived behavioral control (PBC) related to FV and SSB consumption. Two models were constructed using



structural equation modeling, by allowing attitudes, perceived norms and PBC of both behaviors to predict intentions for both behaviors, and PBC and intentions to predict monitoring practices of FV and SSB. Both models had adequate fit [FV (CFI=0.973; GFI=0.980; RMSEA=0.121); SSB (CFI=0.994; GFI=0.993; RMSEA=0.066)]. PBC for both FV and SSB monitoring significantly predicted monitoring for SSB, while FV intentions was the only significant predictor for monitoring of FV. Results from this study gives evidence that among Hispanic mothers, monitoring behaviors related to the development of childhood obesity influence each other. It also appears that to promote SSB monitoring, more implementational strategies (i.e. skills-based interventions) are warranted, while to promote FV monitoring, more motivational strategies are warranted.

### **Board 241**

#### **Food Insecurity Predicts Heavier Weight Preferences among White and Hispanic Women and Men, but not among Black Women nor Men**

Layton Reesor and Daphne C. Hernandez

Background: While research suggests that food insecurity (FI) and obesity co-exist, it is unknown whether a heavier weight status is preferred by FI individuals. It is possible that FI individuals view a heavier body composition as protective against their inconsistent access to adequate nutrition. Therefore they may desire a heavier body composition. Also, weight preferences have been shown to differ by sex and race/ethnicity. Purpose: The purpose of this study is to evaluate if FI is related to heavier weight preference and whether this relationship differs by sex and race/ethnicity. Methods: Using the National Health and Nutrition Examination Survey (2005-2014), non-aging adults (ages 20-59) most at risk for food insecurity (FPL < 3.00%) with complete data on target variables were included (n=4,719 women; 4,164 men). Logistic regression analyses were conducted to evaluate if FI predicted heavier weight preference. Models were stratified by race/ethnicity and sex and controlled for weight status, age, nativity, relationship status, education, employment, income, and health insurance. Results: Among women, FI was associated with increased odds of desiring to be heavier among whites (OR 2.15; 95% CI 1.12 – 4.11) and Hispanics (OR 1.98; 95% CI 1.16 – 3.37) but not among blacks (OR 1.40; 95% CI 0.83 – 2.34). Among men, FI was associated with increased odds of desiring to be heavier among whites (OR 1.91; 95% CI 1.35 – 2.71) and Hispanics (OR 1.59; 95% CI 1.02 – 2.49) but not among blacks (OR 0.85; 95% CI 0.57 – 1.26). Conclusions: FI was a significant predictor of heavier weight preference among white and Hispanic women and men, but not among black women nor men. Those who desire a heavier body composition may engage in more obesogenic behaviors. Health care practitioners need to address weight preferences when providing weight management education to food insecure white and Hispanic individuals.

### **Board 242**

#### **Connecticut Policymakers Do Not Perceive Tobacco as an Important Community Issue**

Anna Greer and Ann-Uriel Knausenberger



Tobacco use is a significant issue in Connecticut (CT). Over the last 18 years, however, CT has spent less than 1% of the dollars provided annually from the tobacco Master Settlement Agreement on smoking cessation services. In order to gauge readiness for policy change to address this issue, we examined state representatives and senators (hereafter, elected officials) and municipal health directors' perceived importance of tobacco in the context of 22 other community issues in CT. For this cross-sectional study, 74 elected officials (40.7% response rate) and 47 health directors (62.7% response rate) completed a questionnaire to rate their perceived importance for 23 community issues, including tobacco. Chi square tests were used to examine associations between perceived importance of tobacco (important/not important) and respondent type (elected official/health director). Compared to elected officials, health directors more often perceived tobacco to be an issue of importance with 70.2% of health directors and 30.0% of elected officials perceiving tobacco to be an issue of importance in CT ( $p < .001$ ). Neither group perceived this issue to be one of the three most important issues in CT. Health directors perceived drug abuse (100.0%), obesity (97.8%), and high taxes (83.0%) as most important and elected officials perceived lack of good jobs (93.2%), drug abuse (90.5%), and cost of living (81.4%) as most important. In CT, health directors more often perceive tobacco use as an important issue than elected officials. Efforts to develop tobacco policy in CT must include education about the relative importance of tobacco as a community issue in CT.

