July 2019

The American Academy of Health Behavior 2019 Annual Scientific Meeting: "Theory and Applications of Multiple Health Behavior Change"

Mark Reed
mreed@mail.sdsu.edu

Recommended Citation

The American Academy of Health Behavior 2019 Annual Scientific Meeting: "Theory and Applications of Multiple Health Behavior Change"

Abstract

The American Academy of Health Behavior (AAHB) hosted it's 19th Annual Scientific Meeting at the Westin Poinsett in Greenville, SC March 10-13, 2019. The meeting's theme was "Theory and Applications of Multiple Health Behavior Change." This publication describes the meeting theme and includes the refereed abstracts presented at the 2019 Annual Scientific Meeting.

Keywords

Annual Meeting, 2019

American Academy of Health Behavior Annual Meeting Summary

Mark B. Reed, PhD*

*Corresponding author can be reached at: mreed@sdsu.edu

The American Academy of Health Behavior (AAHB) hosted its 19th Annual Scientific Meeting at the Westin Poinsett in Greenville, SC, March 10-13, 2019. The theme for this year's meeting was "Theory and Applications of Multiple Health Behavior Change." I would like to extend my personal gratitude to all the AAHB members who contributed to an outstanding and informative meeting. I would like to acknowledge the hard work and dedication of Drs. Hsien-Chang Lin and Daphne Hernandez for serving as the Conference Planning and Research Chairs, respectively. I would also like to thank Drs. Julie Croff and Leigh Anne Simmons who served as the Program Planning Chairs and organized our strong slate of meeting speakers. Lastly, many thanks to the following board members who served on the conference planning committee: Dr. Katie Dolphin, Dr. Wenhua Lu, Dr. Jessica Rath, Dr. Mary Steinhardt, and Joanne Sommers, our Executive Director.

Our impressive group of podium speakers presented on a multitude of topics on multiple health behaviors, ranging from the state of the science, theoretical applications, health equity, research methods, social and built environment influences, developmental/familial factors, and bio-behavioral perspectives. Dr. Bonnie Spring opened the meeting with a talk titled "State of the Science in Intervening for Multiple Behavior Change." This was followed by Dr. Valerie Blue Bird Jernigan ("Developing Culturally Grounded Interventions with Indigenous Populations Guided by Indigenous ways of Knowing"), Dr. Rosa Gonzalez-Guarda ("The Influence of Acculturation Stress and Resilience on the Substance Abuse, Violence, HIV, and Depression Syndemic Among Latino Immigrants"), Dr. Paul Branscum ("Innovations in the Reasoned Action Approach: Application and Future Research Directions"), and Florence Breslin (Measuring Multiple Behaviors in Adolescents: The Adolescent Brain Cognitive Development (ABCD) Study").

The second day of the meeting began with Dr. Amy Harley speaking on "Social Contextual Predictors of Multiple Health Behavior Change." This talk was followed by Dr. Joe Grzywacz ("Multiple Health Behavior Change: A Developmental and Familial Perspective"), Dr. Julie Croff ("Multi-Modal Approaches to Measuring Behavior in Teenagers and Young Adults"), and Dr. Tina Chambers ("Can we Develop a Biomarker of Future Neurobehavioral Deficits Due to Exposure to Alcohol?")

During the meeting, attendees had the opportunity to attend workshops, network with colleagues, and share their cutting-edge research during our nightly poster sessions. On the last day of the meeting, attendees were treated to a thought-provoking discussion among Academy Research Laureates and Fellows on the topic of "New Directions for Health Behavior Research." Our four days of programming left me rejuvenated and excited about the future of health behavior research and the Academy!

All refereed poster abstracts presented at the 2019 Annual Scientific Meeting are listed by abstract number and date of presentation. I look forward to seeing you in Napa, California in 2020!

Mark B. Reed, PhD (*San Diego State University*)
2018 - 2019 American Academy of Health Behavior President

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Board 101

Does the Presence of Children in the Home Affect Smoking Rules and Smoking Behaviors? Results from a Community Health Center in the Southeastern U.S.

Elizabeth Holt, Haley Park, Jackson Pearce, Amani Bright, Noelle Best, and Matthew J. Delfino

Purpose: Despite reductions in the rates of smoking among U.S. adults, some children continue to face secondhand smoke (SHS) exposure and subsequent adverse health effects. Health care providers can play a key role in reducing children's SHS exposure by assisting patients in establishing smoking rules and in quit attempts. Purpose: We sought to understand how to best tailor a clinic-based smoking cessation intervention for low-income patients living in the rural/suburban South. We examined whether smoking behavior, smoking rules, and quit rates differed among households with and without children. Methods: Waiting room surveys were conducted at four community health clinics for underserved patients in South Carolina. Results: The patient population (n=110) was 48.1% black, 32.7% white, and 79.2% uninsured/publicly insured. Over half (53.6%) of patient households had 1+ children. Of patients surveyed, 27.8% were current smokers, 44.5% reported that smoking is allowed in their home, and 24.1% reported that smoking is allowed in their car. Compared to patients living in households without children, patients in households with children were less likely to be current smokers (p=.019), and less likely to report that they allow smoking in the car (p=.007) and home (p=.001). Despite this, 23.7% of patients with 1+ children living in their household reported that someone had recently smoked inside their home and 20.3% of these patients reported that someone had smoked inside their car. Quit attempt rates did not differ among households with children and those without children. Conclusion: Though smoking is less prevalent and smoking rules are more stringent among households with children, many children in this population are still exposed to SHS in the home and car. An intervention targeting patients with children in the home will combine provider training with Electronic Medical Record (EMR) changes in order to increase screening for SHS, patient counseling, and prescriptions for smoking cessation aids.

Board 102

Associations of BMI-based and Perceived Weight Status with Electronic Vapor Product Use, Cigarette Smoking, and Dual Use among U.S. Adolescents

Dong-Chul Seo, Beom-Young Cho, Hsien-Chang Lin, David K. Lohrmann, Andrea K. Chomistek, Peter S. Hendricks, and Lava R. Timsina

Purpose: This study examined the associations of body mass index (BMI)-based and perceived body weight status with electronic vapor product (EVP) use, cigarette smoking, and dual use among U.S. adolescents. Methods: We conducted a cross-sectional analysis on data from 15,129 adolescents in the 2015 National Youth Risk Behavior Survey. Multiple logistic regression analyses were used to examine the associations of BMI-based and perceived body weight status with EVP use, cigarette smoking, and dual use, after adjusting for all other covariates. The regression models were stratified by gender. Results: Overall, 25.5% of males used EVP, 11.6% smoked cigarettes, and 8.1% used both; percentages among females were 22.6%, 9.8% and 6.8%, respectively. Females who perceived themselves as overweight were

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

more likely than those who perceived themselves as normal weight to be current EVP users (adjusted odds ratio [AOR]: 1.09, 95% confidence interval [CI]: 1.01-1.19) and dual users (AOR: 1.23, 95% CI: 1.01-1.49). When compared to normal BMI-based category, males with obese BMI status were more likely to be current cigarette smokers (AOR: 1.61, 95% CI: 1.06-2.44), however, only females with overweight BMI status were more likely to be current smokers (AOR: 1.89, 95% CI: 1.25-2.86). Conclusions: Findings suggest that the influence of adolescents' body weight perceptions and BMI-based status should be accounted for when developing nicotine-containing product use prevention programs for adolescents. Specific strategies for influencing female adolescents who perceive themselves as overweight should be included to prevent emerging EVP and dual use.

Board 103

Associations of Subjective Social Status and Mindfulness with Readiness to Quit Smoking in Homeless Smokers

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

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

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

Board 104

Vaping Behavior, Outcome Expectations, and Perceived Norms among College Students

Anna Greer, Kerry D. Morgan, Jessica E. Samuolis, Gabrielle Diaz, Julianna Merighi, and Patrick Mahoney

Purpose: Vaping among young adults has increased substantially in recent years warranting further examination of this issue. We examined vaping behavior, outcome expectations, and perceived norms for vaping among 1,229 students attending a mid-sized, northeastern university. Methods: We administered a cross-sectional survey that included validated behavioral questions and scales for outcome expectations and perceived norms which demonstrated good internal consistency reliability (a >.80). We used SPSS for analysis, including descriptive, chi-square, and t-test statistics. Results: Student respondents were mostly white (81.1%), female (67.3%), and on average 19.73 years of age (SD=1.39). Almost 41% of respondents reported vaping in the prior 30 days (current user), 26.8% reported trying vaping but having no use in the past 30 days (occasional user), and 32.3% reported never trying vaping. The most common reasons for initating vape use among current and occasional users were 'I was curious' (74.2%, 75.1%), 'Friends use it" (65.8%, 65.0%), and 'Someone gave it to me at a party' (35.0%, 41.0%). Current (61.4%) and occasional users (62.4%) most often reported vaping when at parties; current users reported vaping in their campus dorm (p<.001), a friend's campus dorm (p=.024), in class (p<.001), and walking on campus (p<.001) more often than occasional users. Current users perceived vaping as more likely to control their appetite (p<.001), control their negative emotions (p<.001), and taste pleasant (p<.001) than occasional users. Current users perceived vaping as less likely to cause negative health outcomes than occasional users (p<.001). Current and occasional users had stronger perceived norms than never users that others would approve of them vaping (p<.001). Conclusions: This study highlights a need for multi-level strategies to reduce vaping among college students. Interventions should increase awareness about the risks of vaping, include peer-based interventions to foster health-promoting campus social environments, and explore the use of policies restricting campus vape use.

Board 105

Using Susceptibility Measures to Prospectively Predict Current Use of Electronic Cigarettes among Adolescents

Elizabeth Kwon and Dong-Chul Seo

Purpose: Preventing youth from using e-cigarettes is crucial given that e-cigarette use can lead to multiple unhealthy behaviors such as conventional cigarette smoking and other substance use. In order to inform prevention efforts, the present study examined determinants that affect youth current e-cigarette use including susceptibility measures, along with psychosocial, environmental, and behavioral factors. Methods: Wave 1 and Wave 2 of the Population Assessment of Tobacco and Health (PATH), nationally representative longitudinal panel datasets, were analyzed. Youth who were naïve to both conventional cigarettes and e-cigarettes (n=7578) were included in the study sample. Multivariable logistic regression was conducted to

examine the determinants of youth current e-cigarette use. Results: Overall, 2.22% (*n*=168) of youth who were naïve to both conventional cigarettes and e-cigarettes at Wave 1 became current e-cigarette users at Wave 2. Susceptibility to e-cigarette use at Wave 1 was found to be a significant predictor of current e-cigarette use at Wave 2 (adjusted odds ratio [AOR]=2.68; 95% CI =1.92, 3.74). Youth who were unsusceptible to e-cigarette use at Wave 1 but became current users at Wave 2 were more likely to show a higher level of alcohol use, be a member of a modified family, be exposed to secondhand tobacco smoke, and have a higher level of psychological problems. Conclusions: The findings of the present study appear to support the predictive validity of the susceptibility to e-cigarette use measures as a significant predictor of future e-cigarette use. Thus, prevention efforts should benefit from using the susceptibility measures to identify youth with a higher risk of future e-cigarette use. Additionally, interventions should incorporate psychological and environmental factors to thwart e-cigarette use.

Board 106

Is E-cigarette Use a Gateway to Marijuana Use? Revisiting the Gateway Theory

Su-Wei Wong and Hsien-Chang Lin

Purpose: E-cigarette use prevalence in the U.S. has increased rapidly in the past decade. It has been a concern that e-cigarette use may serve as a stepping-stone to other substance use. Based on Kandel's gateway theory, we hypothesized that e-cigarette use could lead to marijuana use among U.S. adults. Our study tested this hypothesis by examining the two conditions: 1) E-cigarette use is a gateway to marijuana use; and 2) marijuana use is not a gateway to e-cigarette use. Method: This was a retrospective longitudinal study. Adults aged 18-64 years were extracted from the Population Assessment of Tobacco and Health survey Wave 1 (2013-2014) and Wave 2 (2014-2015) (unweighted *n*=23,772). Three stages of e-cigarette and marijuana use, including initiation, re-initiation, and persistence, were considered as outcomes. To test Condition 1, three logistic regressions were conducted to examine the associations between Wave 1 e-cigarette use and Wave 2 marijuana use (including initiation, re-initiation, and persistence. To test Condition 2, another three logistic regressions were conducted to examine the associations between Wave 1 marijuana use and Wave 2 e-cigarette use (including initiation, re-initiation, and persistence). Sociodemographic characteristics were controlled in all logistic regression models. Results: This study found Wave 1 e-cigarette use was not associated with Wave 2 marijuana use initiation, re-initiation, or persistence. Additionally, Wave 1 marijuana use was associated with Wave 2 e-cigarette use initiation (OR=1.52, *p* < .05). Conclusions: This study found no evidence to support the applicability of Kandel's gateway theory to the implication that e-cigarette use could be a gateway to marijuana use among U.S. adults. The mechanisms and behavioral characteristics, such as etiological and psychosocial factors, that may pertain to the development from e-cigarette use to other substance use should be further studied and explored to inform effective behavioral, educational, and policy interventions.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Board 107

The Association of Place with Multiple Lifestyle Risk Factors among Rural Women: Smoking, Overweight/Obesity, and Physical Activity

Devon Noonan, Richard Sloane, Amnazo Muhirwa, Jewel Scott, Tiffany Bice-Wigington, and Leigh Ann Simmons

Purpose: Rural women have higher rates of chronic disease associated with unhealthy lifestyle factors compared to their urban counterparts. Few studies have examined whether unhealthy lifestyle factors differ based on geographic region and rurality in this population. This study investigated the prevalence of individual and co-occurring smoking, BMI>25, and low levels of physical activity (PA) to determine whether rates differ by rurality and geographic region to inform future interventions. Methods: Data were from Rural Families Speak about Health, an 11-state, epidemiologic study of American women and their families (n=300) living in a rural county (Rural-Urban Continuum Code ≥ 4). Chi-square analysis and logistic regression were conducted to examine the association between geographic region (South, Midwest, Northeast and West), rurality (Rural-Urban Commuting Area [RUCA] 1-10), and the dependent ordinal behavioral lifestyle factor variable with four levels (no risk factors, one risk factor, two risk factors, three risk factors). Results: The South had the highest proportion of two or more risk factors (50%) compared to the Midwest (30%), Northeast (39%), and West (39%). The Midwest had significantly fewer risk factors compared to the South (OR:0.40 95% CI=0.20, 0.79). There were no significant differences between the South and other regions. In examining individual behaviors, the Midwest had significantly fewer people with high BMI (OR: 0.19 95% CI=0.86, 0.44), high levels of PA (OR: 3.3 95% CI= 1.5,7.4), and smoking (OR: 0.16 95% CI= 0.07-0.36) compared to the South. There were no differences in number of risk factors by RUCA. Conclusions: Regional differences exist in the co-occurrence of unhealthy factors among rural women. Population health interventions to address multiple behavioral risk should target regional areas, especially the rural South. Given no differences in lifestyle risk factors based on RUCA, county-level interventions for rural populations may be both adequate and cost-effective in addressing rural-urban health disparities.

Board 108

Positive Perceptions and Expressions of #Vape Products on Twitter

Matthew Kearney and Philip Massey

Purpose: To quantify sentiment and characterize themes among a random sample of Twitter posts mentioning "vape". Methods: Between April 11th and June 21st, 2018, we collected publicly available tweets containing the word "vape" (n=221,757) using Twitter API. We randomly sampled ~10% (n=22,071) to conduct sentiment analysis using R Studio's "SentimentAnalysis" package and content analysis using NVivo 12. Results: Tweets were overwhelmingly positive (82%). However, positive tweets were less likely to be retweeted, compared to negative tweets (OR=0.84; p<.001). The top four most salient categories of terms included: social use of vape products (e.g., #vapefam; 48.3% mentioned), sales and purchasing of vape products (e.g., #smokeshop; 38.4% mentioned), active use of vape products (e.g.,

#vaping; 18.8%), and use of vape products for cannabidiol (e.g., #CBD; 9.3%). Few tweets mentioned tobacco/nicotineuse (3.4%) or use of vape products for smoking cessation (1.3%). Tweets discussing social use of vape products were nearly twice as likely to be retweeted compared to those not mentioning social use (OR=1.79; $p<.001$). Tweets mentioning cannabidiol were more than three times as likely to be retweeted compared to those not mentioning cannabidiol (OR=3.24; $p<.001$). Conclusion: Vape products are often framed as a harm reduction intervention to promote smoking cessation; however, the vast majority of tweets did not mention tobacco or nicotine. Rather, our analysis of relevant Twitter discourse illuminates the perceived positive benefits of using vape products, such as inclusion in a social network of other "vapers", as well as potential alternative uses, such as use of cannabidiol rather than nicotine. Our findings may present an opportunity to target vape-related social networks on Twitter, and potentially other social media platforms, for health communication campaigns that highlight the harms of vape products, and thus address the positivity bias we observed.

