

### **Board 301\***

#### **Pinterest Homemade Sunscreens: A Recipe for Sunburn**

Julie Williams Merten\*, Kristi J. Roberts, Jessica L. King, and Lara B. McKenzie\*

Background: Social media, specifically Pinterest with more than 175 million users, has changed the way people seek and share health information. Recent consumer interest in natural personal care products has led to an increase of shared recipes for homemade products including sunscreen. Homemade sunscreen products are risky because they are not regulated or tested for efficacy like commercial sunscreens. With rising skin cancer rates, the use of effective broadband sunscreen is critical to protect the skin from UV radiation and reduce incidence of skin cancer. Purpose: This study used directed content analysis to examine how homemade sunscreens were portrayed on Pinterest, a social media website used to bookmark online content. Methods: Using the search terms, homemade sunscreen and natural sunscreen, researchers sampled every fifth pin to collect 189 relevant pins. A codebook was developed, pilot tested, and used to code pins. Two researchers coded pins and interrater reliability was established at 90%. Results: Of the 189 pins, the majority of pins (95.2%) positively portrayed the effectiveness homemade sunscreens and 68.3% recommended recipes for homemade sunscreens that offered insufficient UV radiation protection (defined as not being broad spectrum and below SPF of 15). Sun Protection Factor (SPF) claims were made in 33.3% of pins with a range of SPF 2 to SPF 50. In this sample of pins, 41.8% of pins had been saved by other users ranging from one to more than 21,000 times. Conclusions: Social media is a powerful source of health information. However, there is evidence of misleading and potentially dangerous sunscreen information being propagated. This study revealed widespread interest and acceptance of insufficient sun protection information. There was minimal information from reliable public health sources represented. Pinterest and the interest in homemade recipes for sunscreen presents an opportunity for public health professionals to engage on social media.

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### **Board 302**

#### **The Federal Trade Commission's Mandated Labeling Fails to Inform Consumers**

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

Background: Four Loko is a ready-to-drink beverage with high alcohol-by-volume (abv). In 2013, the Federal Trade Commission (FTC) mandated the addition of an alcohol facts label on Four Loko to delineate the number of standard drinks in the product. However, this information is presented as "servings per container," which may be unclear. The current study examined whether college students understand the mandated labeling and can accurately estimate the number of standard drinks in each can. Methods: Classroom surveys were administered to undergraduate student drinkers in three states. Respondents (n=872) were provided an empty 23.5 ounce Four Loko can and asked to determine the number of standard drinks it contained,

in regular beer (e.g., Budweiser) equivalents. In Florida and Virginia, Watermelon Four Loko contains 4.7 standard alcoholic drinks; whereas in Montana it contains 3.2 standard alcoholic drinks. Results: Across Florida and Virginia, more than 40% of respondents underestimated the alcohol content of Four Loko by two or more standard drinks, whereas fewer than 5% in Montana did. In logistic regression analysis, the following were associated with greater odds of underestimating Four Loko's alcohol content by at least two standard alcoholic drinks: being female (OR=2.8), having never seen or heard of Four Loko before (OR=2.9), having never consumed Four Loko before (OR=1.6), and residing in Florida or Virginia (therefore being presented with a higher abv version; OR=17.0). Similar findings were observed for the subsample of students who reported past consumption of Four Loko. Discussion: Findings suggest that college students significantly underestimate the alcohol content of Four Loko, despite bearing the FTC required product labeling intended to communicate this information. Consumers appear to be estimating alcohol content based on the volume of the product rather than its abv or labeling. Thus, limiting the abv could improve consumers' estimation of alcohol content.

### **Board 303\***

#### **An Ecological Exploration of Factors Influencing University Employees' Use of Height-Adjustable Desks**

Amanda Wilkerson\*, Shristi Bhchhibhoya, Adriana Dragicevic, and M. Renée Umstattd Meyer\*

Purpose: Prolonged time spent in sedentary behavior is recognized as a significant public health challenge. The workplace is one important context to address sedentary behavior since the majority of U.S. adults' time is spent in this setting. Research calls for the incorporation of an ecological perspective to investigate influences on sedentary behavior. Recent health behavior interventions have utilized environmental changes, including height-adjustable (i.e. sit-to-stand) desks to reduce sedentary behavior. However, minimal information is available concerning factors that impact use of height-adjustable desks outside of an intervention framework. This study used qualitative interviews to explore factors that facilitate or inhibit height-adjustable desk use in the workplace. Methods: Thirty-seven university employees (89% staff; 51% female) who self-reported using a height-adjustable desk participated in individual interviews that examined workplace-related factors that influence use of height-adjustable desks. Interviews were audio-recorded, transcribed, and coded for themes using NVivo Version 11.4.3. Results: Participants identified barriers and facilitators impacting regular use of the device across multiple ecological levels. At the intrapersonal level, common facilitators included awareness about standing, reminders, body cues, and an established routine. Conversely, common barriers included forgetfulness, lack of knowledge, pain, and uncomfortable footwear. At the interpersonal level, co-worker use of a standing desk and co-worker social support were facilitators; whereas, the intimidation of standing in a professional setting was a barrier. At the institutional level, access to height-adjustable desks at work and a wellness culture in the workplace were identified as common facilitating factors. However, the built environment (i.e. desk space, office furniture), job demands, and cost emerged as common institutional-level barriers. Conclusions: Findings from this study provide important insight for researchers and practitioners who are developing workplace interventions that incorporate height-adjustable desks. Researchers should consider

factors identified in this study when creating intervention strategies to initiate and maintain use of these devices.

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### **Board 304\***

#### **Health Behaviors among University Employees: Insights and Opportunities for Improvement**

Samuel D. Towne\*, Yuxian Du, Matthew Lee Smith\*, and Marcia G. Ory

Purpose: Understanding the health status of those working for large organizations with an international reach is of interest to several key stakeholders. Organizations with thousands of employees, such as universities, are of interest to several key stakeholders given approximately 3.9 million staff were employed in postsecondary institutions in 2010. Given the diversity of staff employed in university settings, we aimed to identify health-related outcomes of employees at a large university in the southern US. Methods: We analyzed survey data collected through online surveys distributed to all benefits-eligible employees (n=1249; response rate approx. 14%). We identified several health-related outcomes and sociodemographics. Descriptive statistics were used to describe survey results. Results: Overall, the largest age group were those aged 30-39 (26%) and 40-49 (25%), with approximately 71% female, and approximately 75% non-Hispanic White. Overall, approximately 23% made less than \$50,000 per year and 26.2% had less than a 4-year degree. Less than 1% were currently uninsured. In terms of selected health behaviors, we identified approximately 20% reported texting while driving at least some of the time, with nearly 100% reporting using a seatbelt often or always. In terms of health screening, approximately 73% reported getting their recommended health screenings often or always, while approximately 58% reported getting an annual flu vaccine often or always. Further, approximately 29% reported not knowing their last measured cholesterol levels and 15% did not know their last blood pressure measurement. Conclusions: These results suggest significant opportunities for improvement in terms of screening and flu vaccinations and being aware of one's last measured cholesterol and blood pressure levels. This is of interests, as even among a population with nearly 100% having health care insurance and with nearly three-quarters having at least a 4-year college degree, significant gaps in getting critical health-related preventative measures existed.

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### **Board 305**

#### **A Chain Reaction: Middle Schoolers Reflect on their Social Environment through Acts of Kindness**

Sarah Griffin, Laura Rolke, Jackie Cassidy, Jacqueline Forrester, Kerry Sease, Mackenzie Stuenkel, Kerry Howard, and Megan Shropshire

Social environments influence health behaviors through a myriad of social support activities and social norms that provide guidance about acceptable and unacceptable behaviors. We conducted a kindness chain activity to better understand how middle school students frame their social environment and describe what is considered socially supportive. In this activity, we asked students in three Title One middle schools in Greenville, SC to anonymously reflect on and acknowledge memorable acts of kindness that they witnessed or experienced in their school. They shared this information by writing a short description of the act(s) on a piece of paper that would become part of a kindness chain at their school. In total, 527 student answers were collected, representing 15% to 34% of students at each school. We conducted an inductive followed by a deductive thematic analysis based on social norms and social support theory. Overwhelmingly students described acts reflecting social norms of sharing, positive self-identity, and academic progress. Students predominately described acts from other peers followed by acts from teachers and family members. Emotionally supportive actions included acts such as friends consoling them during times of sadness, friends listening to them, or someone sharing a smile on a bad day. Examples of appraisal support were friends telling each other they are smart, teachers encouraging them on an assignment, and peer comments about personal features or clothing. Tangible support was described in a wide variety of acts such as holding the door for someone, sharing a pencil or lunch money, or providing a place to live. Finally, Informational support was mostly focused on school work or how to navigate a social situation with a friend. Activities that help students voice their perceptions of social norms and acts of social support provide rich opportunities to learn about adolescent views and opportunities for adolescent self-reflection.

### **Board 306**

#### **Differential Effects of Pain Relief and Patients' Attitudes on Patients' Satisfaction**

Shinduk Lee, Matthew L. Smith, Deborah V. Dahlke, Nicole Pardo, and Marcia G. Ory

Background: Perceived treatment effectiveness is considered as a key factor contributing to patient satisfaction. However, empirical studies show conflicting findings about the relationship between pain relief and patient satisfaction. There is a gap in our understanding regarding the relationship between pain relief and patient satisfaction. This study addresses this gap by examining the differential effects of pain relief on patient satisfaction based on patients' attitudes. Methods: Between Nov-Dec 2017, a cross-sectional survey was collected from 203 adults (18 years or older). This study included participants who experienced any chronic pain during the past six months (n=178). Participants rated their satisfaction with pain care, pain relief, and patients' attitudes (treatment decision participation and confidence in their physicians). Multiple linear regression models were used to examine whether patients' attitudes moderated the effects of pain on patient satisfaction. All models were adjusted for age, education, and frequency of chronic pain. Based on the preliminary analyses (e.g., descriptive statistics, scatter plots, and bivariate correlation), separate models were performed for participants who reported low (median or lower) and high (greater than median) pain relief. Results: The majority were 55 years old or older (53%) and Not-Hispanic White (97%). Among patients who reported low pain relief, pain relief ( $\beta=12.29$ ,  $p<0.001$ ) and patients' confidence in their physicians ( $\beta=4.91$ ,  $p=0.031$ ) were positively associated with patient satisfaction. Among patients who reported high pain relief, pain relief ( $\beta=4.40$ ,  $p=0.002$ ) positively predicted patient

satisfaction. Patients' confidence in their physicians positively moderated the effects of pain relief on patient satisfaction among patients who reported low pain relief ( $\beta=16.82$ ,  $p=0.006$ ), but not among patients who reported high pain relief ( $p=0.275$ ). Discussion: This study suggests that interventions to improve patients' confidence in their physicians can enhance patient satisfaction, particularly among patients who do not experience much pain alleviation through their pain treatment.

