

Board 301**Differences in Regulatory Compliance Across and By Ethnic Location Based on Display of Minimum Age Tobacco Sales Signs**

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Minimum age-of-sale signs increase the likelihood that tobacco retailers will check the identification of potentially underage shoppers, resulting in a 2% incremental wide-reaching gain in tobacco prevention among youth. California's required signage under the Stop Tobacco Access to Kids Enforcement (STAKE) Act is the "1-800-5 ASK-4-ID" warning sign which indicates sale of tobacco products to under-age persons is prohibited by law and subject to penalties. Signage is to be placed at the point of sale. (The law inadvertently changed from a minimum age of 18 to 21 years during data collection, as of June 9, 2016). The present study investigated display of age-of-sale signs in 675 retail stores varying in ethnic location in California: 193 African American (AA), 100 Korean (K), 186 Hispanic (HL), and 196 White non-Hispanic (NHW). Data collection involved a 20-minute product and signage observation. Overall, 45.5% of the stores were compliant with the required warning age-of-sale sign posted (which varied in minimum age by date of collection). Approximately 13.5% of stores did not have any store interior age-of-sale signs, and 41% of stores had some type of age-of-sale sign but not compliant with the STAKE Act (e.g., tobacco industry We Card signs were at 36% of the stores with non-compliant signage). Stores observed after the change in the Stake Act law had significantly lower compliance rates (38.6%) compared to stores observed before the change in the Stake Act law (70.9%) [$z=6.8623$, $p<0.001$], where compliance was defined by the law when the store was observed. Compliance rates for stores observed within the first three months after the change in law were especially low (26.7%). The association between Stake Act Sign Compliance and AA compared to NHW stores observed within the first three months after the change in law was statistically significant ($X^2(1)=20.098$; $p<0.001$), where compliance rates for AA communities were 16.9% compared to 41.5% for stores in NHW communities. Findings suggest the need for better education of retailers on minimum age-of-sign compliance, wider distribution, and compliance checks for new signage.

Board 302**Development and Initial Validation of a Risk Behavior Diagnosis Scale for E-Cigarette Use**

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Background: Adolescent use of electronic nicotine delivery systems (ENDS; also known as e-cigarettes or vapes) rose 900% between 2011 and 2015, prompting concerns about the long term health effects and addiction potential for nonsmoking adolescents. Due to the rapid rise in ENDS use, there is a need for brief measures designed to assess adolescents' perceived threat related to ENDS use and perceived efficacy related to ENDS abstinence and cessation.

Method: A 12-item Likert-type scale was developed for ENDS use that was modeled after the Risk Behavior Diagnosis Scale (RBDS) originally created by Witte, Cameron, Berkowitz, and McKeon (1996) to assess risk and efficacy related to health behaviors. The new measure was designed to assess the constructs of threat (i.e., severity and susceptibility of threat) and efficacy (i.e., self-efficacy and response efficacy). The scale was administered online to an initial development sample of 674 adolescents to examine internal consistency and factor structure. Participants (52.1% female) ranged in age from 11-19 years old ($M = 14.6$ years; $SD = 2.07$),

and were representative of the surrounding community (60% non-Hispanic white; 27% non-Hispanic black; 8% Hispanic). Twenty-one percent had tried ENDS. Results: An exploratory factor analysis revealed two factors (as expected), which explained 68% of the variance. Analyses demonstrated strong internal consistency, with Cronbach's alpha of 0.93 overall and alphas of .92 and .87 for threat and efficacy factors, respectively. The scale can be completed in less than five minutes, with total scores ranging from 5-30 on each of the two subscales. Higher scores are reflective of greater levels of perceived threat of ENDS use and perceived efficacy related to ENDS abstinence and cessation. Conclusions: The measure demonstrates strong preliminary reliability among a development sample of adolescents. Additional research is needed to examine the validity and reliability in additional populations.

Board 303

Measuring Intoxication: Comparing the Detection of Alcohol from Skin, Breath, and Self-Report

Julie M. Croff, Vincent E. Baier, Ashleigh L. Chiaf, Micah Hartwell, and Denna L. Wheeler

Background: Alcohol use, particularly heavy episodic or binge drinking, is a public health concern. According to the National Survey on Drug Use and Health, more than a quarter of the US population engaged in heavy episodic or binge drinking in the past year. Ability to study the effects of heavy alcohol use are limited by our measurements. This study seeks to address and compare the detection of alcohol by self-reported intoxication, through breath, and through skin. Methods: Eleven subjects (6 male) participated in a study to test the effectiveness of transdermal alcohol sensors. Subjects were dosed with alcohol, to reach intoxication, at approximately 0.08 mg/mL blood alcohol concentration (BAC). Subjects wore WrisTAS 7 units throughout the dosing procedure. Breath tests were taken using a CMI Intoxlyzer 400PA unit. Participants were asked to report their level of intoxication. Transdermal alcohol concentrations (TAC) were recoded to representative BAC in order to more easily compare to breath alcohol concentration (BrAC), estimated BAC (eBAC) from alcohol consumed over time, and self-reported intoxication. Results: eBAC calculations were more sensitive to detecting a blood alcohol value of 0.08 mg/mL or above (100%) and had a higher positive predictive value (90.9%) than transdermal alcohol (90% and 90%, respectively) or self-reported intoxication (80% and 88.9%, respectively). Notably, a larger portion of the sample was within 0.01 mg/mL using eBAC calculations (63.6%), than TAC (54.5%). Conclusion: Self-reported intoxication is susceptible to tolerance. While eBAC was stronger than TAC in the context of this study, eBAC calculations are often problematic when relying on participants to accurately report weight, number of drinks, and time period spent drinking. Therefore, transdermal alcohol sensors have a strong sensitivity and positive predictive value and are strong objective measures of intoxication.

Board 304

Examining the physiological and behavioral predictors of birth outcomes: Feasibility of measuring variation of folate status by alcohol use in a sample of adolescent girls

Julie M. Croff, Micah Hartwell, Vincent E. Baier, Ashleigh L. Chiaf, and Denna Wheeler

Background: Heavy alcohol consumption among adolescents is a fundamental public health threat [1-4]. Among adolescent girls there may be additional risks from heavy alcohol consumption. Physiologically, there is evidence that heavy alcohol use and binge drinking may impair intestinal absorption of folate (vitamin B9) and promotes renal and hepatic folate excretion [5, 6], thereby increasing risk for adverse pregnancy outcomes [7]. Behaviorally, young women who use alcohol heavily exhibit reduced multivitamin supplementation [8] thereby contributing to even greater risk of inadequate folate status. Moreover, national studies suggest

that red blood cell (RBC) folate levels are lowest among 12 – 19-year-old adolescents [26].

Method: Alcohol using adolescent girls (age 14 – 19) were recruited into a one-month longitudinal study examining alcohol use, and folate status. Subjects wore transdermal alcohol sensors for the duration of the study, reported weekly dietary habits associated with folate consumption, and gave blood samples at least weekly. Preliminary Results: To date, 40 participants have completed the month-long study. Preliminary data are on the first 26 to complete the study. The mean age of participants was 17.97 (mode 17). Majority of participants (59%, n=21) identified as white. Mean folate consumption for the first 26 subjects was 272.4 ug per day, far below the recommended 400ug per day. Of a sub-sample of 23 participants: 82.6% had at least one drinking event across 4 weeks. Initial blood samples, of six participants, indicate that drinking events in the previous 48 hours have a substantial impact on circulating serum folate. Conclusion: Multi-behavior studies help delineate how behaviors can have synergistic effects on health outcomes. In the current trial, poor diet and alcohol use result in consistently poor serum folate and red blood cell folate values which are made worse by the co-occurrence of these behaviors.

Board 305

Are Driving While Impaired (DWI) and Riding With an Impaired driver (RWI) associated with legality of marijuana?