Board 109*

Perceptions of E-cigarette Safety among Pre-Adolescents and Young Adolescents from Low-income Families Living in the Midwest: A Mixed Methods Study

Yumary Ruiz**, Lindley McDavid, Ellen Gundlach, Sanjna S. Vinze, Meghan H. McDonough, Rita Debate**, and Frank J. Snyder

Purpose: Electronic(e) cigarette use is growing among adolescents and pre-adolescents, despite declines in use of traditional combustible cigarettes. As e-cigarettes are marketed as a less harmful alternative to tobacco products, youth, who may not be susceptible to cigarette use, may be drawn to these products. This mixed methods study examined youths' perceptions related to e-cigarette safety and their beliefs about the safety of e-cigarettes compared to combustible cigarettes. Methods: Participants were 223 youth ages 8-14 (Mage=10.71, SD=0.11, 65.9% males, 14.8% had tried e-cigarettes) from low-income families who reside in the Midwest. Survey data were analyzed using correlations and logistic regression. Semi-structured interviews conducted with 41 youth ages 10-14 (Mage=12.1, SD=1.12, 48.8% males, 17.1% had tried e-cigarettes) were thematically analyzed using a constructivist paradigm. Results: Logistic regression revealed that e-cigarette use is positively predicted by perceptions of e-cigarette safety (OR=4.48; 95% CI=1.51, 15.16; $p=.008$), peer e-cigarette use (OR=19.54; 95% CI=3.10, 123.01; $p=.002$), and parent e-cigarette use (OR=8.82; 95% CI=2.73, 28.51; $p<.001$). Youth's age and their perceptions of e-cigarette safety compared to combustible cigarettes were not significant. Youth perceive e-cigarettes as unsafe, and these findings were confirmed by interview data with youth reporting addiction and adverse health outcomes as key concerns. Participants also discussed circumstances under which youth learn about, access, or view e-cigarette usage. Supporting findings from the quantitative analysis, peers were relevant in influencing perceptions related to e-cigarette safety beliefs. Youth typically access e-cigarettes from peers or parents, and public spaces, including parks, were identified as locations where youth see discarded e-cigarette equipment or peers using e-cigarettes. Conclusions: Study findings imply that e-cigarette preventive strategies prioritizing low-income youth should

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

consider the critical role of peers and parents on youths' perceptions of e-cigarette safety and use.

*Research Scholars Mentoring Program

<u>**Board 110***</u>

News Coverage of the National Academies of Sciences, Engineering, and Medicine E-Cigarette Report

Jessica King*****, Binu Singh, Michael B. Steinberg, and Cristine Delnevo*****

Purpose: In January 2018, the National Academies of Sciences, Engineering, and Medicine (NASEM) released a summary report on e-cigarettes and stated, "e-cigarettes cannot simply be categorized as either beneficial or harmful," concluding e-cigarettes may lead youth to start and adults to stop cigarette smoking. News articles are an important information source for the public; thus, this study examined news stories that covered the NASEM report using Agenda Setting Theory. Methods: We conducted a content analysis of NASEM-related news articles published in top circulating newspapers and wire services within the first week of its January 23rd release. Given the use of wire services to disseminate news stories to journalists, we identified duplicate as well as unique articles for content analysis. For each article, we recorded the title and primary source, and coded for a variety of topics, including prevalence of use, regulatory aspects of e-cigarettes, inclusion of health benefit or risk statements, and pros and cons related to use. We then weighted each unique article by the number of duplicate news stories as identified via google search. Results: We identified 50 articles, representing eight unique news stories. Most (80%) articles included information about FDA regulation, and 50% stated the health effects are unknown. Positive aspects discussed within articles included that e-cigarettes are less risky than cigarettes (98%) and effective for smoking cessation (44%). Negative aspects included that: e-cigarettes are a gateway to other tobacco products (100%); nicotine is addictive or harmful (54%); explosions, fires, or other mechanical dangers can occur (54%); and flavors appeal to youth (14%). Conclusions: Although half of the articles presented balanced information, the focus of several was predominantly on negative aspects. Future research should continue to monitor news coverage about e-cigarettes to determine the information the public is exposed to regarding e-cigarettes.

*Research Scholars Mentoring Program

<u>**Board 111**</u>

Internalizing and Externalizing Problems as Risk Factors for Initiation and Progression of E-cigarette and Combustible Cigarette Use in the U.S. Youth and Young Adult Population

Hsien-Chang Lin, Yi-Han Hu, and Anne Buu

Purpose: Cross-sectional studies inspired a research hypothesis that e-cigarettes could recruit mentally healthier adolescents who may otherwise be less susceptible to cigarette use. Yet, evidence based on longitudinal data supporting this hypothesis is sparse. This study used longitudinal national survey data to examine the association between internalizing/externalizing

problems and initiation of exclusive e-cigarette use, exclusive cigarette use, or dual use. This study also extended the literature by investigating whether internalizing/externalizing problems were associated with progression to daily e-cigarette or cigarette use. Methods: For this study, we conducted secondary analysis on data from 8,374 youth and young adults (aged 12-24) participating in the Population Assessment of Tobacco and Health (PATH) Study Wave 1 (2013-2014) and Wave 2 (2014-2015). Weighted multinomial logistic and logistic regression models were performed to investigate whether internalizing and externalizing problems were associated with initiation of e-cigarette/cigarette use and progression to daily use, respectively, controlling for other substance use and sociodemographic variables. Results: Higher internalizing of problems was associated with higher risk for not only initiation of e-cigarette use (OR=1.33, *p*<.01) but also progression to daily e-cigarette use (OR=1.28, *p*<.01). Externalizing problems was not significantly associated with either initiation or progression of cigarette or e-cigarette use, possibly due to the short follow-up period. Findings also suggested that young adults were more likely to initiate exclusive cigarette use than adolescents (OR=1.74, *p*<.05). Conclusions: The findings illustrate that youth and young adults with higher levels of internalizing of problems were more likely to not only experiment with e-cigarettes but also progress to daily use. Thus, intervention efforts may focus on this high-risk group to counteract the rising prevalence of e-cigarette use and potential progression to risky tobacco use among young people. In addition, prospective longitudinal studies that characterize developmental trajectories of e-cigarette use from adolescence to young adulthood are particularly needed.

Board 112

Rethink Vape: Development and Evaluation of a Risk Communication Campaign for E-Cigarettes

Kelli England Will, Ann L. Edwards, Amy C. Paulson, Paul T. Harrell, and Ellen P. Libby

Purpose: E-cigarettes are now the most common form of tobacco use among adolescents, and use is associated with increased risk of initiation of cigarette smoking. This project used a community-engaged research process to develop and pilot a risk communication campaign for teens. Methods: The research team worked with a 30-member Teen Advisory Council (TAC, comprised of adolescents) and a 19-member Expert Panel (EP, comprised of practitioners and scientists), employed survey (*n*=674) and focus group (3 rounds, 10 groups, *n*=82) methodologies, and hired a marketing company to review findings and partner on development of the campaign. Campaign concepts were developed, eliminated, and/or modified through an iterative process of feedback and refinement. Results: Teen ideas and preferences differed greatly from the favored concepts of the research and marketing teams, underscoring the importance of testing advertising with teen audiences. The final campaign, Rethink Vape, included video ads (https://bit.ly/2QMR8gH), a microsite (rethinkvape.org), and social media sites (@rethinkvape). Based on themes garnered in initial research, the campaign communicated three messages to teens: what's in the vapor, health risks, and connections to big tobacco. Prior to launch of the campaign, a randomized controlled 2(time) x 2(group) online experiment was conducted to evaluate the campaign (*n*=415). Repeated measures analyses of variance (ANOVA) indicated that vaping knowledge, perceptions of risk, and anti-vape

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

intentions significantly increased among teens viewing the Rethink Vape Materials compared to their own baseline, while control participants did not change. Following evaluation, the team launched a 6-week teen-targeted online media campaign with a targeted geo-fence radius to reach teen users in 95 middle and high schools in the region. The campaign delivered 3,838,465 impressions and 18,316 clicks over mobile app, Snapchat, YouTube, and Spotify platforms. The majority of placements exceeded industry standards, with mobile pre-roll and Snapchat as top performers. Conclusions: The e-cigarette campaign showed clear signs of effectiveness and scalability.

Board 113

Can Supportive Messages Alone Influence Smoking-Related Outcomes? Findings from a Pilot Study on the Real-time Effects of Positive Cessation Messages

Victoria Lambert, Stuart G. Ferguson, David Hammond, Jeff Niederdeppe, Hardin W. James, and James F. Thrasher

Purpose: Canada is the only country that uses cigarette package inserts that describe the benefits of quitting (i.e., response efficacy messages) and recommendations for quitting (i.e., self-efficacy messages). Theory and empirical evidence suggest that efficacy inserts may promote cessation-related outcomes in the presence of graphic health warning labels (HWLs), but the independent effects of efficacy inserts have not been assessed. The current study used ecological momentary assessment (EMA) to evaluate smokers' real-time responses to efficacy inserts. Methods: Twenty-three U.S. smokers were provided one week's supply of cigarettes with inserts and one week's supply without inserts and were randomly assigned to the order in which they were instructed to use the insert packs (i.e., inserts à no inserts vs. no inserts à inserts). For 14 consecutive days, participants used smartphones to answer brief surveys every time they opened a new pack and at three additional smoking occasions each day. Surveys assessed feeling toward smoking, desire and motivation to quit, self-efficacy to reduce smoking and to quit smoking, response efficacy, worry about smoking risks, and forgoing smoking in the prior 24 hours (asked once per day). Multilevel mixed-effects linear and logistic regression models compared responses during the insert period to the non-insert period, controlling for the order of insert week exposure. Results: The insert exposure week was associated with greater desire to quit (β=0.21, p=.012), motivation to quit (β=0.18, p=.001), self-efficacy to cut down (β=0.26, p<.001) and to quit (β=0.28, p<.000), and response efficacy (β=0.13, p=.012). Insert exposure was not significantly associated with forgoing cigarettes (OR=1.9, p=.2). Conclusion: Our results indicate that efficacy inserts influence cessation-related variables. Future research using larger samples and between-subject design should further assess the effects of efficacy inserts, including their synergy with HWLs on the outside of packs.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

<u>**Board 114**</u>

Young Adults' Use of E-Cigarettes to Quit Smoking: A Reasoned Action Approach

Page D. Dobbs, Amanda Wilkerson, Marshall Cheney, Kristen N. Jozkowski, and Tiffany Marcantonio

Purpose: Although quitting smoking has been reported as a primary reason for using electronic cigarettes (e-cigarettes), few have found e-cigarettes to significantly reduce cigarette smoking. To further investigate this behavior, we used an expanded version of the reasoned action approach (RAA) as the theoretical framework to 1) develop a theory-driven measure, and 2) test the constructs' (intention, experiential attitude, instrumental attitude, injunctive norm, descriptive norm, autonomy, and capacity) ability to predict intention to use e-cigarettes. Methods: A national sample of young adults (18 to 24 years) were recruited via Qualtrics Survey Company's participant pool to participate in one of two cross-sectional surveys to test the RAA measure. Study 1 (*n*=315) included an exploratory factor analysis (EFA) to examine the factor structure of the 48-item RAA measure. During Study 2 (*n*=315), a confirmatory factor analysis (CFA) confirmed the factor structure identified in Phase 1, and structural equation modeling (SEM) was used to test the theory's application. Results: During Phase 1, eight items were removed that did not meet pre-determined criteria (e.g., communalities less than 0.50, multiple factor loadings greater than 0.40). The final 40-item measure loaded onto six factors. RAA constructs, except capacity, were measured and were internally consistent (Cronbach's alpha from 0.89 to 0.97). After removal of one item, the CFA met acceptable model-fit and explained 43% of the variance in intention to use e-cigarettes to quit smoking cigarettes. Experiential attitude (*p*<.001) and injunctive norms (*p*<.01) significantly predicted behavioral intention. Conclusion: Participants using e-cigarettes for cessation purposes appear concerned with the experience (e.g., level of appeal) and social pressure of conforming with referent others' beliefs. Based on our findings, we recommend health educators and clinical providers inform young adult users, as well as their friends and family members, about e-cigarettes' safety and cessation effectiveness.

<u>**Board 115**</u>

Patient E-Cigarette Decision Aid: A Feasibility Study

Tyler Dorman, Christy Kollath-Cattano, Andrew Albano, Meenu Jindal, and Scott Strayer

Background: Given the increasing use of e-cigarettes among smokers and the uncertainties of their long-term risks and efficacy for smoking cessation, we developed an iPad-delivered decision aid with information about e-cigarettes and recommended cessation methods. In this study, we conducted usability testing of this decision aid, which was based on emerging scientific evidence and qualitative research with physicians. Methods: Eligible participants were current smokers, aged 18 and older who were recruited in family medicine clinics in two major health systems in South Carolina. At enrollment, patients answered a survey that categorized them into three groups, each of which received different information: Group 1. intending to quit and not currently using e-cigarettes (recommended nicotine replacement therapies and prescription medicines); Group 2. not intending to quit (potential benefits and risks of e-cigarettes for harm reduction); Group 3. intending to quit and currently using e-cigarettes (both

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

types of information). Afterwards, participants completed survey questions assessing usability (i.e., helpfulness, information clarity, amount of information). Results: Thirty-seven patients participated (group 1, *n*=18; group 2, *n*=12; group 3, *n*=7). Most (86%) found the amount of information presented "about right," very helpful (86%), and very clear (81%). A majority of participants also reported that the decision aid was at least "quite a bit" effective in helping: identify that a decision needed to be made (59%); weigh pros and cons of each cessation method (68%); and prepare for a decision to stop smoking (46%). No significant differences were found in these outcomes across the three groups. Conclusions: The results of this study indicate that most patients were satisfied with the tool. According to the results, it was effective for most participants in preparing them for a discussion with their physician as well as planning to quit. The content and format appeared equally useful across smoker groups.

Board 116

Analysis of South Carolina's Long-term Uninsured: Unmet Health Care Needs among Smokers

Caitlin Torrence and Khoa Truong

Purpose: The purpose of this study was to explore the relationship between the cost of healthcare and smoking among SC's long-term uninsured (LTU) population with regard to seeking medical care when needed and filling prescriptions. Methods: Secondary data analysis of SC Long-Term Uninsured (LTU) Survey was conducted. Survey participants were uninsured SC residents between the ages of 18 and 64. LTU was defined as living without healthcare insurance for at least 24 months. Logistic regression was used to estimate effect sizes of smokers' vs non-smokers' likelihood of delaying care due to cost and/or not filling prescriptions when needed. Results: While only marginally significant (p=.07), uninsured smokers compared to uninsured non-smokers have a 1.33 increased odds of delaying medical care due to cost. Further, uninsured smokers are significantly more likely than uninsured non-smokers to cite cost as the reason for not filling a prescription (OR 1.42, p=.022, 95% CI 1.05-1.93). Uninsured smokers are more likely than uninsured non-smokers to report cost as the main reason for delaying care and not filling a prescription (OR 1.63, p=.01, 95% CI 1.1-2.4). Conclusions: While 20% of South Carolina residents report smoking, this percentage is amplified among participants in the SC LTU study. Forty-four percent of participants report smoking. The cost of care, regardless of how discretionary income is spent, is the reported main deterrent to seeking care. The long-term uninsured population is a highly vulnerable population. Among this population, those who smoke are more likely to report delaying health care when needed due to cost. They are also significantly more likely to report not filling prescription medications when needed because of the associated cost.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Board 117

Exploring the Degree to which Opioids, Gateway Drugs, and Vaping are Associated with Risk of Substance Use Disorders in Adolescent Substance Users Ages 12 to 18

Mikyoung Jun, Rachael D. Nolan, Jon Agley, Wasantha Parakrama Jayawardene, Dan Agley, and Ruth A. Gassman

Purpose: Adolescent substance use disorder (SUD) researchers continue to investigate the complex role played by 'gateway' drugs. The U.S. opioid epidemic and the rising prevalence of electronic vaping devices have complicated this work. This study used secondary analysis of the 2018 Indiana Youth Survey to test associations between potential predictive variables and risk of SUD as measured by the CRAFFT screening tool. Methods: Four-hundred-seven of 1,448 Indiana schools serving 6th to 12th grade students participated in the 2018 survey, yielding 112,240 valid cases. Students in grade 6, under age 12, and who reported no past-month use of any substance studied herein were excluded (eliminating 89,532 cases), as were 5,093 students who did not provide data for all model variables (final n=17,615). We used multivariable logistic regression to calculate adjusted odds ratios (AOR) for 'risk of SUD,' which was dummy-coded (CRAFFT<2 >= Low; CRAFFT≥2 = Elevated). Our independent variables were past-30-day use of heroin, prescription drugs, electronic vaping devices, and 'gateway' drugs (alcohol, cigarettes, and marijuana). We controlled for gender, age, race, mental health, and perceptions of peer approval, parental approval, drug availability, and personal safety. Results: 45.8% of substance-using adolescents (n=8,076) were at elevated risk of SUD. Few substance users specifically reported heroin use (0.3% - 0.5%). All variables but race and parental approval were significantly associated with risk of SUD. Adjusted odds of elevated risk included heroin (AOR=4.12, 1.53L–11.21U), marijuana (AOR=4.66, 4.31L–5.05U), alcohol (AOR=2.41, 2.23L–2.61U), electronic vaping (AOR=1.46, 1.35L–1.58U), and prescription drugs (AOR=2.29, 1.99L–2.64U). Conclusion: Although heroin use was strongly associated with risk of SUD, the prevalence rate was relatively low. Conversely, many adolescents reported using marijuana and alcohol, which yielded substantially increased odds of elevated risk. These data remind us not to ignore the fundamentals of adolescent substance prevention amidst the present epidemic.

Board 118

Cannabidiol (CBD) Products: According to Pinterest, we have a miracle drug!

Julie Williams Merten, Benjamin T. Gordon, and Calista Pappas

Purpose: Pinterest, a widely used social media platform to save and share online content, has shaped how people seek and share health information. Cannabidiol (CBD), a non-psychoactive component of cannabis is marketed as a potential treatment for many conditions and is now legally available for purchase. CBD has grown in popularity with the legalization of marijuana yet CBD is unregulated and many of the health claims are not scientifically proven. This study used directed content analysis to examine how CBD products were portrayed on Pinterest, a social media website used to bookmark online content. Methods: Using the search terms, cannabidiol and CBD, researchers sampled every fifth pin to collect 250 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 250 pins, the majority of pins (87.1%) positively portrayed CBD with 54.5% claiming a physical or mental benefit. Claims of multiple mental health benefits were made in in 34.1% of the pins including anxiety and depression relief. Physical health benefit claims were made in 44.7% of pins including pain management, inflammation, and improved sleep. Most pins did not address potential side effects (99.2%) or recommend dosage (79.5%). In this sample, user engagement was high with 86.5% of pins being saved and links to commercial sites selling CBD products (40.2%), personal blogs (31.1%), and social media accounts (24.2%). Conclusions: Social media is a powerful source of health information. However, there is evidence of unsupported health claims being propagated. This study revealed widespread acceptance of the use of CBD products to alleviate or treat medical conditions with minimal information from reliable public health sources represented. This presents an opportunity for public health professionals to proactively engage on social media.