### **Board 307\***

#### **Combating the Opioid Crisis with Non-Pharmacological Pain Self-management Programs**

Matthew Lee Smith\*, Marcia G. Ory, Angelica Herrera-Venson, Lixian Zhong, Shinduk Lee, Samuel D. Towne\*, Kathleen Cameron, Kristie Kulinski, and Kate Lorig

Background: As the opioid crisis continues to plague older adults, community-based interventions are needed to help older adults manage chronic pain and reduce unnecessary pharmaceutical use. This study: (1) describes the Chronic Pain Self-Management Program (CPSMP) as a non-pharmacological solution to complement existing pain management strategies; and (2) assesses the national dissemination of CPSMP relative to opioid-related indicators by county. Method: Hosted over a 6-week period, CPSMP is a face-to-face, small group workshop that helps adults learn techniques to manage their pain and related symptoms. CPSMP data were collected as part of a larger federally-funded national dissemination of disease self-management programs. Data were collected by grantees and transferred to a national data repository. Opioid-related data were compiled from the CMS Medicare Part D Opioid Prescribing Tool and CDC Multiple Cause of Death database. Based on the national dissemination of CPSMP and reporting timelines for nation-wide opioid estimates, all data were limited between 2009 and 2016. Independent-sample t-tests helped assess CPSMP delivery by opioid prescription and death rates. Geographic information system (GIS) geospatially represented reach based on opioid-related indicators. Results: Overall, 4,798 CPSMP participants enrolled in 551 workshops across 34 states (249 counties). There were 5,600,068,636 opioid-related claims (prescriptions/refills) and 203,247 opioid-related deaths. Over 28% of deaths were among those ages 50+ (crude rate of 6.8 per 100,000). On average, opioid-related claims ( $t=-7.88$ ,  $P<0.001$ ), prescription rates ( $t=-4.95$ ,  $P<0.001$ ), and deaths ( $t=-7.46$ ,  $P<0.001$ ) were significantly higher in counties that offered CPSMP relative to those that did not. Discussion: Findings indicate that CPSMP is being delivered in larger communities that are disproportionately impacted by the opioid crisis. However, substantially more participation is needed to influence county-level opioid death rates. Efforts are needed to expand CPSMP dissemination as an alternative to pharmaceutical interventions for adults with chronic pain in community and healthcare settings.

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**Board 308\*\***

**Electronic Cigarette Acquisition Means among Adolescent Daily Users**

Ashley L. Merianos\*\*, Roman A. Jandarov, Jonathan D. Klein, and E. Melinda Mahabee-Gittens

Purpose: Electronic cigarette (e-cigarette) use has grown exponentially from 2011 to 2017, with 0.39 million middle school and 1.73 million high school students reporting past 30-day use. Examining where daily users acquire their e-cigarettes may help inform regulatory actions addressing adolescent initiation, use, and cessation of e-cigarette products. Our study aim was to examine the relationship between e-cigarette acquisition means and daily e-cigarette use among U.S. adolescent current users. Methods: A secondary analysis of the 2016 National Youth Tobacco Survey, a nationally representative survey of U.S. middle school and high school students, which included 1,579 youth who reported current e-cigarette use. Acquisition means included commercial (e.g., vape shop) and social (e.g., friends) sources. Multivariable logistic regression models were performed adjusting for sex, race/ethnicity, grade level, e-cigarette initiation age, and current flavoring use. Results: A total of 13.6% participants reported current daily e-cigarette use. Compared to nondaily users, daily users were significantly more likely to acquire e-cigarettes from the following sources (all  $p < .01$ ): drug store (adjusted odds ratio [aOR]=5.2, 95% confidence interval [CI]=2.6-10.6), vape shop/store that only sells e-cigarettes (aOR=4.4, 95%CI=3.1-6.2), mall/shopping center kiosk or stand (aOR=3.3, 95%CI=1.7-6.3), gas station/convenience store (aOR=2.7, 95%CI=1.8-4.2), grocery store (aOR=2.7, 95%CI=1.2-5.9), or another place not listed (aOR=3.2, 95%CI=1.8-5.8). Daily users were also 2.5 times more likely (95%CI=1.6-3.9;  $p < .001$ ) to acquire e-cigarettes from the Internet than nondaily users. Conversely, daily users were less likely to acquire e-cigarettes from friends than nondaily users (aOR=0.3, 95%CI=0.2-0.4;  $p < .001$ ). Conclusions: Daily users were more likely to acquire e-cigarettes from commercial or Internet sites and less likely to acquire e-cigarettes from friends than nondaily users. Local and state jurisdiction could reduce adolescent access by adopting 21 as the age of legal purchase, and restricting e-cigarette product availability sales from commercial and Internet sources.

\*\*2019 Judy K. Black Early Career Research Award winner

**Board 309**

**Comparing American College and Noncollege Young Adults on E-cigarette Use Patterns Including Polysubstance Use and Reasons for Using E-cigarettes**

Yi-Han Hu, Anne Buu, Su-Wei Wong, and Hsien-Chang Lin

Purpose: The prevalence of e-cigarette use among young adults was the highest among overall population. College campuses provide unique environment for exposure to alcohol, tobacco, e-cigarette, and marijuana for college students. Existing literature on young adults' e-cigarette and polysubstance use focused on college students but rarely compare them to their noncollege counterparts. This study examined the differences between college and noncollege groups on prevalence and patterns of e-cigarette and other substance use using data from a national



survey. Methods: Young adults aged 18 to 24 (N=6,608) were extracted from the 2013-2014 Population Assessment of Tobacco and Health (PATH) Study. Independent sample t-tests and Chi-square tests were conducted to examine the group differences between the current college enrollees and the noncollege young adults in prevalence, patterns, perceptions, or reasons of e-cigarette use and polysubstance use. Results: Noncollege young adults had higher prevalence of cigarette, e-cigarette, and marijuana use, whereas college students had higher prevalence of alcohol use. Among current e-cigarette users, college students had higher prevalence of polysubstance use of alcohol and marijuana. College students used e-cigarettes for socializing purposes more. A higher percentage of noncollege e-cigarette users were affected by people in the media or public figures. Furthermore, a higher proportion of college students perceived e-cigarettes as less harmful than cigarettes, but the two groups were equally likely to use e-cigarettes as an alternative to quitting cigarette smoking. Conclusions: Differences in prevalence and patterns of e-cigarette and other substance use between college and noncollege groups do exist. The systematic comparison from this study highlights not only the common issues shared by these two young adult populations but also the uses of different substances and their determinants more specific to each population. Future interventions should target the social context of college life and reach out to noncollege young adults in workplaces.

### **Board 310**

#### **The Mediating Role of Internalizing and Externalizing Behaviors in the Association between Childhood Neglect and Suicidal Behaviors**

Hsien-Chang Lin

Background: Childhood neglect is the most common type of child maltreatment although it receives less attention than childhood abuse by researchers and practitioners. Childhood neglect could be more chronic and pervasive than childhood abuse and thus may bring more detrimental effects to mental health. Previous studies have shown that childhood neglect is associated with adulthood suicidal behaviors, but it remains unclear about the mechanisms of how they are associated. In this study, we focused on one possible pathway and examined how internalizing and externalizing behaviors mediate the association between childhood neglect and suicidal behaviors. Method: This study used data from the National Epidemiological Survey on Alcohol and Related Conditions Wave 3 conducted in 2012-2013. Adults aged 18 or older were included (N=36,309). Childhood neglect was assessed via both physical and emotional neglect. Weighted generalized structural equation modeling (GSEM) was used to conduct mediation analyses of the associations between childhood neglect and adulthood suicidal behaviors mediated by the internalizing and externalizing behaviors, controlling for sociodemographic factors. Results: Childhood emotional neglect was associated with higher odds of adulthood suicide attempts and suicide ideation (OR=1.58, 1.78, respectively; all  $ps < 0.001$ ). Mediation analyses suggested that the association was partially mediated by internalizing and externalizing behaviors (AOR range: 1.70-3.08; all  $ps < 0.001$ ). However, we did not find any significant associations between childhood physical neglect and any type of adulthood suicidal behaviors. Conclusions: Childhood emotional neglect is associated with higher risk of suicidal behaviors. Externalizing and internalizing behaviors mediate the aforementioned association. Efforts that prevent childhood emotional neglect may also help prevent adulthood suicidal behaviors. Additionally, interventions that help those who experience

childhood emotional neglect to cope with mental health problems are needed to alleviate the detrimental effects of neglect that could lead to adulthood suicidal behaviors.

### **Board 311**

#### **Walking Towards a Brighter Future: Evidence to Advocate for Improved Walk to School Corridors**

Anna Greer, Allison Martinez Carrasco, Drew Goldsman, and Ann-Uriel Knausenberger

Introduction: Bridgeport is the most populous, and one of the poorest, cities in Connecticut. Due to budget limitations, the Bridgeport Board of Education voted to increase the minimum distance requirement for high school busing service from one to two miles without any improvements to the walk-to-school infrastructure. Methods: We conducted participatory research to support fifteen youth leaders as they advocate for improvements to their walk-to-school environment. We visited twenty-one classrooms in Bridgeport's three high schools and used an interactive mapping process with students to identify the most-often used walk-to-school routes (3 routes/school). The Youth Leaders then examined the quality of these routes using the Microscale Audit of Pedestrian Streetscapes (MAPS). Youth also collected questionnaires from 187 peers about their school travel experiences. Percentage scores (i.e., percent of total points earned) were calculated for each segment and crossing along the routes assessed. We used chi square tests to examine associations between students' travel model and negative travel-related experiences. Results: Almost all segments (82%) and crossings (91%) examined received a failing grade (<64%). In addition, a greater proportion of students who walk/cycle/skate to school rather than ride in a motor vehicle reported feeling unsafe ( $p=.001$ ), missing first period ( $p=.006$ ), and lower grades ( $p.001$ ) due to travel-related challenges. Conclusions: School districts must create safe walk-to-school environments to ensure all students' right to travel to school in a safe and timely manner. Other municipalities might benefit from replicating the youth-led, participatory approach used in this study.