Kaigang Li, Haley E. Moss, Federico E. Vaca, and Bruce Simons-Morton

Objectives: To examine the association of the legality of marijuana with driving while impaired (DWI) and riding with an impaired driver (RWI) among youth. Methods: Wave 5 (W5) data of the NEXT Generational Health Study (NEXT), a nationally representative, longitudinal study (N=2785), were used for this analysis (W5 N=2198). We examined the association of state-level legality of marijuana (medical+recreational use, medical use only, vs. neither-medical-nor-recreational use) with DWI (≥ 1 vs. no days in the last month) and RWI (≥ 1 time vs. never in the last year with either older adult or young impaired drivers) using binary or multinomial logistic regression analysis. Results: When W5 data (M=20.27 years, 59.14% females) were collected, 4 of the 49 states included in NEXT sample allowed both recreational and medical marijuana use (8.2%) and 21 allowed medical use only (42.9%). Overall 15.86% W5 DWI prevalence consisted of 10.80% drinking-specific, 9.82% marijuana-specific, and 2.90% illicit-drug-specific DWI. Overall 33% W5 RWI prevalence included alcohol (16.99%), marijuana (21.15%), and illicit-drug (5.41%) with an impaired peer driver and alcohol (3.84%), marijuana (2.73%), and illicit-drug (0.74%) with an impaired older adult driver. The results of logistic regressions show that state-level legality of marijuana was not significantly associated with any type of specific DWI/RWI. Conclusion: Possible reasons explaining the failure to identify the difference include: (1) impaired driving policies may be retaining efficacy in preventing young people from DWI/RWI regardless of legality; (2) broader softening of negative marijuana use sentiment in the U.S. may be contributing to the normalizing of DWI/RWI, especially in marijuana-legalized states and states that are immediate state-line neighbors of a marijuana-legalized state; and (3) NEXT sample does not necessarily represent all US states, which may lead to selection bias. More representative and longitudinal studies are needed to warrant the relationship between legality of marijuana and adolescent DWI/RWI.

Board 306**Methodological considerations in substance use research in the U.S.-Mexico border region**

Nicole Pepper, María L. Zúñiga, and Mark B. Reed

Purpose: Latinos living with HIV in the U.S.-Mexico border are underserved and socially disadvantaged and at high risk for poor health outcomes. Research is crucial to improving outcomes, reducing HIV transmission, and designing interventions, yet there remain important research gaps to address social determinants of health (e.g., care access and substance use). We describe study findings and methodological challenges encountered in conducting research with this at-risk, dynamic population. Methods: This cross-sectional study recruited a convenience sample of HIV-positive Latinos from health agencies (San Diego and Tijuana). Quantitative surveys assessed health care utilization and substance use. We compared substance use and HIV care outcomes by recruitment site and describe methodological problems we encountered. Results: Participants (N=200) were male (82%), mean age 41 years, Mexican-born (83%), and gay or bisexual (57%). About 31% with prior incarceration and ~20% with deportation history. Nearly 70% reported lifetime substance use. Significant differences in substance use emerged by recruitment site (Tijuana or San Diego) and analyses revealed challenges in interpreting group behavior by site. For example, attempts to dichotomize based on recruitment site posed broader questions about environment in which substance use occurred. This complicated understanding of location of underlying social determinants, including availability of drugs and drug-using environment. Conclusions: Research with border populations poses challenges for tracking, measuring, and documenting health inequities. Longitudinal cohort studies may address some measurement issues, however, we must also assess health delivery and risk environments on both sides. Immigrant populations are underrepresented in health research and experience significant health disparities. We present significance and implications of conducting health behavior research with mobile populations in an international border context. We recommend multi-stakeholder approaches to eliminate health inequities through research and promoting access to health resources and healthcare. Culturally and environmentally-relevant research is crucial to design effective health promotion and intervention strategies.

Board 307**Impact of School-based Drug Education on Drug Selling Behaviors among Adolescents**

Zhi Wang and Hsien-Chang Lin

Purpose: Adolescent illicit drug use has become a major public health issue along with the epidemic of drug overdose in the United States. Adolescents obtain illicit drugs from peers and friends. In order to reduce illicit drug supply of adolescents, reducing drug dealing behaviors among adolescents may be a feasible strategy. School-based drug education programs, for example, online substance use prevention program as well as narcotic overdose prevention program, have been implemented. Thus far, few studies have assessed how current school-based education may have an impact on drug selling behaviors. This study examined the association of school-based drug education and drug selling behaviors among adolescents aged 12-17 years old. Methods: Respondents aged 12-17 (N=54,731) in the 2015 National Survey on Drug Use and Health were included in this study. The Problem Behavior Theory was adopted as a conceptual framework to guide variable selection. Propensity score matching (matched N=4,300) was used to reduce systematic bias between participants who received school-based drug education and those who did not. Logistic regressions were conducted on the matched sample to examine the association between school-based drug education and drug

selling behaviors. Results: We found that participants who received school-based drug education had a lower odds of engaging in illegal drug selling behaviors (OR=0.67, p 's<0.05). We also found that parental opinions on marijuana use and adolescent religious beliefs also had a significant impact on drug selling behaviors (both p 's<0.05). Conclusions: Findings of this study suggest that current school-based drug education had effects on drug selling behaviors among adolescents. Meanwhile, this study also identifies factors that are associated with drug dealing behaviors among adolescents. In order to reduce drug dealing behaviors among adolescents, the design of school-based drug education program should consider factors such as parental opinions and should be more widely adopted and promoted.

Board 308

Social network analysis for assessing college-aged adults' health: A systematic review

Meg Patterson and Patricia Goodson

Background: Social network analysis (SNA) is a useful and emerging method for studying social health and satisfies a need for analysis beyond the intrapersonal level of behavior. This study aimed to conduct a systematic review in order to identify important findings across studies using SNA to investigate college student health, determine how SNA has been used in this body of research, and provide suggestions for future use of SNA in health behavior research. Methods: Using PRISMA guidelines, we systematically surveyed the peer-reviewed literature that used SNA to investigate college-aged adults' health. To be included, studies had to employ egocentric or whole network analysis to study the health of college student populations. We used Garrard's Matrix Method to extract and disseminate data from reviewed articles ($n=15$). Results: Collegiate drinking was the most common behavior investigated with SNA among college student populations. Romantic relationships, substance abuse, homesickness, and stress were other health variables studied using SNA in this population. Important network measures related to the health of college-aged adults included homophily, network composition, centrality, density, and tie strength. Of the network studies reviewed, almost 75% were egocentric network analyses. Methodological inconsistencies concerning boundary specification, data collection, nomination limits, and statistical analyses were revealed across studies. Discussion: The results of this review affirm the use of SNA in college-aged networks, but also reveal the need to explore other important health issues in this population, such as prescription drug use. Many studies employed data collection and sampling methods, as well as statistical analyses, that failed to meet assumptions of SNA. Future studies using SNA in behavioral science should consider sampling the entire network and using nonparametric statistics when conducting whole network analyses. To maximize results from egocentric analyses, researchers should consider including interrelater questions and eliminate nomination limits in data collection.

Board 309

The Health and Exposure Histories of One Community Battling Environmental Discrimination

Lindsay K. Tompkins, Chisom N. Odoh, and Kristina M. Zierold

Background: Environmental pollution is not distributed equally across members of society. Low-income individuals are more likely to live near waste sites and other sources of pollution, and, therefore, face greater exposure to environmental health hazards. One such community in Kentucky consists of approximately 300 homes that are surrounded on three sides by sources of pollution, including a "cleaned-up" EPA Superfund site, coal ash storage site, and multiple chemical companies. Community residents report elevated rates of cancer and other chronic diseases and have requested a formal health assessment. The first step of this assessment

involved collecting demographic, environmental, and health information through resident interviews. Methods: Adult long-term (>5 years) community members were recruited to participate during a community meeting. Individual interviews were later conducted with 15 residents concerning their exposures, personal health, and perceptions of their community's health. Interviews were transcribed verbatim and analyzed using inductive thematic analysis.

Results: Participants ranged in age from 24 to 69 years and 73.3% were male. Most participants (73.3%) had lived in the neighborhood for over 20 years. All participants shared stories concerning ways in which living in their neighborhood has affected their lives. The majority (86.7%) felt that environmental exposures impacted the community's health. A variety of health conditions experienced by community members were reported. Cancer was reported by 73.3%, while respiratory problems and joint and disc diseases were among the frequently highlighted health conditions. Themes of powerlessness and hopelessness for the health and well-being of the community were prominent. Conclusion: In conjunction with community members and the state health department, interview findings will guide in the development of a comprehensive exposure and health assessment tool that will be distributed to all current residents. This assessment will seek to answer questions that the community has entertained for years regarding the health of its residents.