Board 119

The Role of Early Onset of Illicit Drug Use in Mediating Major Depressive Disorder in Opioid Misuse and Opioid Use Disorder among U.S. Adults

Zhi Wang and Hsien-Chang Lin

Purpose: The opioid epidemic has been a public health concern in the U.S. Previous studies have found that major depressive disorder (MDD) is a significant predictor of opioid misuse while over 10% Americans have been diagnosed with MDD in their lifetime. However, the pathways through which MDD is associated with opioid misuse and opioid use disorder (OUD) remain unclear, which has limited the extent to which individuals with MDD could be prevented from misusing opioids and developing OUD. In order to reveal possible pathways for prevention efforts, this study examined how early onset of illicit drug use may mediate the aforementioned associations among U.S. adults. Methods: Adult respondents (n=36,309) from the National Epidemiologic Survey on Alcohol and Related Conditions-III (2012-2013) were included in this study. Two natural effect models with bootstrap variance estimation were utilized to conduct the mediation analyses that estimated the effects of early onset of illicit drug use (15 years or younger) on opioid misuse and OUD associated with MDD, controlling for sociodemographic characteristics and family illicit drug use history. Results: Respondents with MDD were more likely to be current opioid misusers and develop OUD (OR=1.83 and 2.48 respectively; p<.001), whereas significant proportions (64% and 45%, respectively) of such associations were mediated by early-onset status of illicit drug use (natural indirect effect: 1.18 and 1.21, respectively; p<.001). Conclusions: Findings of this study suggest that early onset of illicit drug use significantly mediates the relationship between MDD and opioid misuse/OUD. In order to prevent individuals with MDD from misusing opioids and developing OUD, MDD treatments should include educational interventions such as improving coping skills to prevent illicit drug use or delay onset of illicit drug use. Future studies are needed for designing and evaluating related interventions and to reveal other pathways that associate MDD with opioid misuse and OUD.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Board 120

The Influence of Recreational Marijuana Use on Cardiovascular Reactivity to Laboratory Stressors

Katie Dolphin, Andrew Carlin, and Kit Taura

According to the Reactivity Hypothesis, heightened cardiovascular reactivity to stress is related to a greater risk of developing cardiovascular disease (CVD). Smoking tobacco has been linked to increased reactivity, and this is one mechanism by which smoking may be related to increased risk of CVD; however, the influence of smoking marijuana on cardiovascular reactivity has not been explored. Given the recent legalization of recreational marijuana, that smoking is the most common way to use marijuana, and marijuana's potential stress-reducing properties, this relationship should be afforded further attention. Thus, the purpose of this study was to explore the influence of self-reported marijuana use on cardiovascular reactivity during exposure to laboratory stressors. Methods: Thirty healthy, college-age students were assigned to one of four groups based on self-reported marijuana use: 1) never; 2) monthly; 3) weekly; and 4) daily. To induce stress, all participants performed two tasks – public speaking and cold pressor – during which measurements of heart rate and blood pressure reactivity were taken. Results: Multilevel analyses revealed that self-reported marijuana use does not significantly impact cardiovascular reactivity (p=.195-.941), though the stress protocol was successful in eliciting the expected cardiovascular responses. There was a significant increase in heart rate (p=.05), systolic blood pressure (p< .001), and diastolic blood pressure (p= .001) during the public speaking task. There was also a significant increase in systolic blood pressure (p<.001) and diastolic blood pressure (p< .001) during the cold pressor task; however, there was no difference in heart rate between baseline and during the cold pressor task (p=.210). Conclusions: These results suggest that engaging in recreational marijuana use may not impact cardiovascular reactivity in a young, healthy population. Practical implications and directions for future research are discussed.

Board 121

Deportation Fears and Barriers to Physical Activity among Immigrant Latino Adults

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

Purpose: U.S. Latinos have the lowest rates of leisure-time physical activity (PA) of all racial/ethnic groups. In order to understand why this is the case, PA barriers must be understood. However, there is a dearth of studies examining the barriers related to PA among Latinos. Further, the current political climate has increased deportation fears, and these fears could magnify the barriers to physical activity. We conducted a pilot study to evaluate the association between deportation fears and PA barriers. Methods: Self-identifying Latino immigrants ages 21-35 participated in a cross-sectional pilot study at a community center in the South (n=40). Deportation fears were assessed using a 1-item question measuring the anxiety of deportation on a 5-point Likert scale from, "not at all worried" to "extremely worried." This item was created for this study based on the immigration stress subscale within the Hispanic Stress

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Inventory-2 (Cervantes et al., 2016). Barriers to PA were assessed using a 15-item subscale regarding perceived barriers to engaging in PA. Items were on a 5-point Likert scale from "never" to "very often." Items were summed with higher scores indicating greater perceived barriers to PA. Linear regression models were conducted to predict greater perceived barriers to PA as a function of deportation fears, controlling for age, education, employment, marital status, income, and years in the United States. Results: Adults were 30 years of age on average, from Mexico (68%), and living in the United States for about 12 years. Greater deportation fears (β=3.38, p<.05) predicted greater perceived barriers to PA. Conclusions: While our sample size is small and our design is cross-sectional, the findings suggest that heightened deportation fears could potentially magnify perceived PA barriers.

Board 122

Hard Poly-drug Use Among High School Students in the U.S.

Tamika Gilreath

Purpose: Poly-substance use is a public health concern for high school adolescents and has been found to be associated with myriad health and social problems. Few studies have examined patterns of co-occurring hard drug use. This study uses latent class analysis (LCA) to explore hard poly-drug use among high school youth. Methods: LCA was conducted using data from the 2017 Youth Risk Behavioral Surveillance System (n=14,765) to explore typologies of hard drug use (e.g., heroin, cocaine, prescription painkillers). Multinomial regression was used to explore the correlates of latent class membership (sex, grade, sexual orientation, and race/ethnicity). Results: Three latent classes were identified: Non-users (91% of the sample), Prescription drug users (7.4%), and Hard poly-drug users (1.5%). Non-heterosexual orientation was associated with increased odds of both drug using classes. Males had nearly four times the odds of being in the Hard drug vs. Non-user class compared to females (OR=3.78, 95% CI=2.33-6.14). Black youth were nearly twice as likely as White youth to be in the Hard drug vs. Non-user class (OR=1.81, CI=1.10-3.00). Conclusions: Only 1.5% of youth were likely to engage in hard poly-drug use. LGB youth were at higher risk for using multiple hard drugs compared to their heterosexual counterparts. Generally, black youth have been found to report lower rates of poly-substance use compared to their white counterparts (e.g., alcohol and tobacco). The increased likelihood of use amongst these vulnerable populations warrants further consideration.

Board 123

Early Findings from Indiana's Opioid Use Disorder Prescriber ECHO (Extension for Community Healthcare Outcomes): Moving Knowledge, Not People

Jon Agley, David Tidd, Zachary Adams, Leslie A. Hulvershorn, Ruth A. Gassman, Kaitlyn Reho, Kristen Kelley, and Joan Duwve

Purpose: The opioid epidemic in the United States has strained the small number of healthcare providers specializing in addictions. In Indiana, individuals with an opioid use disorder (OUD) often must travel 1-2 hours to access treatment. Project ECHO is a case-based tele-learning

model developed by the University of New Mexico that may be a promising way to build treatment capacity. This study evaluates preliminary outcomes from Indiana's OUD Prescriber ECHO. Methods: Forty-three medical providers attended at least 1 ECHO session (μ=5.2 sessions). Of those, 38 completed a pre-test questionnaire and 21 completed a post-test questionnaire assessing objective case-response knowledge, self-reported counseling skills, confidence engaging in OUD prevention and treatment, and sociodemographic and qualitative data. We geocoded minutes of training across Indiana by zip code and assessed pre- and post-changes in participants using paired Student's T-tests or Wilcoxon tests. Results: Our first cohort attracted providers with diverse credentials, experience, and location. Self-rated confidence in performing OUD-related behaviors, such as 'educating patients and clients about opioid use disorder' (7-item scale), increased moderately and significantly (t=-2.88, p=.01, Cohen's D=0.68). We observed minimal improvement in case-based knowledge, from 81% to 87% (t=1.08, p=.30), and almost no change in self-reported counseling skills (e.g., z=0.00, p=1.00). Conclusions: Indiana's OUD Prescriber ECHO was associated with improved confidence in performing OUD-related behaviors. Knowledge scores did not increase, but improvement from a baseline mean above 80% may be unrealistic. Similarly, self-reported counseling skill remained static; objective self-assessment of skill in a new content area is difficult at baseline. Our evaluation used 'harmonized' questions from other ECHO clinics and had several associated limitations. Qualitative data suggest knowledge/skills are improving but not in a way captured by current evaluation questions. The OUD Prescriber ECHO model appears promising. Future work should use modified evaluative measures for knowledge and skill acquisition.

Board 124

Sex Difference in Adverse Childhood Experiences, Mental Health Symptoms, and Associated Prescription Opioid Misuse: A Mediation Analysis

Shichao Tang and Hsien-Chang Lin

Purpose: The number of opioid-related overdose deaths has increased dramatically. Studies have shown that adverse childhood experiences (ACEs) which include childhood abuse, neglect, and household challenges are associated with prescription opioid misuse, but few shed light on mechanisms and pathways through which ACEs are associated with opioid misuse. This study examined: 1) associations between ACEs and opioid misuse outcomes; 2) whether mental health symptoms (including internalizing and externalizing behaviors) mediate the associations; and 3) sex differences in the associations. Methods: This study used data from the National Epidemiological Survey on Alcohol and Related Conditions conducted in 2012-2013. Adults aged 18 or older were included (n=36,309). Weighted generalized structural equation modeling (GSEM) was used to conduct moderated-mediation analyses where sex moderated the associations between ACEs and opioid misuse outcomes mediated by mental health symptoms, controlling for sociodemographic characteristics. Results: Preliminary results demonstrate ACEs were associated with higher odds of ever or current opioid misuse, DSM-V-diagnosed opioid use disorder, and early-onset status (< age 17) of opioid misuse (AORs range: 1.11-1.17; p<.001). The mediation analyses suggest the association between ACEs and ever or

current opioid misuse, and opioid use disorder were partially mediated by internalizing and externalizing behaviors (indirect AORs range: 1.14-1.18; *p*<.001). Sex differences were found in the magnitudes of the aforementioned associations. Conclusions: Externalizing and internalizing mental health symptoms may serve as potential pathways through which ACEs are associated with opioid misuse. Although additional research is needed to understand the pathways, these results underscore the importance of reducing risk for mental health symptoms among individuals exposed to ACEs, which may in turn, reduce their risk for opioid misuse. Efforts to support safe, stable, and nurturing relationships and environments can prevent ACEs and may provide an upstream approach to reducing risk for opioid misuse.

Board 125

Prediction of Opioid Misuse Among U.S. Adolescents using a Machine Learning Approach

Dae-Hee Han, Dong-Chul Seo, and Shieun Lee

Purpose: This study evaluated prediction performance of 4 different machine learning (ML) techniques in predicting opioid misuse among U.S. adolescents. Methods: Data were drawn from the 2015-2016 National Survey on Drug Use and Health (*n*=22,530 adolescents, ages 12-17 years). Prediction models were developed using 4 ML algorithms such as naïve bayes classifier, gradient boosting machine, distributed random forest, and neural networks (i.e., deep learning). These results were compared with those using the conventional statistical method of multivariable logistic regression models. The data were randomly divided into calibration and validation subsamples (70% vs. 30%), and all models were tested using ten-fold cross-validation. The area under the curve (AUC) of the receiver operating characteristic (ROC) was used as a primary measure of prediction performance. The predictor variables were grouped into 4 main categories: (1) sociodemographic characteristics; (2) exposure to primary prevention programming and efforts; (3) youth experience with school, parents, and substance use; and (4) depression and mental health. Results: The overall rate of opioid misuse among U.S. adolescents was 3.84% (*n*=866). Of the four groups of predictor variables, youth experience with school, parents, and substance use showed the highest predictive power of opioid misuse based on its AUCs (0.701-0.803). In the full model with all the four groups of predictors, the neural networks model showed the best performance in prediction of opioid misuse (AUC: 0.817) followed by logistic regression (0.814), naïve bayes classifier (0.813), distributed random forest (0.798), and gradient boosting machine (0.733). Conclusions: Findings suggest that machine learning techniques are a promising technique especially in the prediction of outcomes with rare cases (i.e., extremely imbalanced) such as adolescent opioid misuse.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

Board 126

Risk and Protective Sociodemographic Factors in Opioid Misuse among Adults Over 25 Years Old in the U.S.

Shieun Lee, Dong-Chul Seo, Angela Chow, and Dae-Hee Han

Purpose: Opioid misuse, which includes both use of heroin and misuse of prescription opioid pain relievers, has been an epidemic issue in recent years. It is important to examine risk and protective sociodemographic factors in opioid misuse in a recent nationally representative sample of U.S. adults. Methods: Data were drawn from the 2016 National Survey on Drug Use and Health (NSDUH). The analysis sample was noninstitutionalized individuals aged 26 or older who reported use of opioid pain reliever or heroin in the past year (n=10,620). Data were analyzed using SAS SURVEYFREQ and SURVEYLOGISTIC modules that account for complex survey design and weights. To minimize confounding, covariates such as other substance use were controlled in predicting the likelihood of experiencing opioid misuse. Results: Among the 10,620 individuals studied, 1,399 (11.1%) reported opioid misuse in the past year. More males (13.7%) than females (9.1%) reported opioid misuse (p<.0001). A gradient relationship was found in opioid misuse across age groups (24.2% for 26-29 years, 19.4% for 30-34 years, 12.4% for 35-49 years, 9.7% for 50-64 years, and 3.4% for 65+ years, p<.0001). A similar pattern was observed across education levels except for college degree or higher (13.7% for less than high school, 11.3% for high school diploma, 11.1% for some college, 8.8% for associate degree, and 10.9% for college degree or higher, p<.05). A follow-up multivariable logistic model indicated that being in older age group, being female, and having higher income independently buffered opioid misuse (p<.0001) but not education (p=.1511). Conclusions: Results indicate that individuals with low income and younger male adults should be prioritized in opioid misuse prevention and treatment programs. The protective effect of educational attainment against opioid misuse appears to be overshadowed by income disparities.

Board 127

Investigating the Relationship between Social Structure and Sobriety in a Campus Recovery Program

Meg Patterson, Alex Russell, Jordan Nelon, and Beth Lanning

Purpose: Encountered with an abstinence-hostile, pro-drinking environment, 40% of college students regularly engage in binge drinking and 20% meet criteria for an alcohol use disorder. This problem has remained consistent over the past decade, warranting further prevention, treatment, and recovery efforts on campuses. Many universities have begun establishing collegiate recovery communities (CRCs) - designed to support recovery from addiction, prevent relapse, and foster academic growth and sobriety through the facilitation of peer-to-peer social support. Because social support has been shown to protect college students from relapse, the purpose of this study was to investigate how network position impacts sobriety among college students active in a CRC. Methods: Participants in a CRC completed online surveys in the spring of 2018 (n=44, 72.7% white, 50% in recovery from alcohol/substances). Social Network Analysis assessed the relationship between length of sobriety and demographic variables,

recovery type, mental health, time spent in the recovery program, and network variables. Descriptive and multivariate statistics were conducted using SPSS, and network measures were calculated using UCINET. Results: Regression analysis revealed a significant model (R^2=.648, p<.004) predicting length of sobriety in this network. Two network measures, in-degree (β=1.006, p=.007) and betweenness (β=-.499, p=.047), were the only significant predictors in the model. Conclusions: Length of sobriety was related to students nominated more often by other CRC members (in-degree centrality) and those that served as gatekeepers in their CRC (betweenness). Thus, students who have been sober longer assume important positions within the CRC network. Providing opportunities for students with longer bouts of sobriety to lead in their CRC, as well as connecting them with students newer to recovery, can ultimately enhance length of sobriety for the entire network. This study supports the use of CRCs on college campuses by connecting involvement and relationship within the CRC with longer lengths of sobriety.