### **Board 312**

#### **The Impact of Group Exercise on Anxiety among College Students: An Egocentric Network Analysis**

Meg Patterson, Leah Gagnon, Jordan Nelon, Sydney Brown, and Aly Vukelich

Introduction: Anxiety disorders are the most common mental illness in the US, affecting 40 million adults over the age of 18. Anxiety is disproportionately common in college populations, with 85% of students reporting feeling consistently overwhelmed, and 41.6% reporting anxiety as their top health concern. Exercise is known to help lower levels of depression and anxiety. Because social support and exercise, specifically group exercise, are related to improved anxiety, we aimed to conduct a social network analysis investigating whether group exercise participation and certain social connections impacted levels of anxiety in a sample of college students. Methods: An egocentric network analysis was conducted on a sample of undergraduate students at a private university in the southeastern US ( $n=531$ ). Demographic information, leisure-time physical activity, group exercise membership, depression, anxiety, stress, and overall happiness were collected for each participant. Results: Regression analyses



( $R^2 = .176$ ,  $F = 9.379$ ,  $p < .0001$ ) suggest that group exercise membership regardless of frequency of exercise ( $\beta = -.107$ ,  $p = .026$ ) and higher overall happiness scores ( $\beta = -.338$ ,  $p < .0001$ ) were related to lower anxiety scores, while being a minority student ( $\beta = .098$ ,  $p = .027$ ), having personal networks composed of high exercisers ( $\beta = .099$ ,  $p = .025$ ), and being tightly connected to a parent ( $\beta = .089$ ,  $p = .043$ ) were related to higher anxiety scores in this sample of students. Conclusion: These findings are informative for professionals working to reduce anxiety levels among students. Encouraging group exercise participation could be an effective way to combat rising levels of anxiety. Future research assessing the relationship between social ties and health outcomes is supported.

### **Board 313**

#### **Are Fitness Instructors Feeling the Burn(out)? An investigation of Feelings of Burnout and Coping Strategies among Fitness Instructors**

Tyler Prochnow MEd, Leslie Oglesby, and M. Renée Umstatt Meyer

Purpose: Occupational stress and burnout have been linked to negative health and occupational outcomes. In human service professions burnout is characterized by emotional exhaustion, depersonalization of clients, and feelings of reduced personal accomplishment. Demand for fitness instructors is estimated to increase 10% over the next 5-10 years. This profession is physically and mentally demanding, which may lead to burnout. This study examines relationships between fitness instructors' feelings of burnout and coping strategies to better understand effective ways to prevent/reduce burnout. Methods: Fitness instructors were recruited from five national fitness conventions to complete an online survey including demographics, years in the profession, work load, job type, feelings of burnout (Copenhagen Burnout Inventory), and coping strategies used (Coping Strategies Inventory-Short Form). Bivariate analyses were conducted to examine correlations among burnout subscales, coping strategies, and demographics. Multiple regression was used to examine correlates of total burnout scores. Results: Instructors ( $n = 250$ , 94% female, mean age = 45.7 (SD=11.8), 86% non-Hispanic White) reported greater feelings of physical burnout ( $M = 41.3$ ,  $SD = 18.0$ ) than work-related ( $M = 33.8$ ,  $SD = 18.7$ ) and client-related burnout ( $M = 25.3$ ,  $SD = 19.3$ ). Physical, work-related, and client-related burnout subscales were each significantly correlated with utilization of problem-focused engagement ( $r = -0.37, -0.44, -0.45$ ), problem-focused disengagement ( $r = 0.32, 0.34, 0.35$ ), emotion-focused engagement ( $r = -0.21, -0.25, -0.23$ ), emotion-focused disengagement ( $r = 0.33, 0.39, 0.36$ ) coping strategies, and age ( $r = -0.21, -0.19, -0.13$ ). Multiple regression analysis indicated problem-focused engagement and disengagement, emotion-focused disengagement, years in the profession, age, and full-time employment status accounted for 37% of variance ( $R^2 = 0.37$ ,  $F(6,243) = 25.24$ ,  $p < .001$ ) in total burnout. Conclusions: In our sample, usage of engagement coping strategies was correlated with exhibiting lower levels of burnout; usage of disengagement strategies was correlated with greater feelings of burnout. Therefore, fitness instructors should cope with stress by engaging in problem solving, cognitive restructuring, expressing emotions, and elicitation of social support to reduce burnout.

### **Board 314**

#### **The Relationships Between Park Quality, Park Usage, and Levels of Physical Activity in Low-Income, African American Neighborhoods**

Megan Knapp, Revonda Darensbourg, Jeannette Gustat, Leann Myers, and Carolyn Johnson

Introduction: Public parks can be an important, no-to low-cost neighborhood resource to increase physical activity and reduce overweight and obesity. The quality of the parks, however, may impact use. This study examined the relationships between park quality, park usage, and levels of physical activity among users in 31 parks within low-income, African American neighborhoods. Method: The Bedimo-Rung Assessment Tools-Direct Observation (BRAT-DO) and System for Observing Play and Recreation in Communities (SOPARC) instruments were utilized to assess park characteristics, number of users, and user activity levels. Negative binomial regression was used to model number of park users and assess relationships between park characteristics, park usage, and park-based activity levels. Results: When number of park users was stratified by gender and activity level, relationships between park use and park characteristics (signs of disorder, attractiveness, and number of activity settings) varied. No predictors were significant for overall number of male users; whereas, all three were significant for overall number of female users. Parks with signs of disorder were associated with 50% fewer female users (IRR = .50, 95% CI = [.33-.74]), attractive parks with 130% more female users (IRR = 2.30, 95% CI = [1.33-3.98]), and number of activity settings with 12% more female users (IRR = 1.12, 95% CI = [1.01-1.24]). Similar significant relationships were found among active female users but among not sedentary female users. Conclusions: Females, particularly active females, were more likely to be present in attractive parks, parks with fewer signs of disorder, and parks with more activity settings. These findings can be used to urge city governments and neighborhood leaders to increase park maintenance and address park attractiveness as a relatively low-cost environmental intervention to increase park use, encourage physical activity and reduce obesity, especially among women in low-income, African-American communities.

### **Board 315\***

#### **Affective Responses During High Intensity Functional Training Compared to High Intensity Interval Training and Moderate Continuous Training**

Derek Crawford\* , Katie M. Heinrich\* , Blake Johns, Jacob Frye, and Katelyn E.O. Gilmore

High intensity functional training (HIFT), which temporally combines aerobic and resistance components at relative high intensities, continues to grow in popularity due to its efficiency in improving a multitude of health and fitness outcomes. Purpose: While participants report greater enjoyment during HIFT compared to traditional aerobic and resistance training modalities, no studies have yet investigated the affective responses to HIFT. We hypothesized HIFT would result in greater affective responses (i.e., arousal and pleasure) compared to moderate continuous training (MCT) and high-intensity interval training (HIIT). Methods: Seven participants completed these exercise modalities in a blocked, within-subjects cross-over design with affective arousal (Felt Activation Scale) and valence (Feelings Scale) assessed pre-, during, and post-exercise. Results: Perceived exertion increased across all exercise modalities

( $p < .05$ ), but remained elevated following the post-exercise cooldown period for only HIFT and HIIT. While increases in affect did not differ across exercise modalities, there were differences in the magnitude of effects (i.e., effect sizes) between them. HIFT resulted in the greatest effect for increasing both arousal and pleasure ( $\eta^2 = .626$  &  $.275$ , respectively) compared to MCT ( $\eta^2 = .622$  &  $.136$ ) and HIIT ( $\eta^2 = .470$  &  $.226$ ). Inspection of the circumplex model of affect indicates that HIFT and HIIT shift participants from a state of calmness to energy whereas MCT did not. Further, in contrast to HIIT, the affective response to HIFT continues to increase pleasure and arousal until the end of activity. Conclusions: We concluded the similar affective responses observed in the present study may be due to the ability of participants to self-regulate their level of effort within HIFT.

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### **Board 316**

#### **Fathers' Perceptions of Their Roles and Child's Physical Activity**

Megan McClendon, M. Renée Umstattd Meyer, Andrew R. Meyer, Kelly R. Ylitalo, and Joseph R. Sharkey

Physical activity (PA) is beneficial to child health particularly for under-served populations such as Mexican-heritage families. Parental influence is known to greatly effect child PA with Mexican-heritage fathers exhibiting strong family ties; however, paternal influence is under-researched with the voice of the father under-represented in the literature. Purpose: The purpose of this study was to explore the perceptions of Mexican-heritage fathers about their child's PA and their role in that PA. Methods: Dyadic interviews ( $n=12$ ) were conducted among fathers ( $n=23$ ) living along the Texas-Mexico border. Two interview questions were explored: 1) "what do you think about your child's PA?", and 2) "when you think about how your child plays and is physically active, how much of what they play or do is influenced by you?" Fathers' responses to these questions were viewed through a Family Systems Theory (FST) lens using the constructs of family competence, satisfaction, warmth, and cohesion. Gender Theory, Activation Relationship Theory, Parenting Styles, and Social Cognitive Theory were then used to examine the role of the father. Results: Fathers who exhibited FST constructs were more likely to describe co-participation in PA with their child, greater amounts of child PA, and were less likely to report sedentary behaviors regardless of their employment workload. Additionally, fathers who described their roles in positive terms were more likely to describe multiple FST constructs that led to description of greater family unity. Conversely, descriptions of negative machismo/familism and/or lack of FST constructs were associated with limited paternal roles including lack of co-participation, limited child PA, and poor parenting styles that included permissive and authoritarian styles. Conclusions: Fathers' engagement affects family structure as well as child PA. It is important to understand the role of the father which involves increased recruitment efforts prioritizing father figures, especially in high-risk populations.

