Session I: New Investigators

1. Barriers to Exercise for Low-Income Teens

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Purpose: Established evidence indicates that teenagers in low-income communities have higher rates of obesity, poor health and inactivity. This project sought to locate and identify the barriers that prevent teenagers in low-income communities from engaging in physical activity or participating in organized exercise.

Methods: This research was conducted using a qualitative, Grounded Theory method. Research procedures included the use of open-ended written survey/questionnaires, one on one interviews, and field notes from an 8 week pilot wellness program implemented for teens in a low income, semi-urban community in Southeast Michigan. Data collection took place prior to the program’s start and following the program’s conclusion. This resulted in collection over a 32 week period during consecutive summers, meeting the standards and procedures of the center’s ethics committee. Information was collected from a total of 41 community youth. Interviews were conducted by the primary investigator and a research assistant from the community during the program and following its completion. Field notes were collected during the duration of the program by the primary investigator and included communications with participants, instructors, electronic data sources, staff members from the sponsoring organization and other members of the community. Data was analyzed using thematic and line-by-line coding techniques consistent with the Grounded Theory method.

Results: From the data, two major categories emerged that best describe the barriers to exercise faced by low-income teens in our program. These barriers can be classified as either a “reality” or a “perception”. Within each of these categories, five themes were identified; peer group or age limitations, school or academic pressures, family life, community structures, and systematic or functional limitations. Participants in our program/study reported and evidenced a variety of challenges to their personal and collective well being, as it related to their personal ability to exercise. Across all themes, data suggested perceptions on the part of participants and actual, tangible realities inherent to the individual, community, or system that prevented exercise. These categories were deemed to be equivalent in detriment, as both had the potential to provide real, insurmountable barriers to wellness for our participants.

Conclusions: Low-income teens face a variety of challenges when it comes to exercising and being healthy. The pressures of age, the desire to “fit in”, body image, pressures from school, home, and parents, as well as the functional structure of community and civil life combine to work against teens and prevent them from committing and sustaining a practice of regular exercise. Because these barriers to exercise in low income communities are so numerous and functionally insurmountable that actors who attempt to take on the role of addressing problems of inaction and poor health must approach each challenge with a systematic, focused strategy that relies (if not extensively) primarily on the reported needs of the target population.

Sources of Support: The Corner Health Center
2. Mental Health Service Utilization Among Detained Adolescents: A Meta-Analysis of Prevalence and Potential Moderators of Service Utilization
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**Purpose:** An estimated 60%-80% of adolescents in correctional facilities meet criteria for at least one mental disorder or substance use disorder. These mental health problems have been linked to an increased risk of recidivism, or repetition of criminal activity (e.g. re-arrest) following release from detention. Although mental health treatments have been developed to address the mental health problems of detained adolescents and reduce recidivism, many detained adolescents do not receive mental health services. However, the actual prevalence of mental health service use among detained youth is not well understood, with prevalence rates varying widely from 3% to 76% across studies. Furthermore, patterns of mental health service utilization across groups of detained adolescents have not been systematically investigated. Thus, a meta-analysis was conducted to review and synthesize the literature regarding mental health service utilization among detained adolescents, as well as identify significant moderators of service use.

**Methods:** Research studies that examined service utilization among detained adolescents were identified via computer searches, manual scanning of reference lists, and correspondence with authors of relevant studies. Data from studies were abstracted and coded. Thirty-one studies of 33 distinct samples totaling 21,039 adolescents were meta-analyzed using the Hunter & Schmidt (1990) approach to conducting a meta-analysis. Individual effect sizes were combined using random effects models to determine effect sizes for mental health and substance use service utilization. When results showed significant heterogeneity across individual effect sizes, moderator analyses were conducted to identify variables that may moderate service utilization.

**Results:** Prevalence effect sizes for service utilization were low, with main effect sizes ranging from \(p=26.0\% \text{ (CI}=18.1-35.9\%)\) for substance use services, \(p=29.6\% \text{ (CI}=21.4-39.3\%)\) for mental health services, and \(p=37.8\% \text{ (CI}=27.6-49.1\%)\) for either services. For adolescents with mental disorders, the prevalence rate effect size for service utilization was \(p=41.8\% \text{ (CI}=21.6-66.5\%)\). The moderator analyses identified several significant moderators of service utilization, including gender, race/ethnicity, service timing, service setting, study location, and date of study. Sub-analyses indicated that service utilization was significantly lower for detained males than females (OR=0.63, CI=0.53-0.76), and for Black adolescents (OR=0.43, CI=0.33-0.56) and Hispanic adolescents (OR=0.53, CI=0.37-0.75) than White adolescents. In contrast, service utilization was significantly higher for detained adolescents with mental disorders (OR=3.79, CI=2.83-5.07) and substance use disorders (OR=1.92, CI=1.41-3.22) than other detained adolescents.