Board 128

Alcohol-induced Blackouts and Rates of Sexual Assault among College Students

Lauren Sherrard and Rose Marie Ward

Purpose: In approximately 50% of the sexual assaults, alcohol plays a significant role with either the victim and/or the perpetrator being intoxicated (Abbey, 2011). The prevalence of sexual assaults that occur during alcohol-induced blackouts is unknown. The purpose of this study was to analyze the rates of sexual assault during a reported alcohol-induced blackout. A second purpose is to examine factors (e.g., gender) that may relate to prevalence rates. Methods: Testa and colleagues' (2010) Revised Sexual Experience Survey (RSES) was adapted to assess sexual assault experiences during an alcohol-induced blackout. There were 227 total participants (55 male and 169 female students) who completed the online survey. Participants with a history of heavy episodic drinking were recruited for the study due to their increased likelihood of experiencing a blackout. Results: Approximately 82% of the sample had ever experienced an alcohol-induced blackout. Resulting prevalence and gender differences provide a baseline prevalence for alcohol-induced blackout sexual assault experiences. Approximately 28.2% (n=64) experienced some form of sexual assault whether it be unwanted sexual contact, attempted rape, or rape during a blackout. Individuals reporting a victimization experience, 53% (n=34) regained some memory from their blackout (i.e., fragmentary blackout) and 38% (n=24) had another individual tell them what happened. The women reported significantly higher rates of sexual assault with 12.8% experiencing rape while blacked out compared to none of the men reporting being raped while blacked out, χ^2(n=224, 3)=12.43, p=.006. Unwanted sexual contact was reported by 0.4% of the men and 6.6% of the women. Conclusions: Initial evidence suggests that victimization experiences during an alcohol-induced blackout occur in almost 30% of students with heavy episodic drinking histories. Sexual assaults occurring during alcohol-induced blackouts present significant challenges to the examination of alcohol-related sexual assaults.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

Board 129

Smartphone-based Intelligent System: Using AI and Motion Sensors for Real-time Intervention During Heavy Alcohol Consumption Events

Jackson Killian, Danielle Madden, Kevin Passino, and John D. Clapp

Purpose: Excessive alcohol consumption is an avoidable health risk, yet it causes a significant percentage of yearly deaths and injuries on college campuses. Few studies investigate delivering mobile interventions in real time during drinking events where interventions could reduce risks like drunk driving, alcohol poisoning, and violence. To address these shortcomings, we built an intelligent system capable of passively tracking smartphone accelerometer data to identify heavy drinking events in real time. Methods: We collected smartphone accelerometer readings and transdermal alcohol content (TAC) readings from 19 subjects participating in a field study. The TAC readings served as the ground truth when training the system to make classifications. The TAC sensors and smartphone accelerometers both provided noisy readings which were cleaned with the MATLAB signal processing toolbox. We then segmented the data into 10 second windows and extracted features known to change when humans lose control of their center-of-mass (i.e., become intoxicated). Results: We experimented with some feature extraction methods from sound recognition tasks and show that they provide a significant improvement in this task (up to 8% absolute accuracy gain in our case.) Finally, we built and trained several classifiers to call each window as a "sober walk" or "intoxicated walk", the best of which achieved a test accuracy of 75.04%. Conclusions: This result has promising implications for making classifications on noisy accelerometer data in the field and also offers multiple avenues for improvement. We plan to use our classifiers to build a mobile sobriety tracking application that will serve as a free, reliable, and widely adoptable application that tracks intoxication in real time, enabling development of effective real-time mobile-based interventions. The results and application will also benefit future studies as new sensor-bearing technologies become widely adopted.

Board 130

Blacking out, Vomiting, and Underage Drinking: Examining First Time Consumption of Supersized Alcopops among Current College Students

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

Purpose: Supersized alcopops are a class of sugar sweetened, ready-to-drink beverages with extraordinarily high alcohol-by-volume (abv). Among underage drinkers, Four Loko is the most commonly consumed brand of supersized alcopop. The Federal Trade Commission contends it is unsafe to consume a single supersized alcopop in one sitting. Yet no studies have investigated young people's experiences drinking supersized alcopops. The current study examined the prevalence, correlates, and alcohol-related consequences associated with first-time Four Loko consumption. Methods: Undergraduate lifetime drinkers (n=1,036) attending public universities in Florida, Montana, and Virginia completed a classroom survey. Multivariable

logistic regression models examined correlates and consequences. Results: Among student drinkers, 46% had previously consumed Four Loko (*n*=474). Although nearly one-half of consumers (40%) were of legal drinking age, the vast majority (93%) first drank the product before age 21. During their first Four Loko drinking episode, approximately 58% consumed at least one entire can and 10% drank two or more cans of the product. Being younger (OR=0.89), male (OR=6.5), and white (versus black; OR=4.7) were associated with greater odds of drinking at least one entire can of Four Loko (*p*<.05). Among those who finished at least one can, 34% blacked out and 18% vomited during that episode. The odds of blacking out were greater if the participant: drank at least one entire Four Loko can (OR=5.5), drank additional alcohol during that episode (OR=2.0), was female (OR=1.9), and was younger (OR=0.82). Compared to Montana, Florida and Virginia sell higher abv Four Loko; students in those states were more likely to black out (OR=1.9) and/or vomit (OR=2.0) drinking Four Loko. Conclusions: A large proportion of college students reported underage consumption of Four Loko, drinking the entire can (or more), and blacking out and/or vomiting during these drinking episodes. Improved regulations are needed to prevent underage consumption of these products.

Board 131

Longitudinal Associations between Religiosity and Alcohol Initiation, Reinitiation of Use, and Persistent Drinking among a Nationally Representative Sample in the U.S.

Yi-Han Hu, Alex Russell, Adam Barry, and Hsien-Chang Lin

Purpose: Individuals initiating alcohol consumption in adolescence are far more likely to develop problematic drinking patterns in adulthood and develop subsequent alcohol use disorders. Religiosity has been identified as a protective factor associated with delayed onset of alcohol use and less frequent drinking. These associations, however, are based on cross-sectional research that cannot indicate the variance in drinking patterns over time and period of life. This study examined a national adult sample to investigate the associations between religiosity and alcohol use behaviors over time, including when drinking initiation occurred, whether drinking ceased or re-occurred after initiation, and whether alcohol use was persistent over time. Methods: The National Epidemiologic Survey of Alcohol and Related Conditions Waves 1-2 were used. Wave 1 sample included 5,988 nonusers (at risk for initiation), 5,960 prior users (at risk for reinitiation), and 21,139 current drinkers (at risk for persistent, problematic use). The religiosity construct included assessments of importance and frequency of practice. Three weighted logistic regressions examined associations of religiosity with alcohol use initiation, reinitiation, and persistence, while controlling for baseline substance use and sociodemographic characteristics. Results: Compared to those not attending religious services, frequent attenders exhibited lower odds of initiating alcohol use, reinitiation after prior use, and persistent drinking (ORs=0.25, 0.50, 0.56, respectively; *p*<.01). Those identifying religious beliefs as very important exhibited lower odds of initiation and reinitiation of alcohol use (both ORs=0.61, *p*<.05). Conclusions: Religiosity plays an important role in preventing/delaying alcohol initiation, reinitiation into alcohol use, and persistence of alcohol consumption. In particular, the protective effect of religiosity seems dose-dependent. Incorporating religiosity aspects (e.g., meditation) into alcohol prevention and control programs may serve to increase protective effects. Future

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

studies should seek to delineate what religiosity factors can be leveraged and embedded into secular prevention programs that can be delivered to youth and adolescents.

Board 132

College Students' Physical Activity, Diet, and Alcohol and Marijuana Use: Using Structural Equation Modeling to Assess Multiple Health Behaviors

Elizabeth Sohns, Rose Marie Ward, and Jay Kimiecik

Purpose: College students typically fall short of public health guidelines for healthy diet and physical activity (PA), and a significant percentage engage in binge drinking and marijuana use. The purpose of the current study was to explore underlying psychosocial processes and motivation for engagement in these four health and risk behaviors. Specifically, it examined the association of general well-being (basic psychological needs [BPN], eudaimonia, subjective vitality, and life aspirations) with diet, PA, and substance use. Method: Students (n=363) completed online questionnaires measuring BPN, eudaimonic well-being, subjective vitality, and intrinsic and extrinsic life aspirations as well as diet, PA, and substance use. Results: The four health and risk behaviors were related, reflecting patterns of interaction or 'bundled' health behaviors. Bivariate correlations and structural equation modeling were used to assess the variable relationships. The global fit indices suggest the data fit the model, χ^2(n=334, 241)= 504.65, p<.001, CFI=.96, TLI=.95, RMSEA=.057. BPN significantly predicted alcohol use, intrinsic and extrinsic life aspirations, subjective vitality, diet, and PA. To a lesser extent, eudaimonia predicted the previously mentioned outcomes besides alcohol use. Conclusions: BPN was significantly related to risk and health behaviors with eudaimonia exhibiting less of a role. In contrast to previous literature, BPN was positively related to drinking behavior and marijuana use. However, our findings suggest BPN may not only indirectly impact multiple health behaviors via subjective vitality and life aspirations, but also through a direct path. This potential dual impact of BPN complements research beginning to explore conscious and nonconscious mechanisms involved in behavior change processes. To be more successful, multiple health behavior interventions targeting college students should consider the role of general well-being processes involved in the motivation underlying sustainable behavior change.

Board 133

Examining Alcohol-related Blackouts and Sexual Assault in the Context of Drinking to Cope

Rose Marie Ward, Ying Guo, Shannon Speed, Lauren Sherrard, and Elizabeth Sohns

Purpose: Alcohol use and sexual behaviors are two health behaviors that have a complex relationship. Alcohol-related blackouts (ARBs) are a form of memory impairment due to heavy alcohol consumption. There is high frequency of ARB and sexual assaults (SA) among college students. The purpose of the current study is to examine ARB and SA in the context of drinking to cope. Methods: Undergraduates students (n=4430) were recruited for a multiple health behavior study. Participants were predominantly Caucasian and middle class; average age of

participants was 19.97 (SD=1.70). Results: Approximately half of the sample had a history of ARBs; 25% of women had a history of SA; less than 10% of men had a history of SA. Women, who reported rape or attempted rape experiences, were more likely to have a history of ARB use than non-victims, χ^2 (n=2266, 10)=267.83, p<.001. Men who have a history of rape, attempted rape, or unwanted sexual contact were more likely to have a history of ARB than non-victims, χ^2 (n=1273, 10)=44.92, p<.001. A threeway ANOVA examined drinking to cope across gender identity, ARB history, and SA history (adjusted R^2=.16). The threeway interaction was significant, F(8, 3334)=1.93, p=.05. Women with histories of ARB and some types of SA (rape and coercion) were more likely to report drinking to cope. The two-way interactions between SA history and gender, F(5, 3334)=2.34, p=.04, and between gender and ARB, F(2, 3334)=2.71, p=.01, were significant. People who have ARB and SA histories are more likely than non-victims to drink to cope. Conclusions: Students who experience ARB and SA are more likely to report drinking to cope. People who reported more severe types of SA were more likely to report experiencing an ARB than non-victims. Knowledge of the participant's ARB and SA history can inform health behavior interventions.

Board 134

Evaluating the Effectiveness of a Peer-enforced Tobacco- and Smoke-free Policy at a Large Urban University

Amy Gatto, Emily Walters, and Rita DeBate

Purpose: To evaluate the enforcement, opinions, and effectiveness of the University of South Florida's tobacco free policy one year following implementation. By assessing psychosocial and behavioral variables and using geographic information system (GIS) mapping this study sought to introduce a unique and effective way of evaluating college tobacco free policies. Methods: A cross-sectional survey was administered to students, faculty, and staff to assess knowledge of policy and resources, tobacco use observations, stage change regarding policy enforcement, self-efficacy to enforce, and policy impact on perceived campus tobacco use (n=5,242). Additionally, using ArcGIS Collector, volunteers collected geospatial data on current tobacco use following policy implementation and new signage. Results: Moderate knowledge of the current policy was observed with only 67.5% of respondents identifying the correct policy and low beliefs for policy enforcement as only 19.6% of respondents indicated policy enforcement. Approximately half (49.5%) of students, faculty, and staff identified that they were exposed to secondhand smoke following implementation and 74.3% witnessed tobacco use on campus. A majority of respondents were not currently approaching violators to remind them of the policy and did not intend to do so in the future. The mapping of observed violations revealed continued tobacco use on campus with 158 data points. The centralized mean and median suggested that tobacco-free policy violations occurred across campus, and the distributional analysis revealed no clear directional trends indicating noncompliance is not geographically limited, nor did it reflect former smoking areas. Conclusions: From both the geospatial and survey findings, the current policy reveals areas for improvement. With rapidly increasing numbers of smoke- and tobacco-free universities, new and innovative evaluation tools are needed so institution leaders can efficiently evaluate their implementation.

AAHB

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

Board 135

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

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

Purpose: Cigarette smoking is known to increase morbidity and mortality risk. While 14% of adults in Texas smoke, this rate ranges from 40-75% among behavioral health center clientele (individuals with mental and non-nicotine substance use diagnoses). Taking Texas Tobacco Free (TTTF) works to address knowledge and resource gaps in behavioral health clinics by providing education, cessation resources, training, and tobacco-free workplace policy implementation through multi-component programming (www.takingtexastobaccofree.com). TTTF's educational curriculum includes 1- or 2-hour educational sessions about tobacco use and cessation within this population, delivered to non-clinical staff and clinicians, respectively. These sessions were conducted either on site or via live webinar-based format. Here, we examine differences in knowledge gain by training format and illuminate lessons learned in the implementation of each modality to inform future dissemination and implementation efforts. Methods: Over 5,000 employees within hundreds of behavioral health centers across Texas participated in educational sessions. Educational session delivery modality was consistent within each local mental health authority (LMHA). A 10-item knowledge test was administered pre- and post-trainings. Data were clustered within LMHA for comparative analysis. Results: Knowledge increase was 24.1% for the on-site vs 23.9% for the webinar-based non-clinical staff trainings. Knowledge increase was 24.0% for the on-site vs 19.3% for the webinar-based clinician trainings. The difference between modalities in knowledge gained was statistically significant only for clinician trainings (p=.040); however, this was equivalent to <1 additional correct response on the test. Conclusion: When implementing a statewide tobacco control program within behavioral health centers, online tobacco dependence education offers financial savings over in-person education. Results suggest little sacrifice to knowledge increases among non-clinical staff for webinar-based education, and although compromises to knowledge gained by clinicians may exist, they may not be clinically significant. Each presentation modality had challenges and benefits, which are reviewed in conjunction with knowledge gain results.

Board 136

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

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

Purpose: Despite the highest rates of tobacco consumption and tobacco-related morbidity and mortality, smokers with behavioral health disorders rarely receive tobacco dependence treatment within behavioral health settings. Taking Texas Tobacco Free (TTTF) targets this disparity by delivering a multi-component tobacco-free workplace program entailing staff education, clinician training, tobacco-free policy development and implementation, integration of

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

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

Board 137

Physiological Determinants of Chronic Stress in Relation to Substance Use and Neighborhood Crime among African American Young Adults

Christine Smith, Ann Chen, Sarah Childress, Sandra Yan, Krystal Christopher, Chaniqua Mazyck, and Ezemenari Obasi

Purpose: African Americans (AAs) are more likely to report greater levels of perceived stress (PSS) and are susceptible to suffering from chronic stress and the negative outcomes due to poorer environments they live in and daily stressors they experience due to racism, discrimination, and socioeconomic status. This study examines the effects of chronic stress, specifically the contribution of neighborhood crime and substance use in AAs, and how chronic stress manipulates overall cortisol levels and the cortisol awakening response (CAR). Results are examined on an area under the curve (AUC). Methods: Participants (n=241; Mage=20.43, 72.03% female) were administered measures including self-reported neighborhood crime, substance use, and PSS. Study procedures included the provision of seven saliva samples for cortisol analysis (at wakeup, 30 and 90 minutes post-wakeup, 1:00PM, 2:30PM, 4:00PM, and pre-bedtime). Five measures of the repeated measures of cortisol awakening response (CAR) were computed for each individual. The measures using Area Under the cortisol Curve (i.e., AUC0, AUC1, and AUC7) were calculated by the trapezoid formula. Results: PSS was significantly negatively related to AUC0 (p=.020) and MCortisol (p=.017), while daily alcohol use was positively correlated with AUC7 (p=.046). Results of multiple regression analyses showed

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

that PSS was a significant negative predictor for AUC0 (*p*=.020) and *M*Cortisol (*p*=.017), and daily drinking amount was a significant positive predictor (*p*=.040) for AUC7 after controlling for age and sex. Conclusions: As levels of PSS increased, the AUC and overall cortisol levels decreased. This association suggests those who experience high levels of PSS likely become 'resilient' to their environmental stressors that influence increased cortisol production. Daily alcohol use was associated with an increase in pre-bedtime cortisol levels, suggesting that excessive alcohol consumption influences stress symptomology and cortisol production, consistent with previous findings that high pre-bedtime cortisol is the greatest predictor of overall cortisol levels and stress.

Board 138

"I do not stand alone": An Assessment of Social Support Types in an Online Peer Social Support Intervention to Improve ART Adherence

Christina J. Sun, Thembekile Shato, Ashlynn Steinbaugh, Sharanya Pradeep, Ketzela Marsh, Rivet Amico, and Keith Horvath

Purpose: Approximately 1.1 million people live with HIV in the United States. Consistent adherence to antiretroviral therapy (ART) reduces excess morbidity and mortality; however, only 16%-42% of men who have sex with men (MSM) maintain suppressed viral load (VL). Social support is a key theoretical driver for improved ART and VL outcomes. The purpose is to describe supportive interactions about ART adherence, HIV care, and health care in an online intervention, called Thrive With Me (TWM). Methods: TWM is a theory-based virtual behavioral intervention that includes peer-to-peer communication, tailored ART and HIV information, and ART self-monitoring. MSM are encouraged to engage one another in asynchronous conversation. The topics are left to the participants' discretion. The first month of "upvoted" posts from the 200 intervention participants were double-coded and analyzed. Results: 1,751 posts were coded (intercoder reliability: 0.94). 10.7% of posts were focused on ART adherence (3.1%), HIV care (5.3%), and healthcare (2.3%). Among ART adherence, HIV care, and healthcare posts, informational (33.3%, 22.6%, and 30.0%, respectively) and emotional (1.9%, 4.3%, and 10.0%, respectively) support were provided. 24.1% and 50.0% of ART adherence posts were focused on adherence problems and strategies, respectively. 12.9%, 25.8%, and 23.7% of HIV care posts were focused on HIV lab results, medication side effects, and medication regimen changes, respectively. 95.0% and 70.0% of healthcare posts were focused on healthcare systems and providers, respectively. Conclusions: Adult MSM spontaneously sought and provided support relevant to ART adherence, HIV care, and health care. High levels of informational support and relatively low levels of emotional support were provided. These results may inform future trials to improve ART adherence and quality of life using existing or new social media platforms.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Board 139

Impact of Ambient Fine Particulate Matter Air Pollution on Health Behaviors: A Longitudinal Study of University Students in Beijing, China

Ruopeng An and Hongjun Yu

Purpose: Poor air quality has become a national public health concern in China. This study examines the impact of ambient fine particulate matter (PM2.5) air pollution on health behaviors among college students in Beijing, China. Methods: Health surveys were repeatedly administered among 12,000 newly admitted students at Tsinghua University during 2012-2015 over their freshman year. Linear individual fixed-effect regressions were performed to estimate the impacts of ambient PM2.5 concentration on health behaviors among survey participants, adjusting for various time-variant individual characteristics and environmental measures. Results: Ambient PM2.5 concentration was found to be negatively associated with time spent on walking, vigorous physical activity, and sedentary behavior in the last week, but positively associated with time spent on nighttime/daytime sleep among survey participants. An increase in ambient PM2.5 concentration by one standard deviation (36.5 μg/m³) was associated with a reduction in weekly total minutes of walking by 7.3 (95% confidence interval=5.3, 9.4), a reduction in weekly total minutes of vigorous physical activity by 10.1 (8.5, 11.7), and a reduction in daily average hours of sedentary behavior by 0.06 (0.02, 0.10), but an increase in daily average hours of nighttime/daytime sleep by 1.07 (1.04, 1.11). Conclusions: Ambient PM2.5 air pollution was inversely associated with physical activity level but positively associated with sleep duration among college students. Future studies are warranted to replicate study findings in other Chinese cities and universities, and policy interventions are urgently called for to reduce air pollution level in China's urban areas.