### **Board 317**

#### **Park-based Physical Activity by Income and Exposure to Persuasive Messaging**

Shirelle Hallum, Andrew T. Kaczynski, Gina Besenyi, and Sonja A. Wilhelm Stanis

Purpose: Parks are important for physical activity (PA), especially in resource-scarce, low-SES areas. However, little research has explored variations in park-based PA by income or strategies that may improve energy expenditure, specifically persuasive messages to prompt PA. The purposes of this study were to: 1) Assess differences in park-based PA by income, and 2) Examine the efficacy of theory-based persuasive messages for increasing park-based PA among visitors within different income categories. Methods: This study occurred in two parks in Greenville, SC in July 2018. Park visitors completed a survey assessing demographics and park use. Participants were also exposed to a message on a sign, with half viewing the treatment message encouraging park-based PA, and the other half viewing a control sign describing park rules. The proportion of visit time spent engaged in moderate-to-vigorous PA (MVPA) was then measured objectively using Actigraph accelerometers. T-tests were used to compare higher ( $\geq \$50,000$ ;  $n=29$ ) and lower-income ( $< \$50,000$ ;  $n=44$ ) groups on park-based PA variables. Results: The lower-income group spent 24.6% (SD=25.8%) of their park visit engaged in MVPA, while the higher-income group spent 35.2% (SD=33.1%) of their time engaged in MVPA ( $t=-1.53, p=0.13$ ). Lower-income individuals exposed to the control versus treatment messages spent 18.6% (SD=18.2%) and 33.0% (SD=32.9%) of their visit engaged in MVPA ( $t=-1.38, p=0.19$ ), respectively, compared to 36.1% (SD=34.3%) and 34.3% (SD=32.6%) for higher-income visitors ( $t=-0.18, p=0.86$ ). Conclusions: This pilot study collected objective PA data in parks, but was underpowered and findings were not significant. However, trends suggest that lower-income park visitors exposed to persuasive messages about PA spent a larger proportion of their visit in MVPA compared to those exposed to the control message. Persuasive messages have been shown to positively influence other park-based behaviors and may provide a low-cost solution to promoting PA, especially among lower-income visitors. Consequently, parks may be a useful entry-point for interventions that encourage park-based PA for improved health.

### **Board 318**

#### **Implementing Play Streets: A Multiple Case Study of Four Diverse Rural Communities**

Keshia M. Pollack Porter, Christina N. Bridges, Emily C. Wilkins, Tamela K. Cannady, Micah Holcombe, Rev. Bill Kearney, Kendra McLaughlin, and M. Renée Umstattd Meyer

Purpose: Rural communities lack important opportunities for safe physical activity (PA) for youth. Play Streets involve the temporary closure of streets to create safe space for active play to promote children's health and PA. Before this project, Play Streets had not been implemented in rural communities. This study examined how four community organizations in diverse rural areas each implemented four Play Streets during summer 2017. Methods: Multiple methods were used to study implementation of Play Streets according to the RE-AIM Framework (reach, effectiveness, adoption, implementation, and maintenance). Key informant de-brief interviews occurred with lead implementers after each of the first three Play Streets in each community. Qualitative post-Play Street data were collected during four focus groups with implementation team members ( $n=15$ ), five focus groups with children ( $n=25$ ) who attended Play Streets, and adults who attended Play Streets ( $n=7$ ). Study team members also took field notes. Descriptive coding was used for analysis. Results: Play Streets in rural areas often occur in publicly accessible places like parking lots or open fields. Findings suggest that Play Streets provide non-cost summer opportunities for youth PA. Implementers coupled Play Streets with other

community events such as summer meal programs to maximize resources and participation and minimize transportation barriers. Children said Play Streets were “fun” and “awesome,” with bouncy houses identified as the best part. Implementers believed Play Streets were successful and important for their communities, while noting challenges with advertisement, recruiting enough volunteers, and determining the best number of activities. Conclusions: Play Streets help address the need for safe active play opportunities in rural communities. Lessons learned across these four rural communities should be used to inform future implementation in rural communities interested in increasing opportunities for active play.

### **Board 319**

#### **How do Depressive Symptoms Relate with Physical Activity and Screen Time Behaviors from Summer to Fall in Mexican-Heritage Children?**

Christina N. Bridges, Kelly R. Ylitalo, Joseph R. Sharkey, and M. Renée Umstadd Meyer

Purpose: Globally, 20% of children and adolescents have a mental health disorder, with depression being the most frequently diagnosed. Depression in youth can result in impaired cognitive development, scholastic achievement, and social functioning, and is associated with low levels of physical activity (PA). However, few studies have examined the association between PA, screen time, and depression in race/ethnic minority youth. The purpose of this research is to determine how self-reported depressive symptoms impact self-reported PA and screen time in Mexican-heritage children. Methods: Participants completed interviewer-administered surveys in summer (time 1) and fall (time 2) of 2013. Mexican-Heritage families living in rural, low-income areas of South Texas (colonias) were included. Families were excluded if they were not first generation (i.e. parent and/or child born in Mexico). The 20-item Center for Epidemiological Studies Depression Scale for Children was used to measure depressive symptoms. Winsorizing was utilized to correct outliers by top-coding the top 10% with the 90th percentile. Multivariate general linear models were used to determine if the effect of depressive symptoms on PA and screen time changed over time. Results: Almost 40% of children ( $n=204$ ;  $\mu$  age=10.05 years, 51% females, 85% born in the United States, 72% identified as Mexican-American) reported depressive symptoms at time 1. Over time, self-reported depressive symptoms were significantly related with overall moderate-to-vigorous PA minutes ( $p=0.05$ ) and overall screen time sitting minutes ( $p=0.03$ ) after controlling for age and gender. The interaction effect of time is present for overall moderate-to-vigorous PA minutes and overall screen time sitting minutes. Conclusion: These results contribute valuable information to the limited body of literature regarding the relationships between depressive symptoms and children’s PA and screen time behaviors. Future research should include objective PA measures, broader types of sedentary behaviors, and other high-risk populations.

### **Board 320**

#### **Post-traumatic Stress is Linked with Emergency Room Visits among Adults Receiving Homelessness Services**

Ashley Taylor, Julie Neisler, Tayma Machkhas, Michael S. Businelle, Darla E. Kendzor, and Lorraine R. Reitzel



Background: The prevalence of post-traumatic stress disorder (PTSD), a disorder commonly associated with frequent hospitalizations and emergency room visits, is known to be higher amongst the estimated 610,000 homeless individuals on any given night in the United States. Associations between PTSD and emergency care utilization among this population, however, are unknown. Here, we examine whether post-traumatic stress predicts emergency room visits and overnight treatment among adults receiving homelessness services. Methods: Adults recruited from 6 homeless-serving agencies in Oklahoma (N=595; 63.1% men, Mage = 43.5+12; 68.1% uninsured; ~95% currently homeless) self-reported PTSD symptoms on the PC-PTSD Screen, a 4-item screening questionnaire assessing exposure to lifetime traumatic events yielding symptoms within the last month. Participants who answered “yes” to >3 items were coded PTSD positive. Participants also reported the number of times, over the past year, they had been treated in a hospital emergency room (0 vs >1 time) and the number of days they stayed overnight for treatment in a hospital (0 vs >1 day) for any presenting problem. Regression analyses were performed to examine whether PTSD history predicted ER visits and overnight treatment, respectively, controlling for age, sex, race, income, education, insurance status, and self-rated health. Results: Overall, 191 participants (32.1%) were PTSD positive, 57.8% were treated >1 times in a hospital ER and 27.1% stayed overnight for treatment >1 days over the past year. In adjusted analyses, a positive PTSD screen predicted receiving treatment in a hospital ER (AOR=1.61; CI95=1.09, 2.37,  $p < .05$ ), but not staying overnight for treatment at a hospital. Conclusions: Screening positive for PTSD predicted emergency room care utilization among this vulnerable group of predominantly homeless adults. Results suggest that individuals receiving services at shelters could benefit from proactive PTSD screenings and treatment resources provided within primary care settings, which may help to reduce emergency room visits.

### **Board 321**

#### **The Moderating Effect of Race on the Relation between Physical Activity and Sleep Duration in an Adult Homeless Sample**

Ashley Taylor, Rosenda Murillo, Tzu-An Chen, Michael S. Businelle, Darla E. Kendzor, Lorna H. McNeill, and Lorraine R. Reitzel

Background: For adults who are homeless, obtaining restorative/optimal sleep is challenging; effective, low-cost interventions are needed. Meeting/exceeding national guideline recommendations for recreational physical activity (RPA) has been linked with positive sleep outcomes among domiciled adults, but a recent study showed that the beneficial association between RPA and sleep duration was limited to non-Hispanic white adults. How these findings translate to adults who are homeless is unknown, but may have intervention applications for this vulnerable group. Methods: Homeless adult participants recruited from Texas and Oklahoma (N=747; 66.1% men, Mage = 43.7+12) self-reported sleep duration (average hours/day: <6 hours=short>sleep; 7-9 hours=optimal sleep; >10 hours=long sleep) using items from the Behavioral Risk Factor Surveillance System (BRFSS). Self-reported RPA was assessed using the BRFSS Physical Activity Questionnaire (met/exceeded or did not meet guideline-based PA recommendations). Multinomial logistic regression analyses were performed to examine the moderating effect of race on associations between RPA and sleep duration, controlling for age, sex, education, body mass, months homeless, at-risk drinking, self-rated health, mental illness,

smoking status, and recruitment site. Results: Overall, 447 participants (59%) met/exceeded PA guidelines; 40% of participants reported >300 minutes of RPA/week. Participants reported 6.7+2.2 hours of sleep/day. Meeting/exceeding PA guidelines was associated with lower likelihood of being a long sleeper (AOR=0.38; 95% CI: 0.21, 0.68). Race moderated this association ( $p=0.038$ ), such that non-Hispanic white participants who met/exceeded PA guidelines were less likely to be an optimal (vs. short) sleeper (AOR=0.59; 95% CI: 0.36, 0.97), but the association was non-significant for non-majority race participants. Conclusions: Unlike among domiciled adults, non-Hispanic White race conferred no advantages in the RPA and sleep duration association among this low-income population of homeless adults. Overall, results suggest a limited role for RPA to affect non-optimal sleep among this population, except for possibly addressing the problem of long sleep.

### **Board 322**

#### **Examining the Association Between Physical Symptoms and Exercise During Pregnancy**

Ashley Taylor, Pamela D. Berens, Anitra Beasley, and Tracey Ledoux

Background: According to the American College of Obstetricians and Gynecologists, it is recommended that pregnant women get at least 150 minutes of exercise per week. Benefits of exercise during pregnancy include healthy weight gain promotion and decreased risk of gestational diabetes, preeclampsia, and cesarean delivery. Approximately 75% of women who are pregnant do not get the recommended amount of weekly exercise, despite its added benefits and many women experience symptoms of nausea, vomiting, heartburn, and/or constipation during pregnancy. Here we examine the association between these physical symptoms and exercise during pregnancy, as these symptoms may interfere with the ability to exercise. Methods: Pregnant women, in their 3rd trimester ( $N=292$ , Mage = 29.2+5.7) completed a one-time survey administered in prenatal clinic waiting rooms. Using items from the Pregnancy Risk Assessment Monitoring System (PRAMS), participants reported whether they consistently exercised 3 or more days per week during the 12 months prior to becoming pregnant and whether they have exercised 3 or more days per week since becoming pregnant (characterized yes or no). Additionally, participants were asked to report physical symptoms of nausea, vomiting, heartburn, constipation, or none experienced during pregnancy (categorized yes or no). Logistic regression analyses were performed to examine the associations between exercise during pregnancy and physical symptoms, controlling for pre-pregnancy exercise. Results: Overall, 43% of our sample reported pre-pregnancy exercise and 29% reported exercising during pregnancy. Findings revealed a significant association between experiencing heartburn during pregnancy and exercising during pregnancy when controlling for pre-pregnancy exercise. The odds of exercising during pregnancy was 0.53 lower (95% CI [0.30,0.92],  $p<.05$ ) if the participant experienced heartburn. Conclusions: Heartburn was the only physical symptom found to be associated with lower likelihood of exercising during pregnancy. Future research aimed at mitigating heartburn may help to increase the likelihood of exercising during pregnancy.