**Conclusions:** As the first meta-analysis to synthesize the literature regarding service utilization within the detained adolescent population, findings revealed that mental health service utilization is extremely low, with less than 40% of detained adolescents receiving any type of treatment. There are significant gaps and disparities in treatment service use, particularly for racial/ethnic minority youths and youths with mental health and substance use problems. Specifically, about 2 in 3 detained adolescents appear to have significant mental health problems, but only about 1 in 3 youths receive services. Future research should focus on addressing the treatment needs of detained adolescents, improving treatment services within correctional facilities, and enacting programs to ensure consistent identification, referral, and connection to care for detained adolescents.

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3. College Health Service Capacity to Support Students with Chronic Medical Conditions: A National Survey

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**Purpose:** Approximately 20% of US adolescents have a special health care need or chronic medical condition. For many, going to college is an important step in their development. While expert-level guidelines exist to support healthcare transitions from pediatric to adult-care, they do not address the transition to college. Little is known about the capacity of colleges to identify, support and care for these students. Therefore, we undertook a national survey of college health centers to characterize policies, practices, and resources available to care for students with chronic medical conditions.

**Methods:** The study was designed as a cross-sectional survey of a representative sample of 200 four-year, residential colleges in the US with 400 or more enrolled undergraduate students (15% of eligible institutions). The target sample was created using a block-stratified random sampling approach drawing from the US Department of Education Integrated Postsecondary Education Data System. Medical directors at selected institutions were invited to complete a confidential online survey about: practices for identifying and tracking students with a chronic medical condition, health information required for matriculation, availability and accessibility of medical services on- and off- campus, and availability of support services for students. If the sampled institutions did not have an on-campus or affiliated health center, the institutions (n=56, 28%) were replaced by another institution with matched characteristics. Institutional characteristics were also obtained. Chi-square tests were used to ascertain differences in survey answers by institutional demographics.

**Results:** Of the 200 sampled institutions, directors at 153 institutions completed the survey (76.5% response rate). No significant differences were found between the sampled and source population in enrollment size, region, public versus private status, religious affiliation, percent of all women’s colleges, or historically black colleges. 42% of schools had no system of identification for incoming students with chronic medical conditions. Small schools (student body <5000, p=.004), Eastern schools (p=.048) and private schools (p=.003) were more likely to have a system (i.e. a registry or a database) for identifying incoming students with chronic medical conditions. 76% of institutions do not contact incoming students with chronic medical conditions to arrange initial appointments or check-in, and 17% of institutions do not provide any urgent care services (weekday or weekend). 24% of schools have health service-run support groups for students with chronic medical conditions; 29% of schools have peer-led support groups. 83% of institutions have an established relationship with another medical facility or specific providers available for specialty referrals.

**Conclusions:** Despite recent attention to healthcare transitions for youth with chronic medical conditions, relatively few US colleges have student health systems and services to identify and support these students. Colleges would benefit from guidance to advance policy, practice and co-management of these youth.

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4.
Selection of Branded Alcoholic Beverages by Underage Drinkers
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Purpose: Worldwide, excessive alcohol consumption is the leading cause of death for people ages 15 to 49. Recent research has identified, for the first time, the brands being consumed by adolescents, providing vital information for more focused research on underage drinking. The purpose of this study was to identify reasons why youth report drinking different brands and to determine if these reasons are associated with problem drinking behaviors.

Methods: We administered an internet survey to a nationally-representative sample of 1,031 youth ages 13 to 20 who reported drinking within the past 30 days. We restricted our analysis to 541 youth who reported having a choice of multiple brands of alcohol the last time they drank. Participants stated (yes/no) whether each of 16 different reasons had influenced their choice of a specific brand (e.g., having a friend recommend it, liking the advertising, because it was inexpensive). We use principle component analysis to reduce these reasons to common factors and then applied the resulting factors in a Latent Class Model to develop clusters of underage drinkers with similar reasons for choosing a brand. Finally, we profiled the clusters to identify cluster differences with regard to alcohol expectations, drinking behaviors, drinking consequences, and other attributes.