Board 140

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

Purpose: 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

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm**

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 141

Eating Behaviors in Early Childhood: Lunch Time Observations with Preschool Students

Laura J. Rolke, Jacqueline Forrester, Mackenzie R. Stuenkel, Kerry McKenzie, Sarah F. Griffin, and Kerry K. Sease

Purpose: In 2014, 12% of two to four-year-old Women Infant and Children (WIC) participants in South Carolina (SC) were obese. Preschool lunches are a well-situated environment where children of diverse backgrounds and family eating styles are provided with the same opportunity to eat a healthy lunch. The purpose of this study was to determine whether the lunch environment, specifically, the level of teacher and peer encouragement or discouragement, has an impact on the likelihood of children to try vegetables. Methods: Over two lunches in Fall 2018, 173 preschool students (300 total observations) were observed eating lunch at their SC Head Start site. Observers used a structured form to record how much students ate, as well as how children interacted with their food, with each other, and with their teachers. Observers took photographs of lunch plates before and after the children ate lunch. Four researchers reviewed lunch photos, observer notes, and independently scored how much of beets, Brussels sprouts, and carrots were eaten (92% agreement). Results: Qualitative analysis of observational notes produced nine categories of verbal interaction, which were later dichotomized for analysis. Mann-Whitney U tests were used to understand if social behaviors influenced how much a preschooler ate. Approximately 32% of the preschoolers tried beets, 27% tried Brussels sprouts, and 41% tried carrots. If positive comments were made by either the student or a student at their table, there were significant differences in the amount eaten of beets (z=-2.29, p=.02), Brussels sprouts (z=-4.6, p<.00), and carrots (z=-3.14, p<.01). However, teacher encouragement to try vegetables only showed significant differences in the amount eaten of beets (z=-3.44, p<.01) and Brussels sprouts (z=-3.6, p<.01). Conclusions: Findings suggest positive social interactions by teachers and peers about food impact the likelihood preschoolers will try and eat vegetables, particularly those less commonly recognized or eaten by children this age.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Sunday, March 10, 2019   6:00 – 7:30pm

Board 142

Analyses into Sociodemographic Variables Linked with Depressive Symptoms among U.S. adults.

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

Purpose: Depression, among other mental disorders, requires urgent public health attention due to its severe impact on individuals' quality of life. A progressive understanding of how social conditions and individual characteristics are associated with depression is critical for managing the dire resultant health outcomes. This study examined depression and depressive symptoms associated with sociodemographic variables. Methods: Secondary cross-sectional data from the nationally representative survey, 2017 Health Information National Trends Survey (n=3,285, male 1,303 and females=1,914), was used. Descriptive statistics and multiple linear regression analysis using SPSS 25.0 explored the factors associated with socio-demographic characteristics and depressive symptoms. After making jackknife survey adjustments, multiple linear regressions modelled all results. The demographic variables examined were age, gender, education level, marital status, income, and BMI. Depressive symptoms were analyzed by asking participants how often (daily to never) they feel 'little interest or pleasure in doing things', and 'feeling down, depressed or hopeless'. Results: The mean age of participants was 53 years. Based on sociodemographics characteristics, results indicated that individuals who were female (β=.052; p=.006), elderly (β=.107; p=.000), and married (β=.052; p=.014) were more likely to report depressive symptoms. In addition, the higher the level of education, the more likely participants reported being depressed (β=.066; p=.003). Finally, individuals within higher annual income ranges (β =.226; p=.000) and individuals with lower BMI (β=-.080; p=.000) reported more severe depressive symptoms. Conclusions: The biopsychosocial model may explain the interaction of specific demographic variables with depressive symptoms. Such understanding of how sociodemographics may influence predisposition to depression can be helpful in informing effective public health programs. For example, mental health education programs should consider marital status, gender, body image or age-specific programs in the design and implementation phases respectively.

Board 143

Health Lifestyles and Suicidal Behaviors among Asian American Adolescents

Yunyu Xiao and Wenhua Lu

Purpose: This study aims to identify the typologies of lifestyles and explore their associations with suicidal behaviors among a nationally representative sample of Asian American high school students. Methods: Data on 755 Asian American adolescents in grades 9-12 were obtained from the 2017 National Youth Risk Behaviour Survey (YRBS). Latent class analysis was conducted to identify homogeneous subgroups among 13 health behaviors, including diet, physical activities, sleep, and social media use. Suicidal behaviors were measured by three dichotomized variables on suicidal ideation, plan, and attempt. Multivariate multinomial logistic regression was conducted to explore the relationships between latent classes and suicidal behaviors, controlling for demographic profiles (e.g., age, gender) and psychological distress.

Results: Four classes of health lifestyles were identified. Class 1 ("Unhealthiest", 16.0%) engaged in most health risk behaviors (HRBs, e.g., not eating breakfast, infrequent exercise, insufficient sleep, high internet use). Class 2 (32.6%) engaged in physical activities frequently but had insufficient sleep and watched TV frequently. Class 3 (40.8%) had low engagement in HRBs but frequent Internet use. Class 4 ("Healthiest", 10.6%) had the lowest engagement in HRBs. Adolescents in Class 2 were more likely to attempt suicide (OR=14.56) relative to Class 1. Females were more likely to be in the Unhealthiest group (Class 1) than males (OR=6.13). Conclusions: Findings from this study reveal extensive gender disparities with regard to unhealthy lifestyles. Special attention should be paid to promote healthy lifestyles among female adolescents. Asian American youth with insufficient sleep and high media use emerge as a unique group at risk for suicidality. Identifying health lifestyle subgroups provides information on non-psychiatric risks of suicide among Asian American adolescents and constitutes a critical step for early prevention.

Board 144

Perceptions of Informal Payments to Physicians among Chinese Patients and Health Care Providers

Shinduk Lee, Wenxin Wang, David J. Washburn, and Jay E. Maddock

Purpose: Informal payments from patients to healthcare providers can be seen as an expression of gratitude, but they can also undermine the equal care principle and patients' trust in the healthcare system. Market-driven Chinese healthcare reforms during the late-20th century may have contributed to the rise in informal payments, called hongbao, while more recent reforms are attempting to reverse that trend. This study aims to examine Chinese patients' and healthcare providers' perceptions of hongbao and the characteristics of those who find the practice to be either ethical or unethical. Methods: Cross-sectional surveys were collected from patients (*n*=4733), doctors (*n*=1169), and nurses (*n*=1776) in 12 Chinese regional hospitals. The survey included participants' sociodemographic characteristics and perceptions about doctors receiving hongbao and patient-provider trust. Separate multi-level mixed effects models were conducted for patients, doctors, and nurses, to examine the factors contributing to their perception about whether doctors receiving hongbao was unethical. Results: The majority of patients (79%), doctors (73%), and nurses (86%) thought that it was unethical for doctors to receive hongbao. Patients (OR=1.3), doctors (OR=1.5), and nurses (OR=2.0) who believed that transparent hospital charges could promote patients' trust were significantly more likely to consider doctors receiving hongbao as unethical. Patients (OR=1.4) and doctors (OR=1.7) who perceived patient-doctor trust as good were also likely to consider doctors receiving hongbao as unethical. Furthermore, compared to doctors in departments of medicine, doctors in surgical departments (OR=0.6) were significantly less likely to think that receiving hongbao was unethical. In addition, age, sex, marital status, religion, and satisfaction with life were also significantly associated with participants' perception about hongbao. Conclusions: Multiple factors, including demographic factors, department culture, and attitudes toward patient-doctor or patient-hospital trust relationship, should be considered in designing and targeting policies or interventions for addressing informal payments in China's health system.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Board 201

Obesity and Short Sleep Duration Associations Depend on Age and Gender

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

Purpose: Obesity and inadequate sleep in adults are both highly prevalent in the United States (US). In the US, 37.9% of adults are classified as obese, having a body mass index (BMI) ≥ 30 kg/m2. Stratified by sex, 35.2% of men and 40.5% of women meet the BMI cut-point for obesity. Similarly, sleep problems are commonplace, with an estimated 35.3% of men and women in the US receiving less than the recommended seven hours of sleep during a typical 24-hour period. Methods: 2013 Behavioral Risk Factor Surveillance System (n=385,054) data were analyzed for this study. Short sleep was operationalized as ≤ 6 hours; age was categorized into 5-year groupings, ranging from 18 to 80+. Body Mass Index (BMI) was based on self-reported height and weight (kg/m2); values ≥ 30 were classified as "obese". Logistic regression analyses were stratified by age and sex; for each age group, the sleep-by-sex interaction was evaluated. Results: The relationship between sleep duration and obesity differed by sex for nearly all age groups, except later adulthood. Short sleep was associated with greater obesity risk in men between the ages of 18 and 74, with Odds Ratios (ORs) ranging from 1.19 (both 18-25 and 70-74) to 1.41 (both 30-34 and 35-39). For women, short sleep was associated with obesity for ages 18-69, with ORs ranging from 1.23 (65-69) to 1.64 (30-34). Short sleep duration was more prevalent among men (37.92-40.00%) than women (35.51-36.85%) between the ages of 25 and 49 (p<.0005). Conclusions: Both sexes had relatively equal prevalence rates of short sleep duration from ages 50 to 64, after which short sleep became more prevalent among women (27.65-28.53%) than men (20.91-26.75%) from ages 69 to 80+ (p<.0005). After adjustment for race/ethnicity, education, income, and smoking, these relationships were attenuated, but the pattern was maintained.

Board 202

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

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

Purpose: Childhood obesity is a serious public health threat. Although many researchers have conducted research on socioecological determinants of childhood obesity, their longitudinal effects remain inconclusive especially among young children. This study examined socioecological factors and associated transitions of children's body mass index (BMI) status throughout children's kindergarten to elementary school years, using data from a national longitudinal sample. Methods: The baseline sample of

AAHB

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

this study included 1,264 children (weighted n=379,297) extracted from the Early Childhood Longitudinal Study (baseline mean age: 5.24 years). The socioecological framework guided selection of socioecological obesogenic variables (e.g., family activity and parental involvement). Longitudinal ordered logistic regressions were performed to determine the associations between socioecological obesogenic variables and unhealthy/healthy changes in BMI status that captured transitions between healthy and unhealthy weight status (i.e., overweight, obesity, and severe obesity). Results: Children with Hispanic ethnicity and nonwhite race, less socioeconomic and environmental support, and living in households with fewer family members were more likely than their counterparts to have unhealthy BMI status changes over time (p<.05). Over the study period, girls were more likely than boys to experience transitions to unhealthy BMI status (p<.05). Conclusions: As hypothesized a priori, the findings of the current study affirmed multiple dimensions of how sociological obesogenic factors may influence children's BMI status changes in a longitudinal setting. In order to maintain children's long-term healthy weight, more attention should be paid to socioeconomic obesogenic factors surrounding children as well as individual determinants of obesity (e.g., being physically active and having well-balanced nutrition).

Board 203

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

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

Purpose: Body dissatisfaction (BD), or negative perceptions toward one's own physical appearance, is reported by 91% of college age women. BD is linked to depression and a precursor and predisposing factor for disordered eating. BD is significantly impacted by social influences and comparisons. Social network analysis (SNA) is a theoretical framework and methodology that examines how individuals interact with and influence each other. Because college students are particularly influenced by their social networks, the purpose of this study was to use SNA to examine network, behavior, and health-related characteristics related to BD scores among members of a sorority using two relational networks. Methods: Sorority members (n=208, 87% white, 39.1% freshmen) were asked to nominate up to 5 members they felt closest to (close-to) and 5 members they spent the most time with (time-with) in their sorority. SNA assessed relationships between BD and BMI, compulsive exercise, grade classification, and network characteristics (e.g., degree or amount of connections). Descriptive statistics were conducted using SPSS, quadratic assignment procedure (QAP) analyses were conducted using UCINET. Results: QAP regression analysis revealed significant models for both "close-to" (R^2=.404) and "time-with" networks (R^2=.400). Compulsive exercise, BMI, grade classification, and degree centrality were statistically significant

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

predictors for "close-to", while compulsive exercise, BMI, and closeness were significant predictors for "time-with". Close-to and time-with networks were correlated (r=.298). Conclusions: More close connections within a sorority may mean more social support to serve as a buffer for BD. Younger members with more close connections to older members tended to have higher BD suggesting upward comparisons. In both networks, members that were further from the center of the network tended to report greater BD. Researchers or practitioners looking to decrease BD among sororities should focus on fostering meaningful social connections among class similar peers, new member bonding experiences, and the impact of "big-little" mentoring.

Board 204

Does Perceived Cardiovascular Risk align with Actual Risk in College-aged Adults?

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

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

opportunities to increase not only awareness of CV risk but also the initiation and maintenance of health protective behaviors in young adults.

Board 205

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

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

Purpose: Diabetes has been linked to declining cognitive function and increased risk of dementia. However, it remains unclear how diabetes development is associated with cognitive decline. This study investigated the development of two diabetic conditions, including pre-diabetic status and newly diagnosed diabetes, and the decline in cognitive function over time among U.S. older adults. Methods: A cohort of 7,067 cognitively healthy older adults aged 65 and over were drawn from the 2006-2014 Health and Retirement Study, including 3,271 diabetes-free, 1,781 pre-diabetic (HbA1c ranged 5.7-6.4%), and 2,015 known diabetic participants at baseline. Two separate trajectories of cognitive function regarding diabetes progression were determined, including: 1) diabetes-free and pre-diabetic status to the first diabetes diagnosis, and 2) newly diagnosed and established diabetes status to the end of follow-up. Two multilevel models, adjusting for sociodemographic factors, were used to investigate the longitudinal association of pre-diabetic and newly diagnosed diabetic conditions with the aforementioned trajectories of cognitive function. Results: Participants with pre-diabetes had faster rates of decline in cognitive function than those with normal HbA1c (β=-0.04, $p\beta$=-.14, $p\beta$=0.84, $p<.01$). Conclusions: Pre-diabetic and diabetic conditions impair older adults' cognitive function over time; the rate of cognitive decline accelerates as pre-diabetes progresses to diabetes. Nevertheless, newly diagnosed diabetic patients have a slower rate of decline in cognitive function than known diabetic patients. Encouraging lifestyle changes among pre-diabetic older adults may prevent not only the development of diabetes but also cognitive function decline. Future studies for identifying protective factors and designing relevant medical or behavioral interventions that delay the decline in cognitive function of newly diagnosed diabetic older adults are warranted.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

<u>**Board 206**</u>*

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

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

Purpose: With the rise of obesity in current years, the proportion of older adults living with diabetes is substantial and expected to increase in forthcoming years. Along the Texas-Mexico border, 20% of adults have diabetes and an additional 73% are at risk of developing it. Diabetes-related deaths in border counties are higher than rates in all non-border counties combined. This study examines the effectiveness of a diabetes education program (DEP) offered as part of Healthy South Texas, a state-legislated initiative to reduce health disparities in 27 counties in South Texas. Methods: Our DEP is an 8-hour interactive workshop taught in English and Spanish during one full day or four weekly sessions. After the workshop, participants receive quarterly lab work and continuing education with a health educator for one year. Data were collected from 5,333 DEP participants with Type 2 diabetes living in South Texas at five time points (baseline, 3-months, 6-months, 9-months, 12-months). A series of independent samples t-tests and linear mixed-model regression analyses were used to identify changes over time. Results: The majority of participants were ages 45-64 years (58%), female (60%), Hispanic (67%), and had a high school education or less (75%). At baseline, the average weight was 208.76 pounds, body mass index (BMI) was 34.46 kg/m2, and hemoglobin A1c was 8.57%. The most substantial reductions in weight, body mass index, and hemoglobin A1c were identified from baseline to 3-month follow-up ($p<.0001$); however, these initial reductions remained significant at 12-month follow-up ($p<.05$). Conclusion: Findings support the effectiveness of DEP with ongoing follow-up for sustained diabetes risk management. While such interventions foster clinical-community collaboration and can improve patient adherence to recommended lifestyle behaviors, opportunities exist to complement DEP with other resources and services to enhance program benefits. Expansion efforts are currently underway to disseminate this program statewide.