Board 310

Attention Deficit Hyperactivity Disorders and Aluminum Exposure among Underserved Children in Kentucky

Chisom N. Odoh, Lonnie Sears, Carol Hanchette, Barbara Polivka, Guy N. Brock, and Kristina M. Zierold

Background: Behaviors such as impaired attention, hyperactivity, and impulsivity characterize ADHD which is prevalent in 5% of children in the U.S. Environmental exposures are thought to be associated with the development of ADHD. Aluminum is a known neurotoxin and one pollutant found in coal ash, a waste product generated from burning coal. Few studies have linked aluminum with neurobehavioral disorders. The purpose of this study is to evaluate the association between ADHD and aluminum among children residing close to coal-burning power plants. Methods: Research is being conducted among children ages 6-14 living within a 10-mile radius of two coal ash storage sites in Kentucky. Aluminum exposure was estimated using filters from air samplers placed inside the homes of children. Concentrations of aluminum were determined by Proton Induced X-Ray Emission (PIXE) analysis. Scores from the Child Behavior Checklist were analyzed to measure ADHD. Logistic regression and the Wilcoxon test were used to assess the relationship between ADHD and aluminum exposure. Results: Among our child population, 28% had ADHD. Aluminum was found in 51% of participants' homes. After adjusting for sex, age, ethnicity, and smoking, an odds ratio (OR) of 2.05 (95% CI = 0.82-5.12) was determined. In addition, median ADHD t-scores for children exposed to aluminum were higher compared to children not exposed to aluminum. Conclusion: This is the first study to assess ADHD and aluminum exposure in children residing near coal ash storage sites. While not significant, the OR was elevated and the Wilcoxon results were higher in exposed children, indicating a possible relationship between aluminum exposure and ADHD. Children in this study, who are underserved and live in areas where environmental justice is a concern, are exposed to neurotoxic pollutants, like aluminum. It is important to understand exposures linked to behaviors that can be targeted for intervention.

Board 312**Educational Challenges and Supportive Resources Associated with the Academic Success of Latino Children in Migrant Farmworker Families**

Yumary Ruiz, Zoe E. Taylor, Rebecca Cavin, Erika L. Arkans, and Oscar Fernando Gomez Hastamorir

Purpose: Children of Latino Migrant Farmworkers (LMFWs) are one of the most educationally disenfranchised and marginalized U.S. student populations. This mixed-methods cross-sectional study investigated children's, mothers', and teachers' perceptions about children's educational challenges and the resources available to promote success. Methods: Participants were children (N=80, boys=55%, Mage=11.66) recruited from a Summer Migrant Education Program (SMEP) in Indiana. The MEP provides resources to children of migratory families who travel seeking seasonal agricultural work. Children ages 6-18 (N=80, boys=55%, Mage=11.66) completed questionnaires, and a subset of 24 children (Mage=13.83) completed semi-structured interviews. Mothers (N=9) and SMEP teachers (N=18) participated in focus groups. Qualitative and quantitative data was analyzed using a mixed-methods approach. Results: Four themes emerged from the qualitative data: (1) Factors related to migrant life in regards to academic success including educational interruptions, family support, competing family-school responsibilities, and inconsistent messages about pursuing higher education or securing employment, (2) Experiences of social isolation especially due to language barriers and lack of school belonging, (3) Notions of parental academic support differed between parents and teachers, and (4) The benefits of teachers and programs that understand migrant youth's lived experiences. Quantitative data using regression supported these themes. Youth of all ages aspired and expected to finish high school. Aspirations to go to college and beyond, increased in elementary- (70%), middle- (77.4%), and high-schoolers (78%), however expectations of going to college decreased across grade levels. School attachment was associated with academic mastery orientation ($\beta=.71$, $p<.001$). Teacher attachment ($\beta=.21$, $p<.001$) and Perceived Family Support ($\beta=.198$, $p<.05$) were positively linked to school attachment, while Perceived Teacher Rejection was negatively associated with school attachment ($\beta=-.32$, $p<.001$). Conclusions: Addressing challenges and social isolation experienced in migrant life and enhancing parent and teacher skills to support LMFW youth's unique needs may improve their academic success.

Board 313**Evaluating the Impact of Urban Tree Connection on Youth Outcomes in an Underserved Community of Philadelphia**

Mary Louise Mitsdarffer

Background: Social and physical environment is indicative of community health status. Philadelphia has over 40,000 vacant lots, most of which are concentrated in the most socioeconomically disadvantaged areas of the city. In particular, the Haddington neighborhood is exposed to poor neighborhood conditions. The 2012 Philadelphia Health Management Corporation Household Health Survey in southeastern Pennsylvania showed that an individual who lives in the Haddington community was more likely to report fair/poor health status, a diagnosis of high blood pressure, a diagnosis of diabetes, and a classification of obesity. Purpose: The purpose of this study was to assess the impact of Urban Tree Connection (UTC), a Haddington based non-profit, program on child and youth outcomes through community greening initiatives. Methods: In total, 38 adolescents (ages 14-18) and 41 children (ages 6-13) participated in UTC programming between May and October 2012. The UTC Garden Survey was created to measure participants attitudes/ beliefs, behavior, knowledge, physical health,

perceived individual/neighborhood change, entrepreneurship, community engagement/participation, social capital, and food access/nutrition. Pre and post t-tests were conducted to assess participants' changes on the main measures. Results: Overall, participation in UTC programming positively affected participant outcomes. All participant groups reported: stronger bonding relationships, higher levels of community participation, but only child participants reported having stronger bridging relationships and feelings of trust and security. All participant groups reported increased consumption of produce and sufficient access to fruits and vegetables. Feelings of being unsafe and mistrust were reported in the adolescent groups. Conclusion: Community-based gardening programs may have positive impacts on children and children's health. However, further research should be done to understand long term impacts and how to tailor more effective interventions for children and youth.

Board 314

Housing equity and health outcomes in Riley County, Kansas

Brittany S. Hollerbach, Brandon C. Irwin, and Katie Heinrich

Safe, affordable housing is a health predictor and critical nationwide issue, with lower-income individuals particularly susceptible. PURPOSE: To combine data in a novel examination of housing conditions and health outcomes in Riley County (RC), one of the fastest growing communities in Kansas. METHODS: Document analysis was conducted using the 2015 Community Needs Assessment (secondary data, community surveys, key-informant interviews, selected focus groups), 2015 Community Health Improvement Plan (200+ community stakeholders reviewed data/identified priorities), 2016 Behavioral Risk Factor Surveillance System (community surveys), and 2017 RWJF County Health Rankings (population-level data). Housing and health data were categorized into broad themes. RESULTS: RC had a population of 75,247 (2015) and ranked 5th in Kansas in "Overall Health," however, housing was a public health problem. Over 21% of RC residents lived below the federal poverty line, and 79% (N=584) of those surveyed reported a lack of affordable housing options. Of 102 ranked Kansas counties, RC ranked 42nd in "Quality of Life" (14% of adults reported poor/fair health and an average of 6.5/30 poor physical/mental health days/month, higher than both state and national averages). RC ranked 90th in "Physical Environment" including severe housing problems (overcrowding, high housing costs, and lack of kitchen/plumbing facilities). Additionally, 84% of residents were cost-burdened, indicating they spent >30% of their annual income on housing. Consequently, many residents were living in trailers without running water or shared housing with more than one family, leading to unsafe living conditions and overcrowding. CONCLUSION: Combined data highlight a lack of quality, affordable housing and poor physical and mental health disproportionately affecting low/moderate-income individuals. High housing costs left little over for basic necessities, including health. Efforts to create affordable housing options and improve living wages could be combined with behavioral interventions to improve physical and mental health of low-income RC residents.

Board 315

Evaluating Risk Factors of Sexual Violence on a College Campus

Alicia Duval, Megan S. Patterson, Beth A. Lanning, Kelly Ylitalo, and Karen Melton

Background: College students are particularly vulnerable to being victims of power-based violence, with 11.2% experiencing some sort of sexual assault while in college. Specifically, one in four women and one in 16 men will be sexually assaulted before they graduate. The literature suggests gender, family history of abuse, and alcohol use are consistent risk factors of power-based violence. This study aimed to assess whether these risk factors, as well as rape myth attitudes and hook-up culture, are related to sexual assault victimization among a sample of

college students. Methods: 957 undergraduate students completed an online survey at a large, private university. Background/demographic information, alcohol use, attitudes concerning rape myths and hookup culture, and dating and sexual experiences were measured for each participant. Descriptive, bivariate, and logistic regression analyses were conducted in SPSS. Results: The logistic regression model significantly predicted sexual assault victimization $\chi^2(14) = 82.623$ $p < .0001$, explaining 20.8% of variance (Nagelkerke R Square = .208). Odds of sexual assault victimization were increased 6.854 times for females (Wald=18.506, $p < .0001$), 2.692 times for athletes (Wald=4.151, $p = .042$), and 6.627 times for people who had witnessed his/her father abuse his spouse (Wald=18.735, $p < .0001$). Higher alcohol consumption (Wald=10.761, $p = .001$) and higher hook up questionnaire scores (Wald=8.265, $p = .004$) were also significantly related to being a victim of sexual assault. Discussion: This study confirmed gender and family history as important risk factors for sexual assault victimization. Additionally, sociocultural factors including alcohol use and higher rates of “hooking up” were significantly related to college students’ risk for being sexually assaulted. These findings are imperative to university administrators working to reduce the incidence of sexual assault among college students, especially as sexual violence continues to be a major public health concern on campuses. Future research should test whether these risk factors are significant at other campuses.