Results: Principle components analysis yielded three factors that explained 62% of the variance: a “branding” factor that captured reasons including liking the advertising for the brand, identifying with the brand, and expecting good things to happen to people who drank the brand; a “modeling” factor that captured reasons including seeing peers or adults drink the brand; and a “convenience” factor that captured reasons including a low price or ease of access. Latent class modeling of these factors for each participant yielded 5 distinct brand selection clusters: “Brand Ambassadors” who were distinguished from other clusters by selecting a brand because they identified with it or believed good things happen to people who drink it (33% of respondents), “Tasters” who selected a brand because they expected it to taste good (27%), “Bargain Hunters” who selected a brand because it was inexpensive (19%), “Copycats” who selected a brand because they’d seen adults drinking it, seen it consumed in movies or other media, or owned clothing with the brand’s image (10%), and “Others” who did not provide any unique modal reason for their brand choices (11%). The Brand Ambassadors and Copycats had the most positive alcohol expectancies, reported the largest amount of alcohol consumed, and had the greatest prevalence of both heavy episodic drinking and negative alcohol-related health consequences.

Conclusions: Underage drinkers who cite marketing influences and adult or media modeling of brand choices as their reasons for selecting alcohol brands are more likely to drink more and incur adverse consequences from drinking. Interventions to prevent alcohol use and related consequences among adolescents should be tailored to counter these brand-specific marketing and modeling influences.

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In Search of Normal Controls: A Methodological Complication When Conducting Adolescent Opiate Dependence Research

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Purpose: When designing a study choosing an appropriate control population is crucial for optimal study results. The population of youth with opiate dependence is increasing dramatically. When researching this population, recruiting and selecting a control group that provides accurate comparison is critical. The objective of this study was to describe the complexities surrounding the selection of an appropriate comparative control group for research with opiate dependent adolescents and young adults.

Methods: Healthy adolescent and young adults, age 16 to 22 years, were recruited from a community shopping mall and the employee pool of the participating institution to provide a comparison group for an ongoing study of psychosocial development of adolescents and young adults in treatment for opiate dependence. Participant and guardian consent/assent was obtained as appropriate. All potential control subjects completed a modified Youth Risk Behavior Survey (YRBS), Symptom Checklist 90 (SCL-90), and Kaufman Brief Intelligence Test (K-BIT) at baseline. Controls were classified based on history of reported drug use as either users or non-users. To classify as a non-user, control subjects were required to deny: 1) opiate use without a prescription in the last thirty days; 2) opiate use without a prescription three or more times in their lifetime; 3) needle use to inject any illegal drug; or 4) any other illicit substance use three or more times in their lifetime. Fisher’s exact test and t tests were used to compare users and non-users as appropriate. Adjustments were made for unequal variances between groups.

Results: Within potential control subjects, 14 of 45 (31%) were classified as users. No differences were found between users and non-users regarding gender, race, maternal/paternal education, insurance status, family history of drug use, or verbal/nonverbal intelligence. Users, as compared to non-users, reported lifetime drug use of 64.3% vs. 3.3% non-prescription opiates, 71.4% vs. 0.0% heroin, 100.0% vs. 54.8% alcohol, 92.9% vs. 25.8% marijuana, 28.6% vs. 0.0% benzodiazepines, 14.3% vs. 0.0% cocaine, respectively. Significant differences were found between users and non-users on psychosocial measures. Specifically, users, as compared to non-users, were noted to have higher levels of psychosocial distress in domains of somatization (1.04 vs. 0.51, p=0.01), paranoia (0.96 vs. 0.56, p=0.09), hostility (1.61 vs. 0.65, p<0.01), depression (1.31 vs. 0.59, p=0.01), anxiety (1.23 vs. 0.34, p<0.01), obsessive compulsive behavior (1.48 vs. 0.69, p= 0.01), and global psychological severity index (1.00 vs. 0.49, p=0.01).

Conclusions: Approximately one out of three healthy control subjects met criteria for illicit substance use. These illicit substance users demonstrated a distinct psychosocial profile as compared to non-using control subjects. Both using and non-using control subjects could provide a comparison group for opiate dependent youth; however, if imprecisely combined this amalgamated group does not provide appropriate comparative data. When researching opiate dependent youth, accurate selection, definition, and screening of the control group is essential to producing valid and authentic results.

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