*Research Scholars Mentoring Program

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

Board 207

Impact of Diabetes Distress on Hemoglobin A1c Levels in a Self-management Diabetes Intervention

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

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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Board 208

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

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

Purpose: Revised US guidelines for cervical cancer screening provide the option of primary human papillomavirus (HPV) testing, Pap testing, or co-testing. Primary HPV testing has not yet been an option for women in the United States, and women may be reluctant to change screening method. HPV testing may provide more accurate screening for cervical cancer. The objective of this study is to assess information, motivation, and behavioral skills associated with willingness to receive an HPV test instead of a Pap test among women. Methods: Women, ages 30-65 years, without a hysterectomy, completed an online survey in June 2018 (*n*=812). The Information, Motivation, and Behavioral Skills (IMB) model was used to measure predictors of willingness for HPV testing. The outcome variable was willingness to receive the HPV test every 5 years instead of the Pap test every 3 years (yes/no). A stepwise logistic regression model was used to estimate IMB factors associated with willingness for an HPV test, using SAS 9.4. Results: Over half of the sample (57.3%) were willing to receive the HPV test. Significant motivating factors included: confidence in the test (OR=1.59, 95%CI 1.09-2.33) and less frequent discomfort (OR=1.58, 95%CI 1.02-2.45). Negative attributes (i.e., tempted to not see physician in off years; concern about test accuracy) of the HPV test were inversely related to willingness. Women were significantly more willing to get the HPV test if a provider recommended it (OR=3.13, 95%CI 1.89-5.18). Enabling factors associated with willingness for the HPV test were learning more about the test and ease of scheduling. Conclusion: Emphasizing positive attributes of HPV testing compared to Pap testing may promote the use of this screening technique as this guideline transition takes place. Adoption of this guideline change has the potential to reduce cervical cancer cases nationally.

Board 209

"One man's fight to wipe HPV off the face of the planet" – The Power of Personal Narrative in Online News

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

Purpose: To describe potential exposure to online stories about the human papillomavirus (HPV) vaccine in a major U.S. city. Methods: Using data from Bing queries, we identified the 20 most viewed online news websites in Philadelphia Metro zip codes (including Camden, NJ). From January 1, 2017 – May 1, 2018 we searched

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

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

Board 210

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

Sarah Maness, Shristi Bhchhibhoya, and Marshall Cheney

Purpose: Adolescent pregnancy is at historic lows, but minorities remain disproportionately affected. Cultural tailoring of adolescent pregnancy prevention programs has been utilized as a way to reduce these disparities. However, little research has explored the depth and consistency of cultural tailoring. This study explored how cultural components are included in evidence-based adolescent pregnancy prevention programs. Methods: This study qualitatively assessed curricula of federally supported evidence-based adolescent pregnancy prevention programs specifically tailored for African American and/or Hispanic youth (¡Cuidate!, Project Image, Sisters Saving Sisters, SiHLE, HORIZONS, and Aban Aya). Curricula were obtained and a codebook was created using concepts from past literature on strategies for cultural tailoring. Patterns were analyzed within and between programs by two independent coders. Coders met to discuss themes and areas of disagreement. Results: Cultural components fell into five major themes: cultural art forms, traditions, history, community, and language. Four programs incorporated multimedia with African American or Hispanic actors and culturally-tailored music and/or language. The most

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

commonly included area was traditions (i.e., values, pride). Across programs, content differed in frequency and topic areas. For example, two programs extensively included elements of cultural history (i.e., historical knowledge, racism), while four added Swahili or Spanish words in the English-based curriculum. Conclusions: Variations exist in the cultural components both within and between adolescent pregnancy prevention programs in terms of topics and depth of instruction. The majority of programs were developed over a decade ago and it is not clear how often cultural components within programs should be updated to maintain relevance for changing trends among adolescent populations. All programs are evidence-based, however, little information is published regarding how cultural components affect program outcomes, which future research should assess. While curricula are often proprietary, transparency is recommended about program development processes of cultural tailoring.

Board 211

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

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

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

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

Board 212

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

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

Purpose: To assess, among adults ages 50-75 who have never been screened for colorectal cancer (CRC), the consistency between their reported barriers for screening at baseline and at a six-month follow-up. Methods: A nationally representative sample of 560 participants recruited from GfK's Knowledge Panel completed a baseline and a six-month post-baseline survey. At baseline, participants were asked what may prohibit them from having CRC screening; at follow-up, participants who did not obtain screening were asked what kept them from doing so. Results: Among participants who completed both assessments (n=400), 362(90.5%) did not get screened. Reporting 'no barriers'(n=28) at baseline predicted getting any form of CRC screening (OR=3.667, CI= 1.445, 9.303). Overall, 79% of individuals who did not screen reported a different barrier at follow-up compared to baseline. At baseline, participants identified 27 barriers, which were categorized into structural (e.g., transportation issues), patient-level (e.g., not motivated to screen), patient fears (e.g., fear of procedure), and health system (e.g., not recommended by a doctor) barriers. From baseline to follow-up, there was a significant increase in structural (17% to 26%, p=.0003) and patient level (23% to 35%, p=<.0001) barriers, a significant decrease in patient fears (17% to 12%, p=.033) and no significant change in health system barriers (5% to 6%, p=.843). Conclusions: Individuals often reported different barriers at baseline and at follow-up. Structural barriers and patient factors were reported more often at follow up. Among people who have never been screened, population-based interventions should focus on addressing structural and patient-level barriers. More research is needed to help adults who have never been screened achieve greater insight into their barriers for screening to design more efficacious tailored interventions to increase screening.

Board 213

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

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

Purpose: Risk for oral HPV has been shown to increase when an individual is diagnosed with periodontitis and does not receive the HPV vaccination. The purpose of the present study, given a paucity of literature on the topic, was to examine differences in oral HPV prevalence among adults based on HPV vaccination status and

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

periodontitis status. Methods: Data from the 2011-2012 and 2013-2014 National Health and Nutrition Examination Surveys (*n*=822) were retrieved in order to predict prevalence of oral HPV in 24 separate demographic groups (age by sex by race) based on the following characteristics: HPV vaccination status and periodontitis status. A multiple logistic regression model, controlling for gender, age, race, smoking behavior, alcohol consumption, and sexual partners, was calculated in order to generate prevalence estimates. Results: Median predicted oral HPV prevalence rates per 1,000 across 24 demographic groups in 2011-2012 were highest among non-vaccinated individuals with periodontitis (median [x̃]=34.13, interquartile range [IQR] = 105.66), followed by non-vaccinated individuals without periodontitis (x̃=23.94, IQR=76.25), vaccinated individuals with periodontitis (x̃=23.05, IQR=73.60), and vaccinated individuals without periodontitis (x̃=16.12, IQR=52.49). Median predicted oral HPV prevalence rates per 1,000 across 24 demographic groups in 2013-2014 were highest among non-vaccinated individuals with periodontitis (x̃=10.46, IQR=34.63), followed by non-vaccinated individuals without periodontitis (x̃=7.29, IQR=24.35), vaccinated individuals with periodontitis (x̃=7.01, IQR=23.45), and vaccinated individuals without periodontitis (x̃=4.88, IQR=16.41). Conclusion: Interventions that integrate primary care and dental care are needed, given increased risk for oral HPV among unvaccinated individuals with periodontitis. In particular, dental clinics should consider the inclusion of a medical care provider to administer HPV vaccination after routine dental cleanings.

Board 215

Examining the Association Between Physical Symptoms and Exercise During Pregnancy

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

Purpose: 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, *M*age=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 a lower likelihood of exercising during pregnancy. Future research aimed at mitigating heartburn may help to increase the likelihood of exercising during pregnancy.

Board 216

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

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

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

guests. Increasing social cohesion among guests, however, does not appear to be a promising avenue for reduction of stress. Future research should investigate environmental sources of fear and mistrust to provide further direction for interventions.

Board 218

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

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

Purpose: There is a growing recognition that built environments with contact with nature impact stress and well-being. This experimental study was designed to examine the effect of an emerging type of nature contact – flowers. Methods: A representative sample of 170 women (ages 18-65) completed stress-related surveys including the Perceived Stress Questionnaire (PSQ) and mood surveys for 12 consecutive days. The women were blindly randomized into one of the following groups: flower delivery (n=58), candle delivery (n=55), and no delivery control (n=57). The comparison (candle) group and flower group received their "thank you gift" at home on day five or six of the study – both gifts were prepared and delivered by a local florist and represented similar value. Results: There were no significant differences in baseline stress or demographic variables among groups. Each group had lower PSQ stress scores at posttest and there were no significant differences in stress reduction among the groups, but the flower stress reduction values were approaching statistical significance (p=.0825). The flower group had significantly greater stress reduction after the delivery than the comparison gift group (p=.0457; 95%CI: 0.06-6.3). There were no significant differences or trends in daily mood changes among the groups. Women in the flower group reported statistically better mood (p=.0334; χ^2=10.45) and enjoyment (p=.0089; χ^2=13.55) compared to the comparison candle group in a post-only perception survey. Discussion: Findings suggest flowers reduce stress more than candles and respondents believe they significantly impact their mood and enjoyment. These findings are consistent with environmental restoration theories and are important because passive environmental exposure to nature does not require effort (like other stress reduction approaches) to reduce stress. Indoor nature contact is an innovative, simple public health solution to stress and stress-related health issues.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Board 219

"They really helped me destigmatize it…it's okay to go get help:" Social Factors Influencing University Students' Decisions to Seek Mental Health Counseling in a University Setting

Alexandra R. Budenz and Philip Massey

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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Board 220

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

Valerie Senkowski, Clara Gannon, and Paul Branscum

Purpose: The Theory of Planned Behavior (TPB) has long been used to guide development of health promotion interventions, however little is known about how interventions target theory constructs. The purpose of this systematic review was to determine behavior change techniques (BCTs) used and theoretical constructs targeted in TPB-based interventions to increase physical activity among older adults. Methods: The PRISMA guidelines were used to conduct this systematic review. Using 5 databases (e.g., Medline), 7 interventions (three RCT, three quasi-experimental, one n-of-1) from four countries (US, UK, AU, NL) were found and included in the final review. Researchers independently coded BCTs using the Behaviour Change Technique Taxonomy (BCTTv1), a hierarchical taxonomy of 93 behavior change techniques. Results: The number of unique BCTs used in each intervention ranged from 4 to 15. The most frequently coded BCTs included "Goal setting" (n=5 studies), "Action Planning" (n=5 studies) and "Credible Source" (n=5 studies). Seven interventions targeted the TPB construct perceived behavioral control, five targeted intentions, five targeted attitudes, and only one targeted subjective norms. In three articles the proposed relationships between BCTs and the intended target constructs could be identified (e.g., self-monitoring (BCT) was used to target attitudes (target construct)), while in four articles the relationships were unclear, either because they were not reported or the relationships were reported in aggregate (e.g., the program affected the target constructs). Conclusions: Physical activity interventions among older adults can vary widely in the techniques used to promote changes in behaviors or psychosocial determinants of behaviors. When interventions target multiple theoretical constructs using multiple BCTs, it is important to report relationships between specific BCTs and constructs so that the underlying mechanisms of interventions can be understood. Only 26 BCTs were found in these interventions, which indicates there are intervention opportunities to evaluate less commonly used techniques with this population.

Board 221

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

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

Purpose: Research suggests beneficial associations between psychological resources and chronic conditions. It is important to examine the mechanisms underlying such

associations. The purpose of this study is to investigate the longitudinal association of psychological resources with the prevalence of chronic conditions, and the mediating roles of allostatic load and health behaviors. Methods: Participants (*n*=850) from the Midlife in the United States (MIDUS) cohort completed psychological resource surveys, biomarker data collection, and a health assessment over the course of 10 years. Structural equation modeling tested the direct association of psychological resources (baseline) with chronic conditions (7-10 years follow-up), and indirect associations via allostatic load and health behaviors. Psychological resources (a latent composite variable), health behavior index (smoking, exercise, sleep, alcohol intake, fruit/vegetable intake), allostatic load (composite of 23 biomarkers), and chronic conditions (sum of diabetes, hypertension, anxiety/depression, stroke, joint/bone problems, heart conditions) were included in the model. Age, sex, race, and education were controlled for. Results: Psychological resources were negatively associated with chronic conditions directly (*b*=-.219, *p*<.001). Psychological resources were negatively associated with allostatic load (*b*=-.075, *p*<.05), and positively associated with health behaviors (*b*=.132, *p*<.001). Allostatic load was positively associated with chronic conditions (*b*=.255, *p*<.001), but no association was found between health behaviors and chronic conditions (*b*=-.061, *p*=.060). Allostatic load partially mediated the association between psychological resources and chronic conditions (*b*=-.019, *p*<.05), but health behaviors did not mediate the association (*b*=-.008, *p*=.093). Conclusions: This study highlights the importance of psychological resources and their protective influence on chronic conditions, and the mediating role of allostatic load on the association between psychological resources and chronic conditions.

Board 222

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

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

Purpose: Mental Health First Aid (MHFA) is a training program aimed at improving participants' abilities to approach, support, and aid those in distress of mental health (MH) issues and increasing help-seeking behaviors. This study evaluated the effectiveness of the MHFA training program among faculty and staff at a large urban university. Methods: A longitudinal, pre-, post-, and 3-month follow-up study design was used to assess the impact of MHFA training on 120 faculty and staff participants. Using an adapted version of the Mental Health Beliefs and Literacy Scale (MBLS), grounded in the Unified Theory of Behavior Change framework, the following constructs were assessed: 1) attitudes and beliefs on difficulty, reward, and positivity of MHFA, 2) personal and perceived social beliefs on MHFA and MH problems, 3) self-efficacy in respect to confidence and control, 4) behavioral intention, 5) knowledge of MH issues, 6) cues to action, 7) behavior, and 8) perceived behavioral change. Results: Preliminary

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

analysis revealed statistically significant improvements across several outcomes, including personal beliefs towards performing MHFA (p=.014) and individuals with MH illness (p=.046). In regards to MHFA actions, perceptions of difficulty level (p=.006), belief in positive results (p=.001), and perceptions of reward (p=.017) had significant positive changes after training. Participants indicated improvement in self-efficacy, specifically in self-confidence to perform MHFA actions (p=.001) and control over those actions (p=.026). Significant increases in the intent to use helping behaviors (p=.021) were observed. From pre- to post-test, participants felt MHFA was less difficult, more rewarding, and more likely to produce positive results. Participants held greater positivity towards MHFA and MH illness and confidence in their ability to help others in distress upon completion. Conclusions: MHFA is an effective MH intervention with numerous benefits. It has the potential to positively impact the response to MH issues among college students.

Board 223

An Examination of Depressive Symptoms among Caregivers Versus Non-caregivers: Results from the 2017 Health Information National Trends Survey.

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

Purpose: Caring for one or more dependents can sometimes translate into caregiver stress followed by adverse health outcomes. The stress endured by a caregiver very often leads to depressive symptoms that may be overlooked in the caring process and thus subject to further deterioration in the absence of help-seeking. This study intended to compare the likelihood of caregivers versus non-caregivers to report depressive symptoms. Methods: Data from the 2017 Health Information National Trends Survey (HINTS), a nationally representative survey, were used. Depressive symptoms (dependent variable) were analyzed on a 4-point Likert scale: how often (daily to never) they feel 'little interest or pleasure in doing things,' and 'feeling down, depressed or hopeless.' Caregiving status (independent variable) was operationalized as either caring for a child, a friend, relative, or not caring for anyone. Sociodemographic variables were controlled for in all analyses. After making jackknife survey adjustments, multiple linear regressions were modeled. Results: The sample (n=3,285) consisted of 1,303 males and 1,914 females. Mean age of participants was 53 years. Caregiving for a child positively influenced depressive symptoms (β=0.313, p=.024), while caring for a spouse (β=0.153, p=.355) and friend or non-relative (β=-0.172,) did not have a statistically significant relationship with depressive symptoms. Caring for no one showed a strong negative association with depressive symptoms (β=-0.400, p<.000). Conclusion: Caregivers of one or more children were more likely to report depressive symptoms than those who were not providing care to anyone, leading to the inference that wholesomeness of the family unit should be prioritized when delivering health programs.

Consequences of caregiving, such as depression, should not be minimized. More specifically, policies governing community health/mental health programs should ensure that coping skills' education and counseling for caregivers be made more available and accessible.

Board 224

Examining The Relationship Between Peripheral Nerve Impairment And Depressive Symptomology

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

Purpose: Peripheral nerve impairment (PNI) is well understood as one of the most common complications of diabetes mellitus, but emerging evidence suggests that one in ten adults without diabetes may have PNI as well. Common symptoms of PNI, like numbness and burning pain, can have deleterious impacts on health-related quality of life. The purpose of this study was to measure the association between PNI symptoms and depressive symptoms among patients with and without diabetes mellitus. Methods: Patients of a large, federally-qualified health center were administered the 15-item Michigan Neuropathy Screening Instrument (MNSI) and the 8-item patient health questionnaire depression scale (PHQ-8). Patients with an MNSI score ≥4 were categorized as symptomatic of PNI and patients with a PHQ-8 score ≥10 were considered to have current depression. Logistic regression was used to analyze the relationship between PNI and depressive symptoms, in the total sample population and stratified by diabetes status. Results: 406 patients (72.2% female, 27.8% male) were included in the final analysis. There were no statistically significant differences by diabetes status in PNI symptom (Diabetes=61.8%; No diabetes=55.4%; p=.20) or in depression status (Diabetes=37.6%; No diabetes =36.6%; p=.83). After adjustment for covariates, PNI was significantly associated with clinical depression (OR=3.52; 95%CI: 1.73, 7.16) among the total sample population. After stratifying by diabetes status, PNI remained significantly associated with clinical depression only among individuals without diabetes mellitus (OR=4.81; 95%CI: 1.87, 12.36). Conclusions: Over half of patients with and without diabetes reported at least 4 symptoms of peripheral neuropathy. PNI may be an underappreciated risk factor for the development of depression, especially among populations without diabetes who have not been traditionally screened for PNI. More work is needed to understand the etiology and potential utility of intervention for depression symptoms among patients with neuropathy.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Board 225

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

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

Purpose: Characterized by an overwhelming sense of sadness, hopelessness, and apathy, depression interferes with life on a day-to-day basis. The quality of social and emotional support provided for and received by an individual can protect against the development of depression. Most studies have focused on convenience and/or non-representative samples. Therefore, this study aimed to examine the influence of social and emotional support on depressive symptoms among a nationally representative sample of U.S. adults. Methods: Secondary cross-sectional data from the 2017 Health Information National Trends Survey (n=3,285, males=1,303 and females=1,914) were used. Descriptive statistics, multiple linear regression, and hierarchical regression examined the factors associated with depressive symptoms (dependent variable) and social and emotional support (independent variables). Sociodemographic variables were controlled for in all analyses. Results: Mean age of participants was 53 years. Less emotional (β=-0.135, p<.000) and less social (β=-0.122, p<.001) support were associated with higher reported depressive symptoms respectively. In step one, demographics alone predicted 30% of the variance in depressive symptoms. Emotional and social support was later added in step 2 and the variance increased to 34%. The F change was statistically significant (p<.001). Conclusions: Social and emotional support are a vital part of mental health. Research shows that social isolation plays a significant role in morbidity and mortality, which is in line with the results. The less socially connected and emotionally supported individuals feel, the more severe depressive symptoms they report. These findings are helpful for planning and implementing mental health education programs that emphasize the building of social capital within communities that will go toward prevention and management of depression.