Board 316

The Safe Spaces Project: Community-Partnered Participatory Research to Address Interpersonal Violence in New Orleans

Ashlee Walker, Catherine Haywood, Courtney Schultheis, Charles Haywood, Katherine Theall, and Ashley Wennerstrom

Purpose: Despite community-and policy-based efforts to address intimate partner violence (IPV), it remains a widespread public health issue with a disparate impact on communities of color. Employing community health workers (CHWs) and using community-partnered participatory research (CPPR) are approaches for developing and implementing culturally tailored interventions to address disparities, but their application to IPV has been limited. We developed a CHW-academic co-led CPPR partnership called Safe Spaces to investigate causes of IPV among African Americans in New Orleans, Louisiana and develop responsive interventions. Methods: In 2016, CHWs recruited men and women from a low-income community to participate in focus groups in which we asked about their attitudes toward IPV, personal and family experiences with violence, and suggestions for IPV prevention. We trained CHWs to moderate the focus groups, which were audio-recorded and transcribed. A CHW and research assistant used applied thematic analysis to code and interpret data. Results: We conducted six focus groups (4 with women, 2 with men). Among the 48 participants, over three quarters were African American. Some themes that emerged from the results were: individual and societal attitudes that support violence against women, failure to recognize violent behavior as abuse, both men and women initiating violence, lack of culturally appropriate resources and services. Ideas for prevention and intervention development included: providing youth with education on healthy relationships, and using technology, social media or other communication strategies to help people recognize abusive relationships and seek support. Conclusions: CHWs were instrumental in participant recruitment, eliciting information on sensitive topics, and interpreting data. Information gathered is being used to develop and test a culturally appropriate CPPR intervention to address IPV.

Board 317**Structural Stigma and HIV Risk among Rural Men who have Sex with Men (MSM)**

Randolph Hubach, Joseph M. Currin, Andre R. Durham, Katherine K. Kavanaugh, Denna L. Wheeler, and Julie M. Croff

Background: The nature of the HIV epidemic in the United States has changed with a shift toward rural areas; where sexual minority populations are dispersed and health care resources are limited. Concurrent socioeconomic factors, geography, and cultural context are coalescing for sexual minorities living in rural communities resulting in individuals at risk for HIV infection. Methods: We recruited 40 gay and bisexual men, ages 22 to 66, residing in rural Oklahoma for in-depth qualitative sexual health interviews. Through this inductive approach, we explored experiences with individual-level and community-level stigma, patterns of sexual health-seeking behaviors, and determinants of sexual risk. Results: Participants indicated a lack of desire to discuss their sexual behavior or sexual orientation with peers, family, or medical providers due to rejection concerns. Participants discussed how these factors shaped their attitudes towards HIV/AIDS, 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 individual-level and community-level sexual health. Finally, structural issues, including lack of comprehensive sexual health education, institutional practices, and state policies within Oklahoma were noted. Conclusions: Results indicate the need to develop greater awareness of stigma as an etiologic factor that contributes to the health of rural gay and bisexual populations, specifically when it relates to the provision of appropriate care. Addressing stigma 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 318**Assessing Changes In Relationships Between iTP3 Grantees Through An Interorganizational Network Analysis**

Jordan Nelon, Whitney R. Garney, Kelly L. Wilson, Kristen E. Garcia, Jennifer Farmer, Christi N. Hays, Daenuka Muraleetharan, and Kenneth R. McLeroy

Background: Organizational relationships can provide insight into how public health programs are developed and implemented. Strength of tie is one type of analysis where strong and weak ties play crucial roles in understanding a network. Those that are linked through weak ties receive diverse support and opinions, while strong ties foster commitment. This presentation highlights findings from a study using interorganizational network analysis (ION) to assess organizational relationships among 15 grantees that are developing innovative teen pregnancy prevention programs. Methods: We assessed these partnerships (n=15) through an ION survey and measured the strength of relationship and ties among organizations at two-time points. The composite score was used to measure the strength of tie. Organizations were given one point if they shared information, two points for an informational partnership, three points for a formal partnership, and four points for a signed MOU. Scores were then summated and ranged from 0 to 10 per relationship. Results: The Average strength of tie decreased from 4.053 to 2.278 over time with half the number of ties reported. The majority of innovators had an in-degree centrality of one or greater with the average tie in December being 1.46 and in June being 1.33. The

organizations with the most ties were national organizations. We constructed network diagrams depicting each of these relationships and computed centrality measures with the whole network data for all 15 partnerships. Two grantees did not respond to the survey in June. Conclusion: Results illustrate the types of relationships that help facilitate the development of innovative teen pregnancy prevention programs and the roles between the grantees. These results show that collaboration in the first year of funding did not occur as intended and indicates the need to adapt program structure. Conclusions across networks illustrate characteristics of these grantees and offer insight into network literature.

Board 319

Geographic disparities associated with travel to medical care and attendance in programs to prevent/manage chronic illness

Matthew Lee Smith, Samuel D. Towne, Caroline D. Bergeron, Donglan Zhang, Carly McCord, Heather H. Goltz, Nelda Mier, and Marcia G. Ory

Background: The number of older Americans with multiple chronic conditions is rising. Transportation is challenging for adults living with chronic conditions that require frequent healthcare visits. This is especially in rural areas because of greater travel distances, scarcer resources, and geospatially dispersed services. Evidence-based disease self-management programs in community settings may be a more accessible solution to eliminate rural-based inequities. Methods: This study used a cross-sectional design to investigate the relationship between those traveling greater distances for formal medical care and their utilization of programs to prevent/manage their health problems. The sample was comprised of 2,112 middle-aged and older adults residing in eight central Texas counties. From a random selection of households, participants were administered a mail-based survey created by a community collaborative effort. An ordinal regression model was fitted to assess factors associated with traveling farther distances to medical services in the past 12 months. A binary logistic regression was fitted to examine factors associated with attending a program to prevent/manage chronic illness. Results: Sixty-nine percent of participants resided in rural counties. Participants residing in rural areas (Beta=1.02, P<0.001), those with more self-reported chronic conditions (Beta=0.14, P<0.001), and those who attended a program to prevent/manage chronic illness (Beta=0.04, P=0.005) reported traveling farther distances to medical services. Participants with limited activity (OR=2.92, P<0.001), those residing in urban counties (OR=1.32, P=0.011), and those who traveled more total miles for medical care were more likely to attend a program to prevent/manage chronic illness (OR=1.35, P=0.004). Conclusion: Rural inequities related to healthcare access and travel to medical care highlight the need to identify and introduce community services/resources proximal to residents' homes. Disease self-management programs can complement formal medical care received. Reducing commute time to community-based services by expanding resource infrastructure can reduce inequities and improve service uptake.

Board 320

The Newest Vital Sign: Simple screening tools to identify limited health literacy among patients at a Federally-Qualified Health Center

Kelly Ylitalo, Renee Umstattd, Beth Lanning, Christina During, Ryan Laschober, and Jackson Griggs

Background/Objectives: Adults with limited health literacy have difficulty managing chronic conditions, higher hospitalization rates, and more healthcare expenditures. Simple screening tools have been developed, but limited work has evaluated instruments among low-income populations. This study assessed health literacy among patients of a Federally-Qualified Health

Center, and validated a single screening question about perceived difficulty completing medical forms. Research Design: A cross-sectional survey was administered to English-speaking patients ≥ 40 years. Both the Newest Vital Sign (NVS), a six-item questionnaire, and a single-item screening question about perceived difficulty with completing medical forms, assessed health literacy. Multivariate logistic regression was used to identify predictors of inadequate health literacy and receiver operator curves compared the NVS and single-item question. Results: Participants ($n=406$) were, on average, aged 58.5 years (± 11.3), 72.2% female, and identified as Hispanic/Latino (19.2%), non-Hispanic white (31.0%), non-Hispanic black (40.9%), or other (8.9%). Of the 406 participants, 335 (82.5%) completed the NVS. Patients who declined NVS were more likely to be older ($p < 0.001$) and male ($p = 0.01$). Only 13.7% had adequate health literacy. Older adults, race/ethnic minority groups, people with missed office visits, and people reporting less confidence completing medical forms were significantly more likely to have inadequate health literacy. Perceived confidence completing medical forms demonstrated low sensitivity but high specificity at multiple thresholds compared to the NVS. Conclusions: This is the first investigation to compare the NVS and confidence completing medical forms question. A high proportion of patients declined health literacy assessments, but health literacy screening may identify patients who need additional health education and resources, particularly at a Federally-Qualified Health Center.