### **Board 243**

#### **Rapid Consumption of Supersized Alcopops: An Examination of YouTube Videos**

Matthew E. Rossheim, Kwynn M. Gonzalez-Pons, Dennis L. Thombs, David H. Jernigan, Adam E. Barry, Ryan D. Treffers, Kaylin M. Greene, and Allison M. Yurasek

Background: Supersized alcopops (e.g., Four Loko) are a class of high alcohol-by-volume (abv) sugar sweetened, ready-to-drink beverages. The Federal Trade Commission contends that consuming a single supersized alcopop in one sitting is unsafe, given that they contain roughly five standard drinks. Alcohol intoxication is impacted not only by total alcohol consumed, but also speed of ingestion. However, research has yet to examine whether people consume an entire can of these products, how rapidly they consume them, and the context in which these drinking episodes occur. Methods: Two coders examined 161 user-generated YouTube videos. Videos were identified using the search terms “four loko” and “4 loko” in combination with: “chug,” “shotgun,” “funnel,” and “bong.” The analysis sample was comprised of 116 supersized alcopop chugging instances. Results: The sample was mostly male (98%). All events took place either inside a residence (73%) or outdoors (27%). One in seven of these videos depicted drinking while alone. Most chug attempts involved one can; however roughly 1 in 12 (8.6%) involved consuming multiple Four Lokos in one drinking event. Most chug attempts were successful (overall 91%). Each of the 106 successful chug attempts – including the nine instances involving two or three Four Lokos – took less than two minutes to complete. BAC estimates (based on sex, drinks consumed, drinking duration, and estimated body weight) ranged from 0.06 to 0.35 g/dL. Discussion: There are many publicly available videos portraying high-risk drinking of supersized alcopops. These videos depict people consuming an entire can (or multiple cans) of supersized alcopop within a very short duration of time. These high-risk drinking models may have dis-inhibitory effects on viewers. Better regulation of supersized



alcohol is needed to prevent hazardous consumption among young people, and better regulation of social media content is needed to prevent modeling of risky drinking behaviors to youth.

#### **Board 244**

#### **The Role of Perceived E-cigarette Harmfulness in Mediating the Association between E-cigarette Relative Advantages and Use Behaviors among U.S. Young Adults**

Su-Wei Wong and Hsien-Chang Lin

**Purpose:** E-cigarette use among U.S. young adults is prevalent. Manufacturers and retailers claim e-cigarettes to be more affordable, more socially acceptable, and less addictive than cigarettes, which has predominated young adults' understanding of the relative advantages of e-cigarettes. However, the potential harm of e-cigarettes was not adequately informed. Although studies have showed that perception of e-cigarettes are associated with e-cigarette use, the mechanisms that associate e-cigarette perception and use remain unclear. This study examined these associations and how perceived e-cigarette harmfulness plays a role as a mediator. **Method:** This study adapted the Health Belief Model as the conceptual framework to guide construct and variable selection. Current young adult e-cigarette users aged 18-24 (n=963) were extracted from the Population Assessment of Tobacco and Health survey Wave 1 (2013-2014) and Wave 2 (2014-2015). Mediation analyses using natural effect models with bootstrap variance estimation were conducted to examine the associations between e-cigarette relative advantages at Wave 1 and current e-cigarette use status and frequency at Wave 2, mediated by perceived e-cigarette harmfulness. **Results:** Participants considering e-cigarettes to be relatively advantageous at baseline had higher odds of later e-cigarette use status (OR=1.31,  $p<0.01$ ) and higher past-month use frequency ( $b = 1.54$ ,  $p<0.001$ ). Perceived harmfulness mediated the aforementioned associations (indirect effect to use status: OR=1.24,  $p<0.001$ ; indirect effect to past-month use frequency:  $b = 1.27$ ,  $p<0.001$ ). **Conclusions:** Relative advantages of e-cigarettes are associated with higher odds of e-cigarette use and higher use frequency, where perceived harmfulness mediates these associations. While young adults have obtained disproportionately more information about the advantages of e-cigarettes from manufacturers and retailers, policies (e.g., warning label requirements) and educational interventions (e.g., awareness campaigns) that enhance the understanding of e-cigarettes' harmfulness are needed. Future studies that investigate the longitudinal effects of e-cigarette use on health outcomes are warranted.