### **Board 323**

#### **Habit Formation via the 2 Minute Revolution mHealth App Addresses Multiple Health Behaviors**

Katie M. Heinrich, Lucas J. Dudgeon, Cassandra Beattie, and Sarah J. Cosgrove

Purpose: Combined health behavior interventions have greater potential for change than singular strategies. Habit formation is a promising behavior change mechanism that works by providing context-dependent repetition, facilitating behaviors becoming “second nature.” Using habit theory, this pilot study examined feasibility and preliminary efficacy of a mHealth app for insufficiently active adults. Methods: Participants (N=22) were recruited and randomized to either information-only control (CON; n=10, age=34.3±14.6-years, 63.6% female) or intervention (INT; n=12, age=37.6±14.8-years, 91.7% female) groups for four-weeks. Baseline and posttest measures included health (resting heart rate, blood pressure), self-reported physical activity, and anthropometrics. The CON group received online modules with information on current dietary and physical activity guidelines. The INT group received in-person training on the 2 Minute Revolution mHealth habit-formation app. The app suggested short (~2 min) workouts (alternating muscle groups each day), prompted recording of measured waist circumference, and encouraged tracking treats (i.e., high sugar/starch foods) each day. Participants aimed to restrict their treats (e.g., candy) to three/day (21/week). Both within-group (paired samples) and between-group (independent samples) t-tests were conducted using SPSS 25. Results: Feasibility was high; most INT participants regularly utilized the app and reported liking the accountability, simplicity of use, provided exercises, and treats tracking. Neither group had significant changes in health, aerobic activity, weight, or body composition. The INT group significantly increased days of strength training at posttest ( $m\Delta = 1.5 \pm 2.1$  days;  $t = 2.42$ ,  $p = 0.036$ ), with no significant between-group differences,  $t(17) = 1.88$ ,  $p = 0.078$ . The INT group significantly decreased their waist circumference ( $m\Delta = -3.2 \pm 4.3$  cm;  $t = 2.57$ ,  $p = 0.026$ ), with no significant between-group differences,  $t(20) = 1.98$ ,  $p = 0.061$ . INT participants reported an average of  $3.9 \pm 2.3$  treats per day. Conclusions: Use of a habit-forming mHealth app showed preliminary feasibility and efficacy for increasing physical activity and improving body composition among participants. Future research should examine longer-term habit development in a fully-powered study.

### **Board 324**

#### **Interactions between HIV/AIDS and the Sociocultural Environment of Rural Communities: Toward a Syndemic Framework**

Randolph D. Hubach, Zachary Giano, Hunter J. Meyers, Kyle R. DeBoy, Joseph M. Currin, Denna L. Wheeler, and Julie M. Croff

Background: The nature of the HIV epidemic in the United States has changed with a shift toward rural areas; where sexual minority populations are dispersed and health care resources are limited. Concurrent socioeconomic factors, geography, and cultural context are coalescing for sexual minorities living in rural communities resulting in individuals at risk for HIV infection. Methods: We recruited 40 gay and bisexual men, ages 22 to 66, residing in rural Oklahoma for in-depth qualitative sexual health interviews. Through this inductive approach, we explored the

syndemic relationship between HIV risk (e.g., substance use, inconsistent condom utilization) and the sociocultural environment (e.g., policy, religion, values, attitudes). Results: We noted multiple possible synergistic relationships that informed our syndemic framework. This framework hinges on the vulnerability of rural sexual minority men as the linchpin between the HIV pandemic and sociocultural determinants. Participants discussed how these factors shaped their attitudes towards HIV/AIDS, condom utilization, status disclosure with sexual partners, and their uptake of HIV/STI screening. Participants described a stigmatizing social environment and less access to quality, LGBT-sensitive medical care within rural communities, and perceived these as substantial barriers to enhancing their sexual health. Finally, structural issues, including lack of comprehensive sexual health education, institutional practices, and state policies within Oklahoma were noted. Conclusions: Behaviors which place individuals at risk for HIV acquisition within rural communities are influenced by a number of social and cultural factors. Addressing determinants situated across ecological levels in an effort to improve sexual health remains necessary. The combination of both individual-level and environmental/policy – level interventions provide the greatest opportunity to achieve substantial changes in health behaviors and health outcomes. Without this, social determinants may continue to negatively influence health outcomes among this population which remains underserved and under resourced.

### **Board 325**

#### **Physical Activity, Snacks, and Beverages in the Youth Sports Environment**

Natalie R. Bennion, Lori Andersen Spruance, and Jason E. Maddock

Purpose. Snacks and beverages are commonly offered during and immediately following youth recreational sports. The purpose of the study was to examine the association between energy expenditure and nutritional consumption from snacks and beverages during youth recreational sports. Methods. This cross-sectional observational study observed 3rd and 4th grade students in recreational sports. Both males and females were observed in soccer, baseball, or softball. Physical activity was assessed using the System for Observing Fitness Instruction Time (SOFIT). Nutritional information was collected from snacks and beverages offered during or immediately after games including total calories, carbohydrates, sugar, sodium, and fat. Snacks/beverages offered were used as a proxy for individual nutritional intake. Results. One-hundred nineteen games were observed. Over half (52.1%) of the athletes observed were moderately to vigorously physically active (MVPA) greater than 50% of the time during each game. The number of minutes spent in MVPA was 27.24 minutes ( $\pm 10.74$ ) with games lasting 61.09 minutes ( $\pm 15.47$ ). The average energy expenditure of all athletes was 177.6 ( $\pm 34.5$ ) calories per game. There were no significance differences between the number of calories served per game and the type of sport. Of the 119 games observed, 21.0% of those games did not have any food offered. When examining the average caloric content when snacks and beverages were offered, participants consumed an average of 217.48 ( $\pm 114.0$ ) calories during and/or after each game. When examining sugar intake for games that offered snacks and beverages, average intake was 26.4 ( $\pm 15.26$ ) grams, exceeding the maximum recommended daily sugar intake. Conclusions. When food was served, youth recreational sport participants consumed more calories during and after games than they expended during participation. Furthermore, only half of the athletes observed achieved recommended daily levels of physical

activity. This suggests there may be opportunities for improving the nutrition environment for youth recreational athletes.

### **Board 326**

#### **The Impact of Stress, Psychosocial Resources, and Proactive Behaviors on Well-being among People Living with HIV**

Annie Nguyen, Elizabeth Pasipanodya, Anna Rubtsova, Dilip Jeste, Raeanne Moore, and David Moore

Purpose: Enhancing quality-of-life and well-being are important targets for individuals living with HIV. The Proactive Model of Successful Aging posits that stressors threaten well-being, while psychosocial resources indirectly enhance well-being through proactive behaviors. We examined the model among HIV+ adults by investigating the: 1) direct relationship between stressors (perceived stress, physical impairment) and well-being (life satisfaction, self-rated successful aging (SRSA), depression) (Model 1); 2) direct influence of resources (mastery, resilience, social support) on well-being, accounting for stressors (Model 2); and 3) indirect relationship between stressors/resources and well-being through proactive behaviors (engagement in leisure activities) (Model 3). Methods: Secondary, cross-sectional data were obtained from HIV+ participants enrolled in the San Diego Multi-Dimensional Successful Aging cohort study (N=128). Within the context of path analyses, multivariate regressions, controlling for relevant covariates, were performed. Fit of the full conceptual model was evaluated using standard indices of relative model fit. Results: Participants were on average 50.3 years old; 53.9% white; 83.9% male. Model 1: greater stress was associated with poorer life satisfaction ( $B=-0.49$ ,  $p<.001$ ), lower SRSA ( $B=-0.14$ ,  $p<.001$ ), and greater depression ( $B=0.55$ ,  $p<.001$ ). Physical impairment was associated with lower SRSA ( $B=-0.93$ ,  $p=.017$ ) and greater depression ( $B=4.40$ ,  $p=.001$ ). Model 2: mastery was positively associated with life satisfaction ( $B=0.44$ ,  $p=.038$ ). Greater stress and impairment continued to be associated with lower SRSA and greater depression. Model 3: Fit indices of the full model suggested adequate relative fit; greater social support was associated with engagement in leisure activities ( $B=1.21$ ,  $p<.001$ ), which was associated with higher SRSA ( $B=0.09$ ,  $p=.006$ ). In bootstrapped analyses of indirect effects, social support was indirectly associated with SRSA through leisure activities ( $B=0.10$ ,  $p=.020$ ). Conclusions: Findings suggest that well-being is threatened by stressors but improved by mastery. Social support may impact well-being through greater engagement in leisure activities, lending support to a model of proactive successful aging.

### **Board 327**

#### **Evaluating the Relationship of Occupational Physical Activity and Multiple Cardiovascular Disease Risk Factors**

Layton Reesor, Rosenda Murillo, and Daphne C. Hernandez

Background: The relationship of occupational physical activity (OPA) and various cardiovascular health and physical health outcomes is not well understood. While some studies have found OPA to be protective against cardiovascular disease, others have found OPA to be a risk factor for cardiovascular disease. Purpose: The purpose of this study is to evaluate the role of OPA on



multiple risk factors of cardiovascular disease (elevated triglycerides, depressed HDLs, elevated blood pressure, overweight/obesity, elevated waist circumference, diabetic level HbA1c) in a nationally representative sample. Methods: Using the National Health and Nutrition Examination Survey (2007-2014), non-aging adults (ages 20-59) with complete data on target variables were included (n=8,064). Logistic regression analyses were conducted to evaluate if moderate to vigorous physical activity accumulated via OPA predicted health outcomes including: elevated triglycerides, depressed HDLs, elevated blood pressure, overweight/obesity, elevated waist circumference, diabetic level HbA1c. Models controlled for leisure time physical activity, transportation physical activity, sedentary time, healthy eating index, sex, weight status (when weight was not the outcome of interest), age, nativity, relationship status, education, employment, income, and health insurance. Results: OPA was associated with decreased odds of having HbA1c at a diabetic level (OR: 0.99; 95% CI: 0.99, 1.00;  $p < .05$ ). For each additional hour of moderate to vigorous activity that a person accumulated at work, their risk of having diabetic level HbA1c decreased by 1%. OPA was not associated with elevated triglycerides, depressed HDLs, elevated blood pressure, overweight/obesity, nor elevated waist circumference ( $p > .05$ ). Conclusions: In this nationally representative cross sectional study we found that OPA was protective against diabetic level HbA1c and not associated with other health indicators. None of our analyses indicated that OPA was a risk factor. The findings from this study indicate that it is safe and potentially beneficial for individuals to engage in OPA.