Board 321

Enhancing the Reach of School-based Health Centers through Community Engagement and Language Assistance for Minority Parents

Sarah Griffin, Laura Rolke, Jacqueline Forrester, Kerry Sease, Holly Bryan, and Lucia Wilkes

School-based Health Centers (SBHCs) are a national initiative to increase access to clinical care to children in a school setting. Children's Hospital of Greenville Health System operates School-based Health Centers in four middle schools in a disadvantaged area of Greenville, SC. Approximately 92.5% of these students qualify for free or reduced school meals. More than a third (36.5%) of students attending schools in this area are Hispanic, compared to 13.5% of middle schoolers in the district. A two-year mixed-methods evaluation of the SBHCs reach and implementation revealed several influential factors impacting use patterns. 567 students were seen in 802 visits during the two-year period (average 40 visits/month). During the 2016/17 school year, approximately 37% of students seen were black/African American, 30.4% were Hispanic, and 23.7% were white, revealing that the number of Hispanic students seen by the SBHCs were disproportionately lower than the Hispanic student population in the schools. Many Hispanic parents did not complete consent forms for their child. Thematic analysis of 2 parent focus groups and 25 parent intercept interviews revealed the following implementation and reach themes: (a) lack of awareness of SBHC services; (b) confusion about services offered; (c) desire for more communication; and (d) registration/consent process concerns. Findings were shared with SBHC staff, allowing for data-driven community outreach at the start of the 2017/18 school year and more intentional efforts to engage Hispanic parents. The SBHC team partnered with a Hispanic community group to assist Spanish-speaking parents with consent form processing on school event nights, enhanced the visibility of a Spanish-speaking staff member, and provided greater assistance in processing paperwork on-site, rather than send it home. These efforts led to a 38.5% increase in signed consents overall and more than 100% increase in visits compared to the same time period in the previous school year.

Board 322**Socioeconomic Disparities in Health Risk Behavior Clusterings Among Korean Adolescents**

Boram Lee and Dong-Chul Seo

Background: Adolescent health risk behaviors need to be understood in terms of clustering. Given that health risk behaviors formed in adolescence may continue into adulthood, the population level disparities in health risk behaviors in adolescence may exacerbate health inequality in the long term. Literature indicates that socioeconomic status (SES) and health risk behaviors tend to be inversely related but sometimes not clear, particularly for adolescents. This study aims to investigate the socioeconomic disparities in health risk behavior clusterings among Korean adolescents and to assess the mediating role of stress on this association. Methods: We analyzed the 2015 Korean Youth Risk Behavior Survey, a nationally representative sample of Korean middle and high school students aged 12-18 years (N = 68,043). The co-occurrence of multiple health risk behaviors (i.e., smoking, drinking, and unprotected sex) was used to operationalize risk behavior clusterings that ranged from 0 to 3. Ordinal and multinomial logistic regressions were conducted to examine socioeconomic disparities in risk behavior clusterings and mediating effect of perceived stress between SES and risk behavior clusterings. Results: The risk of engaging in multiple health risk behaviors was greatest in the lowest-SES adolescents (AOR=2.15), followed by the highest-SES adolescents (AOR=1.29) and the mid-low-SES adolescents (AOR=1.24). Perceived stress level partially mediated the effect of SES on risk behavior clusterings. Conclusions: The results indicate a SES-polarization on Korean adolescents' risk behaviors which is partially mediated by perceived stress. The findings also discourage use of a linear approach in socioeconomic disparities investigation in relation to adolescent health behaviors.

Board 323**Determinants of intentions towards maintaining and initiating recommended sleep behaviors in college students**

Katie Qualls Fay and Paul Branscum

Sleep deprivation is major public health problem for young adults and college students in the United States. While for some students getting a sufficient amount of sleep is difficult (7-9 hours), for others who already get sufficient sleep, it can be difficult to maintain the behavior over an extended period of time. Therefore, to promote healthy sleep behaviors among college students, two approaches may be warranted: For college students not meeting sleep recommendations, initiating the behavior is critical, and for those who are currently meeting sleep recommendations, maintaining the behavior is critical. Therefore, the purpose of the study was two-fold: First, this study determined significant theory-based determinants of intentions to meet sleep recommendations for college students not currently meeting recommendations (initiation), and second, this study determined significant determinants of intentions to maintain the recommended amount of sleep for college students currently meeting the recommendations (maintenance). The theoretical framework for this study was the Integrative Model (IM). A valid and reliable survey was distributed online to university students in the Fall of 2016, and 610 responses were used for final data analysis (Initiation=310, Maintenance=300). Results from regression models revealed that together perceived norms and perceived behavioral control (PBC) accounted for 29.3% of the variance of intentions to start sleeping 7-9 hours each night for the initiation group, and attitudes, perceived norms and PBC accounted for 32.6% of the variance of intentions to continue sleeping 7-9 hours each night for the maintenance group. Furthermore, PBC, stemming from self-efficacy, was found to have the strongest influence on intentions for both groups. Future practice should focus on increasing self-efficacy in college

students to decrease sleep deprivation and increase adherence to current sleep recommendations.

Board 324

Developing and validating an instrument measuring theory-based behavioral antecedents of sleep behaviors for college students

Katie Qualls Fay and Paul Branscum

Sleep deprivation is a serious public health concern in the United States that often goes unnoticed, particularly among college students and young adults. Identifying modifiable behavioral antecedents of sleeping behaviors will help inform future public health interventions. Furthermore, interventions may be more effective if they were tailored to students based on their sleeping status. For example, some students sleep less than 7 hours per night, and need interventions to help them start sleeping 7-9 hours per night; while students who already sleep 7-9 hours each night need interventions to encourage the continuation of the behavior. The purpose of this study was to develop and validate two new instruments to better identify behavioral antecedents for college students not meeting the current sleep recommendation, and for students who are meeting the current sleep recommendation. The Integrative Model (IM) was used as the theoretical basis of both surveys. First, an elicitation phase was implemented with a sample (n=100) to establish a set of salient beliefs. Second, items on the instrument were developed that corresponded to the following IM constructs: attitudes, injunctive norms, descriptive norms, and perceived behavioral control. Once an initial draft of the instrument was complete, it was evaluated for face and content validity by a panel of 6 experts. The instrument was then evaluated by a small sample (n=48) from the target population for readability. After receiving feedback, the survey was completed by 300 undergraduate students whose goal was to maintain healthy sleeping behaviors, and 310 undergraduate students whose goal was to start sleeping 7-9 hours each night. Confirmatory factor analysis and internal consistency reliability statistics showed that the instrument was both valid and reliable. Researchers working in the area of sleep health can use this instrument to help create the basis for future public health sleep interventions.

Board 325

The Variability of Cronbach's Alpha in Health Behavior Research: a Reliability Generalization Trend Analysis

Daniel Valdez, Andrew C. Pickett, and Adam E. Barry

OBJECTIVE: Despite calls to improve reporting of reliability estimates in survey-based research, health behavior researchers exhibit generally poor reporting practices in their published manuscripts. This investigation highlights the importance of reporting psychometric coefficients for survey scales and constructs, and demonstrates how reliability coefficients, such as Cronbach's alpha, can fluctuate with subsequent administrations to new samples. Specifically, we present a data-based heuristic example of the sensitivity and stability of Cronbach's alpha over time with multiple waves of nationally representative data of school-age adolescents. **METHOD:** To demonstrate the variability of alpha we utilized the meta-analytic technique, reliability generalization, to examine changes in alpha levels among established depression-related measures over time using almost 40 years' worth of data from the online, open access Monitoring the Future survey. Further, study characteristics that accurately predicted alpha were also identified. **RESULTS:** For each year and sample, reliability coefficient alpha varied in differing magnitudes. Overall, alpha ranged from .95 to .88 across the 38 year period. Moreover, there were no instances of multi-year stability of alpha; in other words, each year alpha changed, despite the same questions being asked in each administration.

CONCLUSION: Overall, reporting a data-specific reliability coefficient, at each survey administration, is important information to provide, as it has the ability to impact statistical inferences. As our findings outline, alpha changes depending on sample and sample characteristics. These findings hold important implications for the reliability of measures among samples of primarily under-represented groups, which often are less prevalent in large-scale investigations. That is, if alpha is not a constant but varies by sample, then how might minority-driven samples affect the reliability of a construct or measure?