Board 226

Psychometric Properties of a Mental Health Literacy Scale among College Students

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

Purpose: To date, there are few tested and validated scales to assess mental health literacy.The purpose of this study was to evaluate the psychometric properties of a mental health literacy (MHL) scale being utilized to evaluate an interactive online health literacy module, called Kognito, among college students. Methods: During Summer 2018, new incoming students completed Kognito and its accompanying pre/post-tests.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

The questionnaire consisted of a 24-item Likert scale measuring the components of MHL, with higher scores indicating higher levels of MHL. Total MHL was measured as a composite score of five factors: knowledge of mental illness (5 items), beliefs about mental illness (5 items), knowledge of support resources (5 items), behavioral intentions toward seeking and recommending help (4 items), and self-efficacy for recognizing, approaching, and discussing mental illness (5 items). Reliability analysis and exploratory factor analysis were conducted. Results: Analysis of the 24 items indicated a good Cronbach's Alpha (α=0.90) and a five-factor structure that accounted for 60.01% of the total variance. Factors generally aligned with hypothesized constructs and had adequate reliability (α=0.76 – 0.92). The construct of behavioral intentions did not have adequate reliability (α=0.65) and the items failed to load onto a single factor. Removal of the behavioral intention items resulted in a five-factor scale accounting for 65.76% of the total variance and comparable reliability (α=0.89). Conclusions: The MHL scale used to assess Kognito was found to be reliable and adequately assessed the intended constructs. However, issues regarding behavioral intention items were identified, suggesting that the scale does not adequately measure this construct. Additional modifications to this scale are needed to improve the assessment of behavioral intention. The development and psychometric assessment of this scale can be used for MHL program evaluation among college students.

Board 227

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

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

Purpose: In contrast to the myth of "the model minority", growing evidence indicates that Asian American (AA) youth are at higher risk for mental disorders, including depression and anxiety, but least likely to seek out help for professional mental health services among all racial/ethnic youth groups. This study aims to understand the help-seeking behavior of AA youth with mental illness and investigate factors impeding or facilitating their use of professional mental health services. Methods: Focus group discussions and face-to-face interviews were conducted with 50 participants in two outpatient mental health clinics in NYC, including adolescents who are currently receiving mental health services for their mental illness (n=16), their parents (n=18), and bilingual clinicians serving mainly AA families (n=16). Interviews were audio-recorded, transcribed verbatim, and coded thematically using Nvivo 12. Results: Participants in this study identified multiple barriers that uniquely influenced AA youth's attendance and adherence to mental health services, including parents' concerns and stigma around treatment history and record, unrealistic expectations for treatment, cultural mistrust in clinicians' expertise, as well as stigma or "losing face" in the small ethnic community.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Adolescents' privacy/confidentiality concerns, non-compliance/resistance to treatment, misconceptions of medication use, and logistic barriers such as transportation and schedule conflict with school or extra-curricular activities were further identified as barriers to treatment. In regard to facilitators, participants highlighted the importance of school and teacher referral, normalizing mental health service use, goal-setting and rapport and trust-building at an early stage in the treatment, as well as working alliance and commitment from both youth and their parents for the treatment. Conclusions: Culturally sensitive psychoeducation is needed to normalize mental health treatments in Asian American communities. Expanded service capacity and community outreach programs that meet particular social service needs of low-income Asian American families hold promise for engaging them into treatment.

Board 228

"Our health isn't taken seriously": Formative Research to Develop a Strengths-based HIV Prevention mHealth Intervention for Transgender Women

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

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

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

Board 229

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

Yunyu Xiao

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

Board 231

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

Yunyu Xiao and Wenhua Lu

Purpose: This study aimed to examine the relationship between social network risks and multiple health behaviors among adolescents, with a special focus on the moderating effect of future orientation. Methods: Using a sample of 4,899 adolescents

in 7th-12th grades from the National Longitudinal Study of Adolescent Health (Wave I-II), this study examined the independent and interactive effects of social network risks (e.g., family detachment, peer rejection, school disconnectedness, low neighborhood support) and future orientation on adolescent multiple health behaviors, including diet, physical activity, drunk drinking, sleep, and social media use. Multivariable logistic regression analyses were conducted, controlling for sociodemographic characteristics and adolescent depressive symptoms. Clustering effect and sampling weights were further adjusted to ensure that the sample was nationally representative and the statistical inferences were appropriate. Results: Results provided evidence that adolescents exposed to social network risks had more health risk behaviors (HRBs), such as not eating breakfast (OR=2.28), lack of physical activity (OR=1.63), drunk driving (OR=3.00), and high screen time (OR=1.92). In contrast, adolescents with higher levels of future orientation reported fewer HRBs, particularly in dietary and safety behaviors. Several significant interaction effects were found between adolescent future orientation and social network risks. Specifically, negative associations were found between peer rejection and drunk driving (OR=0.12) and between peer prejudice and intake of fruits/vegetables (OR=0.27) in adolescents with high future orientation. Conclusions: Findings of this study implicate the role of future orientation on mitigating the link between social network risks and HRBs. Higher levels of future orientation could significantly reduce HRBs through buffering the negative impact of social network risks, particularly among peer networks. Incorporating future orientation in multiple health behaviour change interventions could improve the efficacy and effectiveness of programming, especially for adolescents in disadvantaged social network environments.

Board 232

Elementary School Students' Exercise Intention and Behavior in Taipei City: Application of The Theory of Planned Behavior

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

Purpose: Physical inactivity among elementary school students in Taiwan has been a pertinent concern. However, determinants of students' exercise behaviors and intention in Taiwan remains understudied in the extant literature. The purpose of this study was to apply the Theory of Planned Behavior to examine factors that determined the intended and actual behaviors of regular exercise among elementary school students in Taipei City, Taiwan. Methods: This study applied the Theory of Planned Behavior to guide construct and variable selection. A total of 1,084 fourth grade elementary school students in 11 schools in Taipei City were surveyed during November to December, 2014, of which 1,074 provided valid responses. A follow-up evaluation was conducted six months later where 1,064 students provided valid responses and were included in the final analysis. Linear and logistic regressions were conducted to examine factors

associated with the intended and actual exercise behaviors, controlling for sociodemographic factors. Results: Among the final study sample (*n*=1,064), 84.2% had a positive exercise intention, and 32.3% engaged in regular exercise. Attitudes toward the behavior, subjective norms, and perceived behavioral control were all positively associated with behavioral intentions (*β*=.21, *p*<.001; *β*=.05, *p*<.05; *β*=.55, *p*<.001, respectively). Additionally, behavioral intention was an immediate determinant of regular exercise behavior (OR=2.63, *p*<.001), while perceived behavioral control was associated with regular exercise behaviors (OR=1.84, *p*<.001). Conclusion: The Theory of Planned Behavior constructs, such as attitudes toward exercise behavior, subjective norms, and perceived behavioral control, had considerably predictive power of exercise intention and behaviors among elementary school students in Taipei City, Taiwan. The results can be provided as evidence and a reference for the government, schools, and health educators when making physical education curricula as well as designing exercise promotion programs to help elementary school students engage in regular exercise behaviors.

Board 233

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

Jewel Scott, Susan Silva, and Leigh Ann Simmons

Purpose: The prevalence of hypertension in black females is 46%, which is higher than all other females living in the United States. Behavioral responses to adverse social exposures (e.g., social isolation, discrimination) may contribute to disparate prevalence of hypertension in young black females. The objective of this study was to explore multiple risk behaviors and social exposures as potential indicators of increased risk for hypertension among black females to identify possible pathways for intervention. Methods: Subjects were 668 black females, ages 24-32, participating in the National Longitudinal Study of Adolescent to Adult Health. Health behaviors included sleep, diet, physical activity, and tobacco use, while social exposures included child abuse, discrimination, perceived stress, and social isolation. Blood pressures were measured and participants were classified as having hypertension or not using national guidelines. Bivariate and multivariable logistic regression was used to identify behavioral risk subgroups among those with and without hypertension. Results: Among the young women, 17% were classified as hypertensive. In bivariate analyses, sleeping more than nine hours and high perceived discrimination predicted hypertension. Having multiple risky health behaviors was not predictive of having hypertension (*p*=.11). In multivariable analyses, hypertension was associated with higher body mass index (OR=5.2, *p*<.0001), long sleep duration (OR=2.6, *p*<.004), and perceived discrimination (OR=1.6, *p*= 0.05). Conclusions: Hypertension is a significant public health issue among

young black females. Although multiple health behaviors did not predict hypertension, the extremely high odds ratio for elevated weight suggests that BMI may be acting as a proxy for the typical behavioral risks (e.g., diet and exercise) associated with hypertension. Understanding how behavioral responses to race- and sex-based stress may influence sleep and other health behaviors may aid in the development of tailored interventions to reduce morbidity and mortality associated with hypertension in black females.

Board 234

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

Anthony McGaughey, Paul Branscum, and Grace Fairchild

Purpose: Aerobic physical activity (PA) and muscle strengthening PA are ideal behaviors for multiple behavior change interventions, given that they are interrelated, yet distinct, and provide unique benefits. Since rates of aerobic PA participation are almost double that of muscle strengthening PA, the purpose of this study was to evaluate differences in theory-based determinants of muscle strengthening PA between those meeting and not meeting aerobic PA guidelines. Methods: College students at a southwestern university completed a survey measuring constructs from the Reasoned Action Approach (i.e., intentions, attitudes, perceived norms, and perceived behavioral control (PBC)), and participation in aerobic and muscle strengthening PA. Regression models were created for students meeting (n=270) and not meeting (n=172) aerobic PA guidelines. Results: Participants meeting aerobic PA guidelines reported significantly more days per week engaged in muscle strengthening PA (m=2.89 +/-2.0) than participants not meeting aerobic PA guidelines (m=2.06 +/-1.9) (p<.001, d=0.42). Regression models showed that attitudes, perceived norms, and PBC explained a substantial amount of the variance of intentions for both groups [meeting (45.5%); not meeting (59.7%)], however, PBC moderated the relationship between intentions and muscle strengthening PA for those not meeting cardio PA recommendations, but this was not observed for those meeting cardio PA guidelines. Conclusions: Results from this study showed there are different theory-based determinants for muscle strengthening PA, based on an individual's participation in aerobic PA, which translates to a need for different intervention approaches and strategies for each group. To promote muscle strengthening PA among students not meeting aerobic PA recommendations, implementational interventions are likely needed to build PBC (i.e., capability, skills, and self-efficacy), while for students meeting aerobic PA recommendations motivational interventions are warranted to create favorable intentions and attitudes.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

Board 235

Distracted Street-crossing in College Students: Application of the Theory of Planned Behavior

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

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

Board 236

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

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

Purpose: The CDC recommends that youth ages 6 to 17 years should do 60 minutes or more of moderate-to-vigorous physical activity daily. Daily physical activity has been shown to reduce the risk of developing chronic diseases, reduce symptoms of depression and anxiety, improve cognitive performance, and improve classroom behaviors in children and adolescents. While the benefits of physical activity are

numerous, many children and adolescents do not meet the daily physical activity recommendation. The transtheoretical model (TTM) is an integrative behavior change model that identifies stages of readiness to meeting a behavior change goal. Each stage assesses current behaviors, as well as intention and self-efficacy to make the behavior change. A random sample of 1,436 students from eight middle schools in a public school district in South Carolina completed a comprehensive education and well-being survey, including physical activity questions, in Fall 2018. Students were categorized into one of the five TTM stages based on self-report daily physical attainment in the last seven days and follow-up questions assessing intention and/or maintenance. Logistic regression was used to assess the relationship between TTM stage, self-efficacy, and overall self-reported physical and mental health. TTM stage distribution is: 117 (8.2%) precontemplation, 521 (36.3%) contemplation, 479 (33.4%) preparation, 141 (9.8%) action, and 178 (12.4%) maintenance. Compared to students in other stages, students in the precontemplation stage were significantly more likely to report they are unable to do physical activity when sad or stressed (OR=7.4, p<.00) and in their neighborhood (OR=9.3, p<.00). Students in precontemplation and contemplation stages were more likely to report poor or fair mental health (OR=2.4, p<.00). These findings indicate that awareness and skill-based interventions emphasizing how physical activity can improve emotional health and strategies for addressing environmental barriers may be productive in helping youth move from precontemplation and contemplation to preparation and action.

Board 237

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

Diana K. Stojda, Rebecca Hollenbach, V. Faye Jones, Muriel J. Harris, Jessica M. Klein, Nana Owusu Kwarteng, and Chisom Odoh

Purpose: To characterize IFMs in Jefferson County by determining whether healthy foods are available (e.g., vegetables, fruits, whole grains, protein); visualizing the presence of IFMs in community areas and designated food deserts by national origin and diversity. Methods: Eighty IFMs in Jefferson County were identified and invited to participate in a food availability study. Current food availability was assessed using the Harvard Healthy Eating Plate form (HHEP) and the Food Environment Audit for Diverse Neighborhoods (FEAD-N). Healthy Food Option scores (HFO) using the HHEP, and Total Products scores (TP) from the FEAD-N were computed. Geospatial relationships of IFMs, food desert areas, race/ethnicity, and Simpson's Diversity Index were mapped using ArcGIS, and distributions of HFO and TP scores were analyzed using SAS 9.4. Results: Sixty stores agreed to participate and were still open for business. HFO scores ranged from three to five, with 86.7% having all five healthy food groups. The range of

the average TP scores (TPmax=204) from all IFMs was 82, with a median of 26.8 (IQR=16). Stratifying TP scores by food category showed that fresh produce made up the largest proportion; of the five stores where produce-specific TP scores were approximately 30% of the total number of fresh produce on the FEAD-N (TPmaxproduce=132), four were Hispanic/Latino. Finally, IFMs were highly concentrated in four community areas that include subsections designated by the USDA as being low income and/or low access areas for fresh foods, including Southwest Core and Iroquois Park. Conclusions: IFMs may provide healthy products to all members of the community. However, there is a relatively low concentration of IFMs in areas with a high proportion of racial/ethnic minorities, reducing the likelihood that they could meet their basic nutritional needs.

Board 238

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

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

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

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

morbidity and mortality among low income community samples. Work assessing the longitudinal impact of overall behavioral health wellness on all aspects of healthy dietary consumption are needed to delineate future directions in this area.

Board 239

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

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

Purpose: Vegan diets offer many health benefits, however cultural food preferences are important to consider for understanding African American (AA) adults' preferences for adopting a plant-based diet. The purpose of this study was to evaluate if eating at local vegan soul food restaurants helped increase perceived benefits and reduce perceived barriers to adopting a vegan diet more so than preparing vegan meals at home among AA adults living in the South. Methods: Non-vegan, AA adult participants (mean age 43.7±12.1 years, BMI 36.6±9.1 kg/m2, 100% AA, and 89% female) were randomly assigned to either a Restaurant (*n*=13; gift cards to local vegan soul food restaurants) or Grocery group (*n*=15; gift cards to grocery stores). Participants were provided counseling and materials for vegan soul food recipes and were asked to follow a vegan diet for three weeks. Participants completed a perceived barriers and benefits for plant-based diets questionnaire (5-point scale, 5=high barriers or benefits) at baseline and follow-up. T-tests for differences in barriers/benefits were conducted, controlling for baseline scores. Results: At follow-up, Restaurant group participants had higher perceived barriers in two areas: 1) indigestion (Grocery: 1.9±1.0 and Restaurant: 2.9±1.1, *p*=.04) and 2) concerns that vegan foods are low in iron (Grocery: 2.0±0.8 and Restaurant: 2.8±1.0, *p*=.03). Grocery group participants had higher scores for perceiving a vegan diet as making them more "fit" (Grocery: 4.4±0.5 and Restaurant: 3.8±0.9, *p*=.03). For the combined sample, there were significant decreases in 11 perceived barriers and significant increases in 2 perceived benefits. Conclusions: Culturally-tailored, short-term dietary interventions can improve perceptions for adopting a vegan diet among AA adults in the South. Further, encouraging vegan cooking at home can decrease perceived barriers related to indigestion and iron content of plant foods, and increase perceived benefits of fitness more than eating at vegan restaurants.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm**

Board 240

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

Paul Branscum, Karina Lora, and Daphne C. Hernandez

Purpose: The etiology of obesity is complex, and a growing body of research suggests that multiple behavior change interventions have a stronger impact than single behavior change interventions. Two behaviors related to childhood obesity in the Hispanic community are a lack of fruit and vegetable (FV) intake and high sugar-sweetened beverage (SSB) consumption. The purpose of this study was to evaluate theory-based determinants of monitoring practices of Hispanic mothers, using theoretical antecedents from two behaviors: those related to FV and SSB consumption. The Reasoned Action Approach was used as a theoretical framework. Methods: A valid and reliable survey was distributed to Hispanic mothers (n=238) of 2 to 5-year-old children, evaluating monitoring practices, intentions, attitudes, perceived norms, and perceived behavioral control (PBC) related to FV and SSB consumption. Two models were constructed using structural equation modeling, by allowing attitudes, perceived norms, and PBC of both behaviors to predict intentions for both behaviors, and PBC and intentions to predict monitoring practices of FV and SSB. Results: Both models had adequate fit [FV (CFI=0.973; GFI=0.980; RMSEA=0.121); SSB (CFI=0.994; GFI=0.993; RMSEA=0.066)]. PBC for both FV and SSB monitoring significantly predicted monitoring for SSB, while FV intentions was the only significant predictor for monitoring of FV. Conclusions: Results from this study provide evidence that among Hispanic mothers, monitoring behaviors related to the development of childhood obesity influence each other. It also appears that to promote SSB monitoring, more implementational strategies (i.e., skills-based interventions) are warranted, while to promote FV monitoring, more motivational strategies are warranted.