### **Board 329**

#### **African-American Women Living with HIV in the South: Emotional Resilience and HIV Care**

Alyssa Robillard, Kierra Jones, Akeen Hamilton, Kellee White, Mindi Spencer, and Alyssa Robillard

Purpose: Resilience is critical to adaptively cope with a diagnosis of HIV and the added stressors of living with the disease, including effective self-management behavior. Few studies have examined the process and practice of resilience within a gendered and cultural context. This study explored the experiences of resilience in African American women living with HIV (AAWLWH) in the South to better understand resilience related to HIV care. Methods: A qualitative study using semi-structured individual interviews was conducted with AAWLWH over the age of 18 (N=25) who were recruited from three local HIV/AIDS service organizations. The interview guide used a chronological and ecological storytelling approach. Narrative analysis of transcribed interviews was conducted by members of the research team using a sensitizing framework of resilience and HIV. Initial themes incorporated concepts from the motivation, management, and mastery model of HIV care (De Santis, et al., 2013). Additional themes were identified during early analysis. Regular in-depth discussions of successive transcripts found strong agreement in analytical observations. Results: Findings aligned with the De Santis model but also uncovered factors with respect to gender, culture, and ecological supports for resilience. Caring for children, role models of “strong black women,” and social support (from family, friends, and medical/social service providers) were identified as factors that fostered resilience. Importantly, narratives revealed gaps in emotional resilience that appeared to be necessary for engaging in care, even for women who ascribed to the “Strong Black Woman/Superwoman” role (Woods-Giscombé, 2010). Resilience was described as both a

regular active practice, and a long-term process. Conclusions: Gendered and cultural processes and strategies advance our understanding of how AAWLWH in the South cope and manage their disease. Responsive interventions that build emotional resilience, especially for newly diagnosed patients, may have important implications for disease management, enhanced health outcomes, and overall quality of life.

### **Board 330**

#### **Examining the Unique Substance Abuse and HIV Risk Factors of African American College Students using a Community Needs Assessment**

Nicole R. Kinzeler, Jon-Michael Huber, Ashley Browning, Angelic Leonard, and Jo Ann Ford

Background: Substance abuse, HIV, and STDs are significant public health challenges for African American college students. The Peer Movement Project (PMP) was recently funded by SAMHSA to provide substance abuse and HIV prevention to African American college students ages 18-24. To inform intervention activities, a community needs assessment was conducted prior to service implementation to establish a benchmark of substance use, HIV, and other STDs among the target population. Methods: In addition to obtaining data from secondary sources, PMP conducted an anonymous needs assessment survey with 325 African American college students at two universities in Ohio. The survey gathered information pertaining to HIV and STD testing and diagnoses, substance use and sexual behaviors, risk perceptions, and intent to engage in safer sex practices. Results: Of the 325 students surveyed, 56.0% were female, 10.8% identified as gay, lesbian or bisexual, 51.7% were freshman, and 78.5% lived on campus. Students reported high rates of substance use, with 44.0% of students using marijuana during the past 90 days. On average, students reporting using marijuana for 36.3 out of the past 90 days, with underclassman using marijuana as frequently as upperclassman. Additionally, in the past 90 days, a majority of students (69.2%) reported being sexually active, students engaged in sex with multiple partners (2.8 partners), and only 28.9% reported using condoms every time they had sex. Of the students surveyed, 9.5% had been diagnosed with an STD, and a majority of students had not been tested for HIV (51.1%). Conclusions: Based on the unique needs of African American college students identified by the needs assessment, PMP developed a multi-level approach to prevention including culturally appropriate HIV and substance abuse education, evidence-based environmental strategies (CDC High Impact Prevention, PROMISE), and access to HIV/hepatitis C testing in traditional and non-traditional campus locations.

### **Board 331**

#### **Historical Loss, Resilience, and Coping Strategies are Associated with Loss-Related Symptoms in the Anishinaabe Population**

Mary A. Steinhardt, Erum Z. Whyne, Jihun Woo, H. Matthew Lehrer, and Charlee N. Brissette

Purpose: Native populations previously experiencing loss of land, language, and culture have higher rates of mental health symptoms, disease, and mortality compared to the general population. It is important to examine characteristics enabling Native populations to positively cope with loss and create a strong sense of collective well-being. This study examined

associations of historical loss, resilience, and coping strategies with loss-related symptoms among an Anishinaabe tribe. Methods: Tribal community leaders were each mailed a letter explaining the purpose of the study and 20 copies of a survey, which included measures of historical loss (e.g., land, language, traditional ways), resilience, coping strategies, and loss-related symptoms (e.g., grief, anxiety, anger). Tribal leaders obtained participants (N=81) using snowball sampling. Hierarchical multiple regression examined the associations of resilience and coping strategies with loss-related symptoms, after controlling for demographics (sex, age, employment status) and historical loss. Results: Anishinaabe tribal members who were older ( $\beta = -.29, p < .05$ ) and employed ( $\beta = -.34, p < .01$ ) reported fewer loss-related symptoms, accounting for 16% of the variance ( $F=4.34, p < .05$ ) in Model 1. The addition of historical loss ( $\beta = .52, p < .001$ ) in Model 2 was associated with loss-related symptoms, accounting for an additional 26% of variance ( $F=29.43, p < .001$ ). Model 3 accounted for an additional 14% ( $F=6.91, p < .001$ ), explaining a total of 56% of the variance in loss-related symptoms. Participants reporting higher levels of resilience ( $\beta = -.23, p < .05$ ) reported fewer loss-related symptoms. Greater use of maladaptive coping strategies was positively associated with loss-related symptoms ( $\beta = .26, p < .05$ ), whereas greater use of adaptive coping strategies ( $\beta = .03, p > .05$ ) was not. Conclusions: The study supports the effects of historical loss on the well-being of the Anishinaabe population. Resilience is beneficial in coping with historical loss among Native people, while maladaptive coping strategies and unemployment may exacerbate symptoms associated with historical loss.

### **Board 332**

#### **Dating Violence Prevention Curriculum Effects on High School Youth**

Jordan Nelon, Christi H. Esquivel, Caitlin B. Holden, Skye McDonald, Brittany L. Rosen, and Kelly L. Wilson

Purpose: High schools serve as an ideal setting for prevention services targeted towards adolescents. While evidence supports the need for education about healthy relationships and dating violence prevention (DVP) as most high school-aged youth have initiated dating relationships, many schools face challenges adopting and implementing an evidence-based dating violence prevention curriculum. Trained teachers implemented the Me & You curriculum with school-aged youth among high schools in a binational, tri-state region. The purpose of this study is to assess the efficacy of the Me & You curriculum taught to a high school sample. Methods: The evaluation plan included a pre- and post-test survey, implemented prior to and following curriculum implementation. Survey variables were selected to deduce the curriculum's impact on youth. Descriptive statistics were calculated for the curriculum's theoretical constructs and compiled scales. A paired-samples t-test was conducted on 531 student responses to determine significant differences. Results: Data showed statistically significant differences for two scales before and after implementation: "Relationships with Others" ( $M=3.90, SD=4.67$ ) and after ( $M=2.59, SD=2.99$ );  $t(531)=5.377, p < 0.001$ ; as well as the "Dating Wrong/Right" scale before implementation ( $M=4.00, SD=1.98$ ) and after ( $M=2.15, SD=2.00$ );  $t(531)=15.098, p < 0.001$ . No statistically significant differences were found for the "Anger Equals Love", "What Someone Sometimes Deserves", and "People to Turn to" scales. Conclusions: These results suggest implementing DVP curricula can positively affect high school students' perceptions of healthy relationships with others and behaviors that are healthy when interacting with a dating partner. Evidence from this evaluation, along with the tailored approach to meet the school

districts' and teachers' needs, suggests a valid justification for implementing this program with youth in this community. This program offers the opportunity for schools to offer DVP programs while recognizing it represents only one approach and setting in the community to increase awareness and education to promote healthy relationships and behaviors.

### **Board 333**

#### **Risk Factors for Sexual Violence among College Students in Dating Relationships: An Ecological Approach**

Sarah B. Maness, Shristi Bhochohibhoya, Marshall Cheney, and Daniel Larson

Background: Involvement in dating relationships and exploring the sexual aspects of such relationships is an important developmental sign of adolescence. Conflicts while forming and maintaining dating relationships in college can lead to sexual violence among college students. Sexual violence perpetrated by the victim's dating partner is a pervasive problem on college campuses in the United States. Sexual violence victimization has been associated with serious health problems including substance abuse and chronic mental illness. Since sexual violence is a complex social concern, this study explored risk factors for sexual violence victimization among college students using the socio-ecological model. Methods: This study used the Sexual Experience Survey to assess sexual violence victimization among college students in dating relationships. Validated and reliable tools used in previous studies were used to examine 18 risk factors of unwanted sexual contacts, attempted rape and completed rape related to four levels of ecological model: individual, relationship, community, and societal level, among 361 undergraduates students. Participants were recruited to take an online survey via mass emails. Negative binomial regression was performed to identify marginal effects of the risk factors. Results: Approximately 35% of the sample reported experiencing sexual violence in dating relationships while in college. Being female and having low sexual assertiveness related to the individual level, and frequent hook-ups related to the relationship level increased the log counts of all three types of sexual violence. Community-level constructs had no significant association with sexual violence while participants' perceived discrimination -- a societal level construct -- was significantly associated with decreasing the log counts of completed rape. Conclusions: The findings highlight the importance of ecological models in understanding the variables related to sexual violence victimization among college students. Given the prevalence of sexual violence on college campuses, these risk factors warrant consideration while formulating intervention and prevention programs.