Board 326

Twitter use by U.S. schools of public health: A tool for communicating research and advocacy

Matthew Kearney, Jennifer Manganiello, Alexandra R. Budenz, and Philip Massey

Purpose: To analyze tweets from U.S. schools of public health and identify key drivers of engagement with external audiences (i.e., retweets). **Methods:** Using data mining software, we collected 34,289 publicly available tweets from U.S. public health schools with registered Twitter accounts (n=53) between August 2015 and June 2016. We limited our final sample to original tweets (n=25,040). We used descriptive statistics to analyze tweet metadata (i.e., date of tweet, number of followers, number of retweets). In addition, for a month-stratified random sub-sample of tweets (n=679), we developed a codebook to analyze tweet content (school events, research dissemination, school news, or advocacy) and audience (general, school, or targeted). We built regression models to identify factors that predict or confound the outcome of retweet, controlling for school-based clusters of tweets using fixed effects modeling. **Results:** The median number of tweets per school account was 371 (IQR: 184-692), and the median number of followers was 1473 (IQR: 654-4549). Nearly 30% of tweets were created by one of three schools of public health. The majority of tweets were retweeted at least once (55%) and were directed towards a general audience (62%). Compared to tweets targeted towards school-specific or other targeted audiences (e.g., demographic group), tweets directed towards general audiences were more likely to be retweeted. Tweet content focused primarily on school events (37%), research dissemination (26%), and advocacy (21%). Tweets discussing research dissemination had twice the odds ($p < .05$) of being retweeted, when compared to tweets discussing school events. **Conclusion:** Tweets with content that is accessible and inclusive, and disseminating research and other related health information were associated with being retweeted. In addition, schools should look to building larger social networks of followers, particularly within their respective geographic regions, as means of increasing both the number and diversity of users that tweets reach.

Board 327

Elementary Principals and Teachers' Perceptions of School Garden Programming in a Lower-Income, Diverse, Urban School District

Anna E. Greer, Kristin Rainville, Ann-Uriel Knausenberger, and Cristina Sandolo

Background: School garden programs have demonstrated efficacy for improving nutrition knowledge and fruit and vegetable consumption among school youth. Researchers, however, have documented inequities with regards to garden-based learning opportunities for students in lower-income, racially and ethnically diverse school districts. **Purpose:** This study examined principals and teachers' perceptions of garden-based learning for elementary students in a lower-income, diverse, urban community. **Methods:** Interviews were conducted with elementary principals (n=12) and teachers (n=9) using a semi-structured interview guide. All interviews were transcribed verbatim and loaded into Atlas.ti qualitative software for analysis. Data were

coded and reviewed to identify code categories which could be taken to represent themes. Results: Principals and teachers identified challenges to school garden programming including “always being under-resourced” (e.g., time, personnel, money), an administrator focus on “standardized tests,” and summer garden maintenance. Perceived facilitators included: the creation of school garden lessons which “tie to the [district’s] curriculum,” garden supply donations (e.g., “shovels and wheelbarrows,” “seedlings,” “good soil”), and community member involvement. Both principals and teachers perceived school gardens as an opportunity to improve students’ science knowledge, perceptions of consuming local food, and nutrition habits. Participants discussed how many of their students live in poverty, are immigrants, and speak multiple languages. These student characteristics presented both challenges (e.g., transient study body) and opportunities (e.g., immigrant families with a rich gardening heritage) for their school garden programs. Conclusions: While garden-based learning programs in lower-income, diverse, urban communities are likely to face several challenges, the study findings indicate that garden-based learning might be particularly meaningful in diverse communities with cultural ties to gardening.

Board 328

Use of an innovative farmers’ market program providing free produce to lower-income community members

Anna Greer, Brittany Lawrence, Shaakira Jones, Daphne C. Hernandez, SangNam Ahn, Ann Marie Zimeri, and Matthew L. Smith

Farmers’ markets enhance access to fresh produce but are often under-utilized by lower-income persons. Purpose: We examined use of a farmers’ market that leverages community partnerships to provide free produce to lower-income persons. Methods: Upon registering their household for the market, participants (n=422) were asked about their personal and household characteristics, financial support received, reasons for market use, and how they had learned about the market. Participants were also given an ID number, which was used to track market use from 2014-2015. Chi square tests were used to examine associations between 2014/2015 market use and reasons for market use, financial support received, and how attendees had learned about the market. Ordinal regression was used to identify household characteristics associated with increased market attendance. Results: Although the proportion of lower-income attendees declined over the study period, a substantial proportion of households in 2014 (69.1%) and 2015 (54.6%) were below the poverty threshold. We identified significant differences in attendees’ reasons for market use and ways attendees heard about the market from 2014 to 2015. The most frequently reported reason for 2014 market use was retirement/fixed income ($\chi^2=46.22$, $P<0.001$) and in 2015 was low income ($\chi^2=173.80$, $P<0.001$). Most attendees heard about the market through flyers ($\chi^2=27.05$, $P<0.001$) and word of mouth ($\chi^2=14.26$, $P<0.001$) in 2014 and through local, non-profit services ($\chi^2=14.77$, $P<0.001$) in 2015. In the ordinal regression, households with an older person registering the household for the market used the market more times per year (Beta = 0.05, $P < 0.001$). Impoverished households (Beta=-0.49, $P=0.020$) and households receiving more financial support services (Beta=-0.26, $P<.001$) used the market fewer times per year. Conclusions: While a substantial proportion of lower-income persons used the free-produce market, frequency of use was still lowest among this group indicating a need to address barriers beyond produce cost.

Board 329**Using network analysis to support community collaboration to address health disparities in a low-income multi-ethnic community**

Opal V. Buchthal, Tina Tamai, Denise Nelson, and Katherine Braden

Purpose: Strengthening collaboration among community agencies working to address health disparities in low-income, resource-limited neighborhoods is challenging. Bringing agencies together to share information, resources, and develop shared projects may improve collaboration and communication across the community. This study assesses the impact of the Live Better Together Collaborative (LBT), an initiative sponsored by the Hawai'i Department of Health to support collaboration on nutrition access in a low-income, multi-ethnic urban neighborhood in urban Honolulu. Methods: In 2012 potential partner agencies were identified through a snowball sample of community stakeholders. A survey was conducted to identify agency demographics, missions, and inter-agency communication and collaboration linkages. A network analysis was performed to map existing collaboration patterns among the agencies. The results were presented to the LBT group, which used these results to identify partnership strengths and weaknesses within the community, and to set the direction for partnership development. The survey was repeated in 2016 with all 2012 participants plus 5 new partners, and a second network analysis conducted. Network size, density, diameter, degree centralization, betweenness centralization, and betweenness centrality were calculated for all networks, and differences between the 2012 and 2016 networks assessed. Results: The 2016 network is larger, more dense and centralized, with greater collaboration between agencies, less distance between the least-connected agencies in the network, and less brokerage by individual agencies. Between 2012 and 2016, the collaboration network size increased from 26 to 31 agencies. Network density increased from .089 to .108, and average number of connections per agency increased from 2.23 to 3.23. Network diameter decreased from 8 to 6, and all-degree centralization increased from .207 to .278. Betweenness centralization decreased from .232 to .200. Conclusion: Network analysis can be a useful tool for supporting community development partnerships, helping local agencies identify and address structural issues affecting collaboration within their community.

Board 330**Community Health Workers Move into the Community with Healthy Cooking Classes**

Carolyn C. Johnson, Keelia O'Malley, Catherine Haywood, Irene Williams, Carolina Gallop, and Leann Myers

Background: Healthy diet is a public health priority to combat obesity in U.S. Oldways scientifically and culturally based curricula for healthy eating focuses on whole grains, herbs, spices, legumes, tubers, vegetables and fruit. Purpose: To determine the feasibility of Community Health Workers (CHWs) and community host organizations to co-implement Oldways cooking classes to improve diets for community residents. Methods: Five neighborhood organizations were recruited to host cooking classes and were offered an honorarium if they agreed to: 1) provide kitchen facilities for classes, 2) recruit community residents to participate, and 3) provide volunteers to facilitate classes for sustainability within the organization and neighborhood. CHWs trained to conduct classes with the volunteers. Pre/post surveys were administered that examined changes in foods and food preparation, receptivity to the program, and potential dissemination efforts beyond the classes. Results: Five neighborhood organizations were recruited but one dropped because of inability to comply with research requirements. Four host organizations had a total of 42 pre-surveys and 40 post-surveys. Some participants increased use of targeted foods, but no significant differences were

found from baseline to follow-up. Participants appreciated eating in more traditional ways (n=21). Majority of participants were positive about the classes stating that they either would change nothing (n=22) or would increase classes (n=5). Twenty (57%) stated had tried recipes at home. Participants (n=34) reported Intentions to share cooking methods with family and friends, and to prepare food using Oldways methods. Conclusions: This pilot study demonstrated the feasibility of using CHWs to implement health promotion activities at the community level, to recruit neighborhood organizations to host healthy cooking classes, the acceptability of healthy food preparation techniques, and intentions to disseminate healthy cooking methods to family and friends. Results show that positive changes in food types and preparation by and within neighborhoods is a viable intervention.