Board 241

Food Insecurity Predicts Heavier Weight Preferences among White and Hispanic Women and Men, but Not among Black Women or Men

Layton Reesor and Daphne C. Hernandez

Purpose: While research suggests that food insecurity (FI) and obesity co-exit, it is unknown whether a heavier weight status is preferred by FI individuals. It is possible that FI individuals view a heavier body composition as protective against their inconsistent access to adequate nutrition. Therefore they may desire a heavier body composition. Also, weight preferences have been shown to differ by sex and

race/ethnicity. The purpose of this study is to evaluate whether FI is related to heavier weight preference and whether this relationship differs by sex and race/ethnicity. Methods: Using the National Health and Nutrition Examination Survey (2005-2014), non-aging adults (ages 20-59) most at risk for food insecurity (Federal Poverty Level (FPL)< 3.00%) with complete data on target variables were included (n=4,719 women; 4,164 men). Logistic regression analyses were conducted to evaluate whether FI predicted heavier weight preference. Models were stratified by race/ethnicity and sex and controlled for weight status, age, nativity, relationship status, education, employment, income, and health insurance. Results: Among women, FI was associated with increased odds of desiring to be heavier among whites (OR=2.15; 95%CI 1.12 – 4.11) and Hispanics (OR=1.98; 95%CI 1.16 – 3.37) but not among blacks (OR=1.40; 95%CI 0.83 – 2.34). Among men, FI was associated with increased odds of desiring to be heavier among whites (OR=1.91; 95%CI 1.35 – 2.71) and Hispanics (OR=1.59; 95%CI 1.02 – 2.49) but not among blacks (OR=0.85; 95%CI 0.57 – 1.26). Conclusions: FI was a significant predictor of heavier weight preference among white and Hispanic women and men, but not among black women or men. Those who desire a heavier body composition may engage in more obesogenic behaviors. Health care practitioners need to address weight preferences when providing weight management education to food insecure white and Hispanic individuals.

Board 242

Connecticut Policymakers Do Not Perceive Tobacco as an Important Community Issue

Anna Greer and Ann-Uriel Knausenberger

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

abuse (100.0%), obesity (97.8%), and high taxes (83.0%) as most important and elected officials perceived lack of good jobs (93.2%), drug abuse (90.5%), and cost of living (81.4%) as most important. Conclusions: In CT, health directors more often perceive tobacco use as an important issue than do elected officials. Efforts to develop tobacco policy in CT must include education about the relative importance of tobacco as a community issue in CT.

Board 243

Rapid Consumption of Supersized Alcopops: An Examination of YouTube Videos

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

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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Monday, March 11, 2019   6:00 – 7:30pm

Board 244

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

Su-Wei Wong and Hsien-Chang Lin

Purpose: E-cigarette use among U.S. young adults is prevalent. Manufacturers and retailers claim e-cigarettes to be more affordable, more socially acceptable, and less addictive than cigarettes, which has predominated young adults' understanding of the relative advantages of e-cigarettes. However, the potential harm of e-cigarettes was not adequately informed. Although studies have shown that perceptions of e-cigarettes are associated with e-cigarette use, the mechanisms that associate e-cigarette perception and use remain unclear. This study examined these associations and how perceived e-cigarette harmfulness plays a role as a mediator. Method: This study adapted the Health Belief Model as the conceptual framework to guide construct and variable selection. Current young adult e-cigarette users aged 18-24 (n=963) were extracted from the Population Assessment of Tobacco and Health survey Wave 1 (2013-2014) and Wave 2 (2014-2015). Mediation analyses using natural effect models with bootstrap variance estimation were conducted to examine the associations between e-cigarette relative advantages at Wave 1 and current e-cigarette use status and frequency at Wave 2, mediated by perceived e-cigarette harmfulness. Results: Participants considering e-cigarettes to be relatively advantageous at baseline had higher odds of later e-cigarette use status (OR=1.31, p<.01) and higher past-month use frequency (β=1.54, p<.001). Perceived harmfulness mediated the aforementioned associations (indirect effect to use status: OR=1.24, p<.001; indirect effect to past-month use frequency: β=1.27, p<.001). Conclusions: Perceived relative advantages of e-cigarettes are associated with higher odds of e-cigarette use and higher use frequency, where perceived harmfulness mediates these associations. While young adults have obtained disproportionately more information about the advantages of e-cigarettes from manufacturers and retailers, policies (e.g., warning label requirements) and educational interventions (e.g., awareness campaigns) that enhance the understanding of e-cigarettes' harmfulness are needed. Future studies that investigate the longitudinal effects of e-cigarette use on health outcomes are warranted.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

<u>**Board 301**</u>*

Pinterest Homemade Sunscreens: A Recipe for Sunburn

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

Purpose: 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. 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 of 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 in 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 present an opportunity for public health professionals to engage on social media.

*Research Scholars Mentoring Program

<u>**Board 302**</u>

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

Purpose: 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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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 sub-sample 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.

*Research Scholars Mentoring Program

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 United States. Methods: We analyzed survey data collected through online surveys distributed to all benefits-eligible employees (n=1,249; 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 interest, as even among a population with nearly 100% having healthcare insurance and with nearly three-quarters having at least a 4-year college degree, significant gaps in getting critical health-related preventative measures existed.

*Research Scholars Mentoring Program

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

Purpose: 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. Methods: 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. Results: Overwhelmingly, students described acts reflecting social norms of sharing, positive self-identity, and academic progress. Students predominantly 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. Conclusions: 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

Purpose: 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 November and December of 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 non-Hispanic white (97%). Among patients who reported low pain relief, pain relief (β=12.29, p<.001) and patients' confidence in their physicians (β=4.91, p=.031) were positively associated with patient satisfaction. Among patients who reported high pain relief, pain relief (β=4.40, p=.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 (β=16.82, p=.006), but not among patients who reported high pain relief (p=.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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

<u>**Board 307**</u>[*]

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

Purpose: 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-samples 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<.001), prescription rates (t=-4.95, p<.001), and deaths (t=-7.46, p<.001) were significantly higher in counties that offered CPSMP relative to those that did not. Conclusions: 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.

[*]Research Scholars Mentoring Program

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

<u>**Board 308**</u>**

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 product use. 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: We conducted 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% of 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 (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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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 a unique environment for exposure to alcohol, tobacco, e-cigarettes, and marijuana for college students. Existing literature on young adults' e-cigarette and polysubstance use has focused on college students but rarely compares 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 samples 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 for e-cigarette use and polysubstance use. Results: Noncollege young adults had a higher prevalence of cigarette, e-cigarette, and marijuana use, whereas college students had a higher prevalence of alcohol use. Among current e-cigarette users, college students had a 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

Purpose: Childhood neglect is the most common type of child maltreatment although it receives less attention than childhood abuse by researchers and practitioners.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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 remaining unclear are 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; p<.001). Mediation analyses suggested that the association was partially mediated by internalizing and externalizing behaviors (AOR range: 1.70-3.08; p<.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

Purpose: 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

Purpose: Anxiety disorders are the most common mental illness in the United States, 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 United States (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 (β=-.107, p=.026) and higher overall happiness scores (β=.338, p<.0001) were related to lower anxiety scores, while being a minority student (β=.098, p=.027), having personal networks composed of high exercisers (β=.099, p=.025), and being tightly connected to a parent (β=.089, p=.043) were related to higher anxiety scores in this sample of students. Conclusions: These findings are imformative 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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

Board 313

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

Tyler Prochnow, Leslie Oglesby, and M. Renée Umstattd 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 (Cophenhagen 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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

<u>**Board 314**</u>

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

Purpose: 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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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

Purpose: 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. 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 ($\eta2=.626$ & $.275$, respectively) compared to MCT ($\eta2=.622$ & $.136$) and HIIT ($\eta2=.470$ & $.226$). 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.

*Research Scholars Mentoring Program

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

Purpose: Physical activity (PA) is beneficial to child health particularly for under-served populations such as Mexican-heritage families. Parental influence is known to greatly affect child PA with Mexican-heritage fathers exhibiting strong family ties; however,

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

paternal influence is under-researched with the voice of the father under-represented in the literature. 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 and 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 (>=$50,000;$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=.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=.19), respectively, compared to 36.1%(SD=34.3%) and 34.3%(SD=32.6%) for higher-income visitors(t=-0.18,p=.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 debrief 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

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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 Umstattd 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 racial/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 whether the effect of depressive symptoms on PA and screen time changed over time. Results: Almost 40% of children (n=204; μ 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=.05) and overall screen time sitting minutes (p=.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.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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

Purpose: 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=.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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

Board 322

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

Layton Reesor, Rosenda Murillo, and Daphne C. Hernandez

Purpose: 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. 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 whether 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, or 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 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 an 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*Δ=1.5±2.1 days; *t*=2.42, *p*=.036), with no significant between-group differences (*t*(17)=1.88, *p*=.078). The INT group significantly decreased their waist circumference (*m*Δ=-3.2±4.3 cm; *t*=2.57, *p*=.026), with no significant between-group differences (*t*(20)=1.98, *p*=.061). INT participants reported an average of 3.9±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

Purpose: 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 sydenmic relationship

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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 (±10.74) with games lasting 61.09 minutes (±15.47). The average energy expenditure of all athletes was 177.6 (±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 (±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 (±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 (β=-0.49, p<.001), lower SRSA (β=-0.14, p<.001), and greater depression (β=0.55, p<.001). Physical impairment was associated with lower SRSA (β=-0.93, p=.017) and greater depression (β =4.40, p=.001). Model 2: mastery was positively associated with life satisfaction (β=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 (β=1.21, p<.001), which was associated with higher SRSA (β=0.09, p=.006). In bootstrapped analyses of indirect

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

effects, social support was indirectly associated with SRSA through leisure activities (*β*=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 328

Effect of HIV-related Stigma on Timely Linkage to Care among People Living with HIV in South Carolina

Mohammad Rifat Haider, Bankole Olatosi, Monique J. Brown-Smith, and Xiaoming Li

Purpose: Timely linkage to care (LTC) is the first step of the human immunodeficiency virus (HIV) care continuum. Timely LTC plays a major role in retaining people living with HIV (PLWH) in care and eventually achieving the viral suppression. HIV-related stigma negatively affects HIV care uptake. This study intends to assess the association between timely LTC and stigma among PLWH in South Carolina. Methods: The study used cross-sectional data collected from 385 HIV patients who obtained treatment from an infectious disease clinic. Timely LTC was defined as seeing a doctor within 30 days of HIV-diagnosis. HIV stigma scale was created using principal components analysis with 12 stigma-questions. Based on stigma score, PLWHs were categorized into tertiles (low, medium, and high). Other covariates include age, race, marital status, education, employment, income, and incarceration status. A multiple logistic regression model was fitted to assess the association between timely LTC and stigma. Results: Almost two-thirds (65.3%) of PLWHs achieved timely LTC. Most PLWHs were 30-49 years old (41.8%), black (77.6%), never married (58.5%), had some college degree (34.1%), were employed full-time (40.3%), and had an annual household income <$10,000 (35.8%). In the mutlivariable analysis, PLWH with high stigma had a lower likelihood of timely LTC [Odds Ratio (OR): 0.41; 95%CI: 0.19-0.89] compared to PLWH with low stigma. PLWH who were employed full-time had higher odds of getting timely LTC [OR: 2.72; 95%CI: 1.17-6.32] compared to unemployed, and those who had annual income <$10,000 were more likely to get timely LTC [OR: 3.40; 95%CI: 1.39-8.33] compared to PLWH with income >$50,000. Conclusions: Results show that high level of stigma had a statistically significant effect on timely LTC, which suggest that stigma persists and continues to negatively affect the HIV care continuum. Results suggest that stigma reduction programs should be adopted among groups usually not in focus, high-income people.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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 with 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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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

Purpose: Substance abuse, HIV, and STDs are significant public health challenges for African American college students. The Peer Movement Project (PMP) was recently funded by the Substance Abuse and Mental Health Services Administration (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.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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 (β=-.29, p<.05) and employed (β=-.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 (β=.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 (β=-.23, p<.05) reported fewer loss-related symptoms. Greater use of maladaptive coping strategies was positively associated with loss-related symptoms (β=.26, p<.05), whereas greater use of adaptive coping strategies (β=.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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

<u>**Board 332**</u>

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<.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<.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 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.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

Board 333

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

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

Purpose: 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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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, Espirto 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

Purpose: 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. 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 an excellent fit to the data (CFI=0.96, RMSEA=0.009, WRMR=1.12). A significantly positive relationship was found between adolescents' ACEs and current mental disorders (β=0.13, p<.05), and the effect was partially mediated by family functioning (β=0.10, p<.001) and civic engagement (β=0.01, p<.05), but not by social capital (β=0.01, p=.12). Low household income (β=-0.24, p<.001) and parent education (β=-0.05, p<.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

Purpose: 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 (β=-.054, p=.044), parental communication (β =-.014, p=.001), social connectedness (β=.010, p=.055), perceived discrimination (β=.007, p=.003), familism (β=.016, p=.014), and American Way of Life (β=.06, p=.048). In particular, when analyzed across sex, resilience was only significantly associated with perceived discrimination (β=0.007, p=.032) for female participants, whereas for male participants, resilience was significantly associated with parental communication (β=.023, p=.002), perceived discrimination (β=.008, p=.04),

familism (β=0.28, p=.008), and the American Way of Life (β=-.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 United States. 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 United States 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 mediating effects of resilience on 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-item 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 (p<.001). Respondents with higher ACEs score were more likely to misuse pain medications (OR=1.18; p<.001), whereas significant proportions (58%) of such associations were mediated by resilience (natural indirect effect: β=-0.10; p<.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.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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; p<.001), and was associated with higher odds of alcohol, e-cigarette, and marijuana use among Asian immigrants (ORs ranged 1.12-1.28, p<.01). Mediation analyses revealed that the aforementioned associations were partially mediated by psychiatric disorders among Hispanic immigrants (indirect ORs ranged 1.14-1.43, p<.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.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

Board 339

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

Ann Amuta and Nicole Khan

Purpose: National policies and plans for the prevention of cervical and breast cancer (CBC) are established in the United States, however, are still lacking in several home countries of black immigrant (BI) women. BI's make up a large share of the overall black population – 8.7% of blacks were foreign-born in 2013 and this is projected to almost double by 2060. Blackness in the United States is synonymous with being African American due to the misconception that being black in the United States is a homogenous and native-born blacks (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 a need to consider the diversity existing among black women in the United States when investigating the nature of CBC screening and HPV knowledge and perceptions. The prevailing hypothesis is that due to the ethnic, cultural, linguistic, and demographic differences that exist among blacks in the United States, there will be a difference in predictors of CBC screening status and HPV awareness among BI and AA women. Methods: We 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 were born outside the United States (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, or HPV knowledge or vaccination. Conclusions: Although differences are subtle, culturally driven cancer prevention efforts may promote understanding of the nuanced risk factors within heterogeneous black populations.

**American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm**

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

Purpose: 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. We conducted 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 aged 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 the 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 United States for about 12 years. Higher %BF was predicted by higher acculturative stress (β=0.46, p<.05) and higher deportation fears (β=2.17, p<.05). Neither 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 heightened deportation fears and acculturative stress could potentially negatively impact physical health.

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

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

Purpose: 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 lodge, 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 scores represent higher spirituality. Data were collected in 2016 and 2017, including 127 participants who were the residents of a local transitional house for homeless veterans. The pre-test was administered prior to traveling to the healing center, and the post-test was administered prior to leaving the center. A paired t-test was used in data analysis. Result: A significantly higher overall spirituality score ($p<.05$) was found at post-test (mean=48.44) than at 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). An open-ended question asked about feelings after the healing program. Common responses were peaceful, stress free, inspiration, let it go, mindfulness, connectedness, self-awareness, love, and spiritual. Conclusions: 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 of 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

Purpose: Montgomery County has the highest rate of illicit drug use in the state of Ohio, 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

Purpose: 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 were 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

American Academy of Health Behavior
Poster Session, Poinsett Ballroom
Tuesday, March 12, 2019   6:00 – 7:30pm

(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 more costly 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

Purpose: Unintentional injury is a leading mortality cause among children in the United States. Compared with children without disabilities, children with medical complexity (CMC) have a 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 of 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 regarding 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 a lower level of caregiver efficacy in proactive information-seeking behaviors from diverse resources regarding transportation and home safety, and a higher possibility of being social isolated due to safety concerns. Additionally, the findings indicated that the primary care provider is the exclusive resource for immigrant parents to make a decision on children's safety. Conclusions: Caregiver perceptions inform tailored unintentional injury

intervention design. The challenges caregivers face may impact car seat manufacturing processes and legislative policies regarding transporting CMCs safely.