### **Board 334**

#### **Bullying and Physical Violence in Brazilian Adolescents: Examining Risk and Protective Factors Using the Global School-based Student Health Survey (GSHS)**

Gabriel A. Benavidez, Kelly R. Ylitalo, and Eva I. Doyle

Purpose: Multiple studies in high-income countries highlight the negative impact that youth violence and bullying pose on mental, social, and physical health. However, there is a lack of research examining this topic in low-and-middle-income countries. The purpose of this study was to examine risk and protective factors associated with bullying and physical violence (PV)

victimization in middle-school aged students in Brazil. Methods: Adolescents (n=677) in 5th-9th grade from two low-income middle-schools in Vitoria and Anchieta, Espirito Santo, Brazil, were administered the Global School-based Student Health Survey (GSHS), developed by the World Health Organization to measure the leading causes of morbidity and mortality among children. Two questions were used to measure self-reported PV and bullying victimization. Both questions were dichotomized to create yes (1≥attacks in past 12 months; any form of bullying in past 30 days) and no (0 attacks; no form of bullying) categories. Chunk-wise logistic regression was used to assess the association between (1) protective factors (parental monitoring, relationships with friends) and PV and bullying, (2) risk factors (sexual activity, drug/alcohol use, mental distress suicidal ideation, missing school) and PV and bullying, and (3) protective and risk factors combined. Results: Approximately 18% of participants reported PV victimization within the past 12 months and approximately 20% reported bullying victimization within the past 30 days. After adjusting for risk and protective factors, PV was significantly associated with bullying (CI=2.09,7.63), alcohol consumption (CI=1.05,4.27), tobacco usage (CI=1.09, 4.94), and self-reported insomnia due to worry (CI=1.04,9.34). Bullying victimization was significantly associated with report of PV (CI=2.14,7.60), suicidal thoughts (CI=1.05,4.60), and loneliness (CI=1.10,4.62). Conclusions: Although PV and bullying were strongly associated with one another, PV and bullying victimization have distinct risk and protective factors. These results warrant further longitudinal research to better understand the temporal sequence of risk and protective factors in adolescent violence.

### **Board 335**

#### **Adverse Childhood Experiences and Adolescent Mental Disorders: Protective Mechanisms of Family Functioning, Social Capital, and Civic Engagement**

Wenhua Lu

Background: Emerging research has found cumulative adverse childhood experiences (ACEs) to be associated with increased risk for mental disorders in adolescence. However, few studies have examined the protective mechanisms between ACEs and adolescent mental disorders.

Purpose: This study aimed to investigate the protective effect of family functioning, social capital, and civic engagement on mental health in adolescents with childhood adversity.

Methods: Parents of adolescents aged 12 to 17 years (N=20,708) who participated in the 2015-2016 National Survey of Children's Health were surveyed about their children's ACEs (e.g., parental divorce, being a victim of violence, living with anyone who had substance abuse) and current mental health disorders, including depression, anxiety, and behavioral problems.

Parents were further asked about their family functioning, including family communication, parental coping, family resilience, and parental aggravation, and social capital, including neighborhood cohesion and community safety. Adolescents' civic engagement was measured by parental report on their involvement in community service and out-of-school activities.

Structural equation modeling was conducted to test the hypothesized pathways using Mplus 8.0. Results: Based on parents' report, about 55% of adolescents have experienced at least one kind of ACEs. The final structural model proved excellent fit to the data (CFI = 0.96, RMSEA = 0.009, WRMR = 1.12). Significantly positive relationship was found between adolescents' ACEs and current mental disorders ( $\beta = 0.13$ ,  $p < 0.05$ ), and the effect was partially mediated by family functioning ( $\beta = 0.10$ ,  $p < 0.001$ ) and civic engagement ( $\beta = 0.01$ ,  $p < 0.05$ ),



but not by social capital ( $\beta = 0.01$ ,  $p = 0.12$ ). Low household income ( $\beta = -0.24$ ,  $p < 0.001$ ) and parent education ( $\beta = -0.05$ ,  $p < 0.05$ ) significantly increased adolescents' likelihood of having ACEs. Conclusion: Early assessment and interventions for children with ACEs are necessary to prevent the development of mental disorders in adolescence, especially for adolescents of low socioeconomic status. Safe, nurturing, and supportive home and social environments can help mitigate the detrimental impact of childhood adversity.

### **Board 336**

#### **Examining Interpersonal Factors Associated with Resilience in Hispanic Young Adults**

Lauren Bartoszek, Wura Jacobs, and Jennifer Unger

Background: Resilience has been studied and reviewed in the literature across a multitude of settings. Although a wide variety of factors commonly associated with resilience can be found within the literature, there are gaps in the research about specific factors influencing resilience, particularly among Hispanic male and female young adults. This study aimed to analyze the relationship between social/psychosocial factors and resilience in Hispanic young adults. Methods: Data for the study came from Project RED which included 1,076 Hispanic adults in the sixth wave of surveying. The relationship between various determinants and resilience, scored from the Brief Resilience Scale, were analyzed using a generalized linear model (GLM). SPSS 25 was used for all analyses. Results: The overall model was significant with respect to resilience. Factors associated with resilience were not binge drinking ( $B = -.054$ ,  $p = .044$ ), parental communication ( $B = -.014$ ,  $p = .001$ ), social connectedness ( $B = .010$ ,  $p = .055$ ), perceived discrimination ( $B = .007$ ,  $p = .003$ ), familism ( $B = .016$ ,  $p = .014$ ), and American Way of Life ( $B = .06$ ,  $p = .048$ ). In particular, when analyzed across sex, resilience was only significantly associated with perceived discrimination ( $B = 0.007$ ,  $p = .032$ ) for female participants, whereas for male participants, resilience was significantly associated with parental communication ( $B = .023$ ,  $p = .002$ ), perceived discrimination ( $B = .008$ ,  $p = .04$ ), familism ( $B = 0.28$ ,  $p = .008$ ), and the American Way of Life ( $B = -.15$ ,  $p = .033$ ). Conclusions: These results draw interesting questions about the influences on resilience for male and female Hispanic young adults. This study's findings suggest that while perceptions of discrimination influence resilience among both sexes, particular attention should be paid to how interpersonal factors including communication, connectedness, strength of family, and acculturation impact resilience in Hispanic males.

### **Board 337**

#### **The Effects of Resilience in Mediating Adverse Childhood Experiences to Pain Medication Misuse among U.S. Adults**

Zhi Wang and Hsien-Chang Lin

Purpose: The opioid epidemic has been a public health concern in the U.S. Pain medication misuse is a leading contributor to this epidemic. Previous studies found that adverse childhood experience (ACE) is a significant predictor of pain medication misuse while 46% of children in the U.S. experienced at least one ACE. Previous studies have shown that resilience is a protective factor to prevent people from health-risk behaviors, including pain medication misuse. However, few studies have investigated the effects of resilience on mediating the associations

between ACEs and pain medication misuse, given that identifying possible pathways of ACEs to pain medication misuse through resilience is important for future misuse prevention. To evaluate the possible pathways, this study examined how resilience may mediate the aforementioned associations. Methods: Adult respondents (N=33,534) from the National Epidemiologic Survey on Alcohol and Related Conditions-III (2012-2013) were included in this study. Confirmatory factor analysis was conducted to measure resilience as a latent variable, using the Connor-Davidson Resilience Scale (5-items version). Generalized structural equation modeling was utilized to conduct the mediation analysis that estimated the effects of resilience on pain medication misuse associated with ACEs, controlling for sociodemographic characteristics and family illicit drug use history. Results: Resilience was significantly inferred by five dimensions including competency, spirituality, control, tolerance of negative effects, and recover capability (all  $ps < 0.001$ ). Respondents with higher ACEs score were more likely to misuse pain medications (OR=1.18;  $p < 0.001$ ), whereas significant proportions (58%) of such associations were mediated by resilience (natural indirect effect:  $\beta = -0.10$ ;  $p < 0.001$ ). Conclusions: Findings of this study suggest that resilience significantly mediates the relationship between ACEs and pain medication misuse. To prevent individuals with ACEs from misusing pain medications, addressing the impact of ACEs should include behavioral and educational interventions to improve their resilience through the five resilience dimensions identified by this study.

### **Board 338**

#### **Acculturation and Associated Substance Use/Misuse Behaviors Mediated by Psychiatric Disorders among Hispanic and Asian Immigrants in the U.S.**

Su-Wei Wong, Yang Wang, and Hsien-Chang Lin

Purpose: Substance-related issues among immigrants are prominent as substances are often means to relieve stress, isolation, and uncertainty. Better acculturation could help immigrants cope with challenges but also could lead to substance use/misuse adversely. In order to probe the pathways from acculturation to substance use/misuse, this study investigated the associations between acculturation and use/misuse of five substances, and how psychiatric disorders mediate these associations among first- and second-generation Hispanic and Asian immigrants. Method: Hispanic and Asian immigrants aged 18 and older ( $n = 5,386$  and  $1,346$ , respectively) were extracted from the 2012-2013 National Epidemiological Survey on Alcohol and Related Conditions Wave 3. Acculturation was measured using the adopted Brief Acculturation Rating Scale-II with incorporations of race-ethnic social preference and immigration information. Mediation analyses using natural effect models with bootstrap variance estimation were conducted to examine the associations between acculturation and substance use/misuse mediated by number of lifetime psychiatric disorders, controlling for sociodemographics. Results: Better acculturation was associated with higher odds of cigarette, e-cigarette, alcohol, marijuana, and opioid use/misuse among Hispanic immigrants (ORs ranged 1.15-1.47; all  $ps < 0.001$ ), and was associated with higher odds of alcohol, e-cigarette, and marijuana use among Asian immigrants (ORs ranged 1.12-1.28, all  $ps < 0.01$ ). Mediation analyses revealed that the aforementioned associations were partially mediated by psychiatric disorders among Hispanic immigrants (indirect ORs ranged 1.14-1.43, all  $ps < 0.001$ ); however, the mediating effects were not found among Asian immigrants. Conclusions: Although better acculturation could help immigrants cope with stress and enhance health literacy, it is also

associated with higher likelihood of substance use/misuse among Hispanic and Asian immigrants. Nevertheless, psychiatric disorders severed as a mediator via which acculturation was associated with substance use/misuse only among Hispanic but not Asian immigrants. Ethnicity-specific educational and behavioral interventions that may help highly acculturated Hispanic immigrants manage psychiatric problems are needed in order to prevent substance use/misuse.