Board 331

Evaluating a multi-stakeholder workgroup to improve nutrition access for disparate populations.

Meghan D. McGurk, Uyen Vu, Lehua Choy, Katherine Inoue, Carolyn Donohoe Mather, Daniela Kittinger, Toby Beckelman, and Opal Vanessa Buchthal

Background: Despite Hawaii's consistent rating as the healthiest state, disparities in rates of obesity and chronic disease persist among certain groups. The Hawaii State Physical Activity and Nutrition Plan outlines 22 policy, systems, and environmental strategies, to increase physical activity and access to nutritious foods, and reduce obesity and chronic disease among all populations in Hawaii by 2020. In 2013, a multi-stakeholder workgroup was formed around three objectives focused on issues that make access to healthy foods difficult for disadvantaged populations. In 2017, a social network analysis study was conducted to assess the structure of the nutrition access workgroup at the plan's midpoint. Methods: The study sample was pulled from the workgroup member list and key informant rankings of partner engagement. Twenty-nine key organizations were surveyed on their level of collaboration and frequency of communication. Pajek social network analysis program was used to analyze the data and map the workgroup's collaboration and communication. Results: The collaboration map showed a diffuse network, with partners commonly sharing information and coordinating their efforts, but not often collaborating or establishing formal partnerships around the objectives. There was low betweenness centralization (0.1201) with no one central broker of collaboration. Instead, connections formed around four organizations with funding and resources to distribute. The communication network map showed slightly higher betweenness centralization (0.1789), with the two main public health organizations as central nodes for communication. Conclusions: At the plan's midpoint, collaboration and communication among workgroup partners is low. Progress on these broad nutrition access objectives requires collaboration and communication between multiple, diverse partners. However, such partnerships are often difficult to sustain. Network mapping is valuable in identifying both weak and strong relationships that can be leveraged to reinforce the network and make progress on achieving the goal of improving nutrition access for all of Hawaii's people.

Board 332

Movin' for LIFE: Social marketing to promote a community-based health promotion program in New Orleans

Naomi King Englar, Keelia O'Malley, Madison Monahan, Catherine Haywood, Revonda Darensbourg, and Carolyn C. Johnson

Purpose: Movin' for LIFE (Lasting Improvements for Fitness and Energy) is a multi-level, community-based program in New Orleans 9th Ward - an underserved, predominantly black neighborhood - that sponsors free health promotion activities for residents related to physical

activity and healthy eating. This study's purpose is to evaluate a social marketing campaign implemented in summer 2017 for two Movin' for LIFE health promotion activities, a Family Health Fair and 5K Run/Walk. Methods: The campaign utilized a range of strategies to reach potential participants including print and online ads with news media, social media ads, outdoor ads, printed flyers, and word of mouth. Data for message reach was collected using Google Analytics, Facebook and Twitter analytics, news media readership and impressions, outdoor advertising company estimates for impressions based on traffic counts, number of flyers distributed via two part-time Community Health Workers to more than 80 neighborhood businesses, churches, and nonprofits. Results: The campaign resulted in 11,000 flyers distributed. Two months of ads on 3 billboards generated 1.09 million impressions, one month of bus shelter ads generated 2.61 million impressions, and 1 month of ads on 8 bus exteriors generated 9.74 million impressions. 2,339 users accessed the program website during the 3-month campaign, compared to the total 3,395 users that visited the website during its 1-year lifespan. Print and digital ads with news media outlets resulted in 918,000 impressions. Facebook ads reached 12,520 people and Twitter ads generated 52,810 impressions. The Family Health Fair had 156 participants. A total of 280 people registered for the 5K Run/Walk, and an estimated 250 participated.

Conclusions: Best practices recommend utilizing a variety of marketing strategies to saturate audiences and reinforce messages through repetition and multiple exposures. Our study shows that using multiple strategies is a viable method for recruiting participants for health promotion activities.

Board 333

Perceived neighborhood accessibility moderates the relationship between active transportation and obesity

Katie Heinrich, Nattinee Jitnarin, Carla Bernardes, Bradyn Nicholson, Daniel Winslow, Sarah J. Cosgrove, and Walker S. C. Poston III

Background: Active transportation (e.g., walking, cycling) may help decrease obesity, yet findings have been mixed. Perceived built environment features (e.g., safety, resource proximity) can influence the decision to engage in active transportation. This study queried if neighborhood environment perceptions moderated the relationship between active transportation and obesity. Methods: Participants were 514 adults (mean age 42±12 years) who were primarily female (71.0%), Caucasian (65.6%), married (51.2%), employed (63.8%), had some college education (73.7%), had incomes ≤\$60,000 (54.3%), and drove as their primary transportation mode (90.7%). Participants reported living at their present address 8.7±9.2 years and their present neighborhood 10.6±10.5 years. Participants completed a 60-minute household survey including measured height, weight, and body fat percentage (BF%) via bioelectrical impedance; the International Physical Activity Questionnaire (long-form); and environment module items from the International Physical Activity Prevalence Study. Three composite Neighborhood factors were created (i.e., Infrastructure, Safety, and Accessibility). Multi-level logistic regression tested whether perceived neighborhood factors moderated the effects of total weekly active transportation on BMI, and BF%. Results: Average BMI was 28.4±7.8 kg/m² and average BF% was 33.0%±11.1%. Gender differences existed for BF%, with females (35.7%±10.5%) having significantly higher percentages than males (26.0%±9.4%; $p < .001$). Half of participants reported 91.4±222.1 total weekly minutes of active transportation. No significant relationships were found between BMI and active transportation. However, neighborhood accessibility significantly moderated the relationship between active transportation and BF% ($p < .05$), with lower active transportation associated with less accessibility, resulting in greater BF%. Gender played a role in this relationship, with males significantly less likely to be obese via BF% than females (OR=0.47, 95% CI=0.30-0.75) at the

same level of accessibility. Conclusions: Perceived neighborhood accessibility significantly moderated the relationship between the use of active transportation and BF%. Future research should longitudinally examine the influence of perceptions on transportation mode choice and body composition.

Board 334

Come Together, Play, Be Active: Physical Activity Engagement of Children at Play Streets in Four Diverse Rural Communities

M. Renée Umstattd Meyer, Christina Bridges, Tyler Prochnow, Kimberly T. Arnold, Megan E. McClendon, Emily Wilkins, Flor E. Morales, Gabriel A. Benavidez, Tiffany D. Williams, Christiaan Abildso, and Keshia Pollack Porter

Purpose: Physical activity (PA) has many health benefits; however, only 21.6% of 6-19 year olds meet PA guidelines, with notable disparities for females and youth from low-income and/or diverse families. While most U.S. families reside in urban America, about 20% live in rural communities, where residents face unique obstacles to regular PA: dispersed land use, fewer walkable destinations, and scarce infrastructure. Play Streets, one approach to addressing disparities in children's PA, provide safe places for play through temporary street closures in areas without access to safe, well-maintained parks/playgrounds. Play Streets have been implemented in cities and rarely rural communities. We evaluated children's PA during Play Streets in rural communities.

Methods: Community organizations (church, local health department, county extension office, and health center) in four diverse low-income rural communities implemented four three-hour Play Streets focused on elementary-to-middle school children during summer (2017). Rural communities were selected to understand how Play Streets are implemented in African American, American Indian, Latino, or non-Hispanic White communities. PA was measured using Digi-walker (Yamax SW200) pedometers. Results: Sixteen Play Streets were implemented in rural communities in Maryland, North Carolina, Oklahoma, and Texas. A total of 370 elementary-to-middle school aged children wore pedometers at 16 Play Streets ($\mu=23.13$ children [SD=8.59]/Play Street). The mean age was 8.85 years [SD=2.76] and 54.8% were female. Among the 356 children with complete pedometer data, pedometers were worn for an average of 93.31 minutes (SD=59.96) and children had a mean of 42.06 steps/minute (SD=17.25), with no significant differences between boys ($\mu=43.64$ [SD=15.74]) and girls ($\mu=40.76$ [SD=18.34]). Conclusions: Children in diverse rural communities are physically active at Play Streets. Mean steps/minute accrued during Play Streets are similar to many studies reporting mean steps/minute of children during recess; although longer in duration and with promise for addressing PA disparities often seen for girls.

Board 335

Physical Activity Space Methodology for Assessment and Prioritization (PASMMap): Combining Systematic Observations with Community Perceptions to Identify Community Physical Activity Resource Priorities

M Renée Umstattd Meyer, Kelly R. Ylitalo, Luis A. Gómez, Tyler Prochnow, and Joseph R. Sharkey

Purpose: Despite documented benefits of physical activity (PA), most Americans are not regularly active, with notable disparities for residents of diverse and/or low-income communities. PA is positively correlated with resource availability and quality, which current PA resource assessments examine. However, community members' perceptions and cultural perspective are often not considered, leaving community members with ambiguous counts and/or scores. We present an approach incorporating community perceptions with systematic environmental

observations to identify community PA resource priorities. Methods: The PA Space Methodology for Assessment and Prioritization (PASMMap) includes three phases. Phase 1: systematic observation of PA spaces. Promotora-researchers completed PA Resource Assessments (PARAs) for 57 PA spaces in under-resourced colonias along the Texas-Mexico border assessing quantity and quality of features, amenities, and incivilities using 4-point scales (features/amenities: 0=None to 3=Good; incivilities: 0=None to 3=A lot/Many). Characteristics were ranked using average PARA scores from all PA spaces. Phase 2: community advisory board (CAB) members (n=36) ranked the importance of each feature, amenity, and incivility respectively; rankings were averaged and ordered. Phase 3: we examined differences quantifying discordance between phases 1 and 2. Large, positive differences indicated high discordance between systematic observations and perceived importance. Results:

Phase 1: highest ranked PARA characteristics were sidewalks, non-street lighting, and noise. Phase 2: CAB members ranked trails/paths, sidewalks, fenced-in open fields, play equipment, bathrooms, drinking fountains, trash containers, substance abuse evidence, litter/trash, and alcohol evidence as most important PARA characteristics. Phase 3: multiple characteristics had high discordance: trails/paths, fenced-in open fields (features), drinking fountains (amenity), and litter/trash (incivility); these were low quantity/poor quality yet perceived as highly important. Conclusions: Highly discordant characteristics identified through PASMMap provide evidence-based, community-valued recommendations on community PA resource priorities for planning and advocacy. Future work should (1) incorporate perceptions/rankings from additional community members and (2) apply PASMMap methods to other environmental assessments.

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Documenting How Play Streets Impact Play, Physical Activity, and Environment: A Systematic Review

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Purpose: Play and other physical activity (PA) are important for healthy bone and muscle development, emotional well-being, and chronic disease/obesity prevention among children. Safe, attractive, and convenient play spaces are often limited in under-resourced communities and many communities of color. Play Streets are an understudied intervention strategy that could provide safe play spaces for children. Play Streets involve the temporary closure (recurring or episodic) of streets to support opportunities for play. The purpose of this study is to better understand the community impacts of Play Streets on play, PA, and the environment by systematically reviewing the literature on Play Streets interventions. Methods: A systematic literature review was conducted using Academic Search Complete, CINAHL, PsycINFO, PubMed, Web of Science, and Google Scholar. Peer-reviewed studies published worldwide, in English, through October 2016 that documented Play Streets, Open Streets/Ciclovías, or Pop-up Parks that incorporated a designated play area were included. Results: Of the 143 peer-reviewed abstracts that were reviewed, 47 full-text reviews were conducted, and 19 studies met inclusion criteria for extraction. Most studies used observational (n=8) and/or self-report (n=14) PA measures, one study objectively measured PA, and 13 were conducted in the U.S. Generally, most Play Streets occurred on the weekends or during holidays, in the mornings and/or afternoons, and were attended mostly by people living close by. Play Streets created more open spaces in communities which facilitated feelings of safety, community cohesion, and typically increased overall PA during Play Streets. Conclusions: Findings suggest that Play Streets can create safe environments for children to play, increase PA, and have positive social and environmental impacts for neighborhoods/communities. Additional research is needed to examine implementation of Play Streets and associated impacts. Since most studies were in

urban areas, implementation and evaluation research of Play Streets in suburban, small town, and rural areas is needed.

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Activity-Friendly Community Design: Neighborhood influences on physical activity and health

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Background: The built environment can play a role in providing access to opportunities to engage in physical activity. Providing walkable destinations including: utilitarian destinations (e.g., grocery shops); green spaces (e.g., parks); while also providing safe and attractive walking/running trails and sidewalks connecting destinations have been suggested as sustainable solutions to promoting physical activity. **Methods:** We surveyed residents who moved to an activity-friendly community in order to assess changes in health-related outcomes. The target community was designed to be highly walkable, inclusive of green spaces and parks for sports, equipped with utilitarian destinations (e.g., shops), and other activity-friendly design features. Approximately 412 adult residents aged 21 and older completed surveys assessing health, physical activity, and sociodemographic characteristics. **Results:** Overall, 13% of respondents were Hispanic, 82% were White, and 66% were female. A significant portion of respondents (23%) were enrolled in the community affordable homes program. While 43% of respondents reported similar self-reported health status after the move, approximately 51% reported improvements in self-reported health status. Overall, 73% of respondents reported that they engaged in higher levels of physical activity after moving into the activity-friendly community versus before the move. **Conclusions:** Activity-friendly community design can provide sustainable solutions in improving physical activity. Policymakers and other key stakeholders can use this information to support urban planning and design that targets safe, walkable, and connected communities.

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Impacts of Workplace Environment on Physical Activity: A Qualitative Examination

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PURPOSE: This qualitative study is to evaluate the impact of the workplace environment on employee physical activity (PA). **METHODS:** After IRB approval, 28 employees from two Austin offices (N=10 and N=11) and one Dallas office (N=7) of a Texas-based insurance company were recruited to participate in focus groups to discuss workplace environment and PA. Interested subjects responded to screening questionnaires for balancing groups by gender, age, work type, and PA levels. During August-September, 2017, focus groups were conducted, audio-recorded, and transcribed verbatim. Data were analyzed using NVivo 11. **RESULTS:** Participants included more females (N=20) and represented ages 21-70. The majority (N=21) were staff, while seven were managers or supervisors. Twenty-three participants engaged in some PA during a typical week, but five reported no PA. Participants cited company programs/policies (e.g., organized walking groups, yoga classes, incentives), access to PA features (e.g., on-site gym and showers, wide hallways), and social boosts (e.g., having supportive co-workers, seeing others being active) as enablers of PA. Conversely, workstation limitations (e.g., only a sitting desk option), work type (e.g., claims adjuster vs. underwriters), workload (e.g., less flexible and consuming workload), and commute time were cited as barriers to PA. Overall, participants appreciated office culture promoting PA, but some felt constraints due to work overload and inflexible schedules. Long commute times left employees with limited energy for PA. Work including phone interaction meant little time to leave desks and be active. **CONCLUSION:** One size does not fit all. Even within a single office environment, opportunities

for PA can vary depending on employees' work type and position level. PA interventions (both programmatic and environmental) may need to be adapted for different positions and work types within a company. Also, it is important to consider commute times and modes in understanding the impact of workplace factors on PA.

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The influence of social capital and leisure-time physical activity on health for older adults by living arrangements

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Purpose: The purpose of this study is to: (1) explore the influence of social capital and leisure-time physical activity on physical and mental health for older adults and (2) test whether these relationships vary by living arrangement. Methods: This cross-sectional study used the national data from 2013 National Health Interview Study in the U.S. Subjects were 7,714 adults aged 65 years or older. Logistic regressions were to predict the probability of being overweight or obese. Ordinary linear regressions (OLS) were to predict mental health outcomes. Results: Older adults living alone were more likely to report feeling sad (alone: 1.5; with others: 1.36), hopeless (alone: 1.25; with others: 1.18), and worthless (alone: 1.22; with others: 1.15). They were also more likely to experience lower levels of social support (alone: 3.24; with others: 3.30), trust (alone: 3.34; with others: 3.44), cohesion (alone: 2.95; with others: 2.98), and enjoy less leisure-time physical activity (alone: 49.85; with others: 64.64 minutes) than those living with others. Hispanic and divorced/separated older adults who lived alone were prioritized for health intervention. Conclusions: Older adults living alone had poorer mental health, less social capital, and engaged in less frequent leisure-time physical activity. Promoting social capital could improve mental health in older adults living alone.