### **Board 339**

#### **Disparities in Breast and Cervical Cancer Screening and HPV Awareness between Black Immigrant and African American Women**

Ann Amuta and Nicole Khan

Background: National policies and plans for the prevention of cervical and breast cancer (CBC) are established in the U.S., however, still lacking in several home countries of black immigrant (BI) women. BI's make up a big share of the overall black population – 8.7% of blacks were foreign-born in 2013 and projected to almost double by 2060. Blackness in the US. is synonymous with being African American due to the misconception that being black in the US is a homogenous and native-born black (a distinct ethnic group) are representative of the entire black race. Several sociological studies have reported profound cultural and demographic differences between both groups. Clearly, there is need to consider the diversity existing among black women in the US when investigating the nature of CBC screening and HPV knowledge and perceptions. The prevailing hypothesis is - Due to the ethnic, cultural, linguistic and demographic differences that exist among blacks in the U.S., there will be a difference in predictors of breast and cervical cancer screening status and HPV awareness among BI and AA women. Methods: used data from the Health Information National Survey (2011 – 2017). Two groups were created: those who identified as black/African American (AA) and those who identified as black/African American but born outside the U.S. (BI). Between group differences were assessed with Mann-Whitney U and chi-square tests. Results: AA women had higher fatalistic cancer beliefs vs. BI ( $z=-4.22$ ). AA were significantly more likely to have had a pap smear ( $z=-4.75$ ), have higher BMI ( $z=-7.46$ ) and communicate better with health care providers ( $z=-2.86$ ). There were no statistically significant differences between AA and BI women in cancer risk perception, and HPV knowledge or vaccination. Discussion: Although differences are subtle, culturally driven cancer prevention efforts may promote understanding of the nuanced risk factors within black heterogeneous populations.

### **Board 340**

#### **Deportation Fears, Acculturative Stress, and Anthropometric Measurements among Immigrant Latino Adults**

Valentina Maza, Nadia Garcia, Jessica Della Costa, Rosenda Murillo, Hua Zhao, Ezemenari Obasi, Lorna McNeill, and Daphne C. Hernandez

Background: The current political climate has increased deportation fears and pressured individuals to feel the need to acculturate. While research has suggested that deportation fears and acculturative stress may negatively impact mental health, the association between

deportation fears, acculturative stress, and physical health is less clear. Purpose: Conduct a pilot study to evaluate the association between acculturative stress, deportation fear, and anthropometric measurements: body mass index (BMI) and percent body fat (%BF). Methods: Self-identifying Latino immigrants between the ages of 21-35 participated in a pilot study at a community center in the south (n=40). Acculturative stress was assessed using the 7-items from the pressure to acculturate subscale of the Multidimensional Acculturative Stress Inventory. Items were summed with higher scores indicating feeling extreme stress to acculturate. 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). Height and weight were directly assessed and used to calculate continuous BMI based on CDC standards. %BF was measured through bioelectrical impedance analysis and used as a continuous variable. Linear regression models were conducted to predict higher BMI and %BF as a function of higher acculturative stress and deportation fears separately, controlling for demographics. Results: Adults were approximately 30 years of age, from Mexico (68%), and living in the US for about 12 years. Higher %BF was predicted by higher acculturative stress ( $\beta=0.46$ ,  $p<.05$ ) and higher deportation fears ( $\beta=2.17$ ,  $p<.05$ ). Acculturative stress, nor deportation fears, were predictive of higher BMI. Conclusions: While the sample size is small and the design is cross-sectional, the findings suggest that heighten deportation fears and acculturative stress could potentially negatively impact physical health.

### **Board 341**

#### **Native Indian's Traditional Healing Practice and its Effect on Spirituality of a Sample Homeless Veterans**

Kele Ding, Yulin Hsu, and Matthew Slater

Veterans who are homeless often find a local transitional housing program for temporary living and service help. While "Housing First" is a national policy that aims to pull them out of homelessness, detrimental mental and psychological health status could remain for a long period of time. The purpose of this study was to evaluate the impact on spirituality of homeless veterans by attending a 2-day healing program at a local trauma recovery center sponsored by licensed Native Americans. The program utilizes native Indian's traditional healing practice and earth medicine. Activities include Healing Circle Ceremony, medicinal walking, healing loge, etc. Method: A one group pre-and post-survey design was used for this research. Spirituality was measured by the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp-12) instrument on a 5-point Likert scale. Higher score represents higher spirituality. Data were collected in 2016 and 2017, including 127 participants who were the residents of a local transitional house for homeless veterans. Pre-test was administered prior to traveling to the healing center, and post-test was administered prior to leaving the center. Paired t-test was used in data analysis. Result: A significantly higher overall spirituality score ( $p<0.05$ ) was found at post-test (mean=48.44) than that of pre-test (mean=44.63). Scores are also higher at post-test than that pre-test for each of the three constructs (Meaning: 16.52 vs. 15.57; Peace: 15.97 vs. 14.25; and Faith: 15.95 vs. 14.81, respectively). An open-ended question asked about feelings after the healing program. Common responses are peaceful, Stress free, inspiration, let it go, mindfulness, connectedness, self-awareness, love, and spiritual. Conclusion: Spiritual

health is found to be the key to access mental and psychological health. Traditional healing methods provide an effective method to address human spirit and ways overcoming the negative impact of past trauma.

### **Board 342**

#### **Successful Treatment Completion Improves Behavioral Health Outcomes for a Reentry Population**

Jo Ford, Kevin Kissell, Ray Gaddis, Tracy Atkinson, and Nicole R. Kinzeler

Background: Montgomery County has the highest rate of illicit drug use in the state, and County officials estimate that up to 75% of offenders housed in the jail at any given time have substance use disorders (SUD). Untreated substance abuse creates a higher risk for recidivism in this population. The Montgomery County Offender Reentry Program (MCORP) was developed to provide comprehensive case management and access to substance abuse treatment for citizens reentering their communities with the intent of reducing both recidivism and behavioral health problems. Methods: Upon release from the Monday Community Correctional Institution, participants were offered a variety of services, including referral to SUD treatment, case management, employment and housing assistance, and transportation. The number and breadth of services utilized was defined by each participant. Outcome measures, including substance use, depression, treatment duration, and satisfaction with life were obtained from self-reported data at baseline, six-month, and twelve-month follow-up. Results: Participants in MCORP demonstrated a statistically significant reduction in scores on the AUDIT (alcohol use), DAST (drug use), and PHQ-9 (depression) from baseline to twelve-month follow-up, indicating less substance use and improvements in mental health. A repeated measures ANOVA revealed that participants who completed treatment had a significantly greater reduction in AUDIT, DAST, and PHQ-9 scores compared to those who did not complete treatment. Although not statistically significant, those who completed treatment increased their satisfaction with life more than those who did not complete treatment. Conclusions: The MCORP program is having a positive impact on its participants in Montgomery County, OH. Our results show that individuals in both groups are reducing their behavioral health symptoms and maintaining that change over time, with those who complete treatment having better results.

### **Board 343**

#### **Sex as a Predictor of Overnight and Emergency Treatment among Homeless Adults**

Chisom Odoh, Pooja Agrawal, Michael S. Businelle, Darla E. Kendzor, and Lorraine R. Reitzel

Introduction: Homeless individuals experience high rates of disease burden, in addition to dealing with various competing problems in their daily lives. The inability to prioritize primary care may lead to high usage of emergency treatments and hospitalizations; hence, identifying determinants of emergency care and hospitalizations is important for expanding health care access for homeless individuals. The objective of this study was to identify the sociodemographic predictors of overnight and emergency hospital treatment among a sample of homeless adults. Predictors examined included age, subjective social status, race, education, health insurance, income, and veteran status. Methods: Data comprised a convenience sample



of adults from a homeless shelter in Dallas, TX. Adults were eligible to participate if they stayed at the shelter, were English proficient, and literate at the 7th grade level or higher. Recruitment was accomplished via flyers at the setting. Enrolled participants (N=354; Mage=43.7±11.7) were predominantly uninsured (76.8%) and low-income (89.5% <\$10,000/yr) men (71.2%) from various racial groups (29.9% White). The outcome variables were: a) Stayed overnight for treatment in a hospital (yes or no); and b) Treated in a hospital emergency room (yes or no), both over the past year. Logistic regression models were estimated for each outcome variable to assess the main effect of each predictor, entered jointly into the model. Results: Sex emerged as the only predictor of overnight treatment in hospital (OR=2.68, 95% CI= 1.61-4.47), and treatment in an emergency room (OR=2.21, 95% CI= 1.34-3.65), such that women were more likely than men were to be treated overnight and use emergency care. Conclusions: Sex was the only sociodemographic determinant examined that predicted overnight and emergency hospital treatment among this sample of homeless adults. Targeted interventions and policies are needed to address homeless women's primary care needs to potentially reduce risk for costlier overnight hospitalization and emergency treatment.

### **Board 344**

#### **Children with Severe Medical Complexity: Caregiver Perceptions and Decision-making Process on Transportation Safety**

Ping Ma, Marisa Abbe, and Michelle Thomas

Background: Unintentional injury is a leading mortality cause among children in the US. Compared with children without disabilities, children with medical complexity (CMC) have disproportionate rate of injury risk. Caregiver is a critical role in the daily life of CMCs. Based on Health Belief Model Theory, an in-depth understanding of caregiver perceptions for transportation safety and injury risk is necessary to develop services, resources, and behavior interventions. Thus, the goal of this study was to qualitatively ascertain the most significant barriers and facilitators influencing caregiver self-efficacy and decision-making in safe transportation of their CMC. Methods: We conducted in-depth semi-structured interviews with 18 caregivers during the primary care, sick or development evaluation visits for their children with severe medical complexity at the Complex Care Clinic of Children's Medical Center Dallas, Texas from Jun/2017 to Nov/2017. Results: Among 18 participants, half of caregivers were from minority and immigrant families. Themes emerged from injury risk behaviors, safety strategies, information-seeking behaviors, medical equipment challenges, quality of life and social support. Notably, compared with Caucasian/English-speaking caregivers, minority families (e.g., Spanish-speaking) have shown lower level of caregiver efficacy in proactive seeking information behaviors from diverse resources regarding transportation and home safety, and higher possibility to be social isolated due to safety concern. Additionally, the findings also indicated that the primary care provider is the exclusive resource for immigrant parents to make a decision on children's safety. Conclusions: The caregiver perceptions inform tailored unintentional injury intervention design. The challenges caregivers face may impact car seat manufacturing processes and legislative policies regarding transporting CMC safely.