

Platform Research Presentation—Substance Use and Relationships

#19

THE IMPACT OF ACUTE RELATIONSHIP INSULTS ON TRUST AND PRO-RELATIONSHIP BEHAVIOR WITHIN ADOLESCENT ROMANTIC RELATIONSHIPS: A SYSTEMS APPROACH

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Purpose: Trust is an essential component of adolescents' interpersonal romantic relationships. There is evidence that adolescents will disregard partner behaviors that should weaken trust and consequently the stability of the relationship. Thus a young woman faced with a critical relationship event or insult within their relationship, such as perceiving to be at risk for an STD or perceiving their partner has other sex partners may increase pro-relationship behaviors (e.g. more time or sex with partner) to maintain levels of trust. The goal of this study was to use a systems science approach to examine how adolescent young women adapt to a relationship insult. Specifically, we examined whether a relationship insult is associated with a decrease in trust and subsequently whether adolescent young women increase their pro-relationship behaviors following the insult.

Methods: A prospective cohort of females (N=122), aged 16-19 at baseline, were recruited from clinics and community venues in Baltimore, MD and completed daily questionnaires on feelings and risk perceptions about each current sex partner on a cellular phone continuously for up to 18 months. Participants confirmed partner initials regularly to ensure the same partner was followed over time. As overall mean levels of trust were high, the data were coded to indicate any decrease in trust compared to the previous week. A relationship insult was defined as either perceiving partner put her at risk for an STD or perception that partner had other sex partners in a week. Pro-relationship behaviors were coded as any of the following in the week: more time spent with partner than previous week, sex with partner, or gift from partner. Time was anchored at the week of the insult. A series of time-lagged models were used. GEE was used to account for correlation among repeated measures within relationships. IRB approved the study protocol.

Results: The mean level of trust was significantly lower within relationships in the week and subsequent two weeks following an insult compared to weeks without an insult [2.95 vs. 3.54, $p < 0.001$]. Experiencing an insult in the week was associated with a 3-fold increased odds of having a drop in trust in the same week [OR=2.98, 95%CI: 2.30, 3.86], experiencing an insult in the previous week was associated with an almost 20% decreased odds of drop in trust in the current week [OR=0.82, 95%CI: 0.68, 0.99]. Experiencing a drop in trust was associated with a 22% decreased odds of pro-relationship behavior in the following week [OR=0.64, 95%CI: 0.62, 0.96] and 21% decreased odds of pro-relationship behavior two weeks after the insult [OR=0.79, 95%CI: 0.65, 0.95].

Conclusions: These data uniquely show that trust is impacted following an acute relationship insult and that pro-relationship behaviors are not evident in the two weeks following the insult, indicating that acute relationship insults initiate a pathway toward relationship dissolution. Future work will track cycles of insult, trust failure, trust rebound, and relationship termination within adolescent romantic relationships and whether pro-relationship behaviors are characteristic of a subgroup of participants.

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THE LONGITUDINAL RELATIONSHIP BETWEEN FUTURE ORIENTATION AND SUBSTANCE USE AMONG YOUTH WITH SERIOUS CRIMINAL OFFENSES

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Purpose: Substance use in adolescence can have both immediate and long-term effects on development. Youth involved in the juvenile justice system are particularly vulnerable to such consequences, including chronic use into adulthood. Future orientation (FO) (a young person's goals, expectations out of life, and ability to plan for the future) is a potentially important modifiable factor to influence substance use. This study uses secondary data analysis to assess the relationship between FO and substance use in a sample of seriously offending youth. We hypothesized that higher FO scores would be correlated with smaller changes in substance use over time.

Methods: Data were from the first three years of the Pathways to Desistance study, a freely accessible data set following youth adjudicated of serious offenses in two North American cities. Youth were ages 14 to 18 at time of recruitment. Multiple previously validated survey items were chosen from the existing data to create a multidimensional, theoretically and psychometrically based measure of FO. We ran mixed level cross-lagged panel models to assess the relationship between FO score, change in FO score, amount of substance use, and amount of change in substance use (tobacco, marijuana, hard drugs) over the 3 year follow up period. Adjusted models accounted for different sites, sex, age, ethnicity, parental education, and proportion of time in the recall period spent in a facility.

Results: In a sample of 1354 youth, there was a significant bidirectional relationship between FO and all substance use outcomes. The relationship was maintained in adjusted models, with higher previous time point FO scores showing smaller increases in substance use at future time points. Adjusted beta coefficients for tobacco, marijuana and hard drug use were, -0.055, -0.131 and -0.096 respectively. All values were significant at $\alpha = 0.01$. Previous amount of drug use for all outcomes also influenced future time point FO. Those who had the most drug use at previous time points also showed smaller increases in FO at future time points; adjusted tobacco (beta=-0.037), marijuana (beta=-0.038), and hard drug use (beta=-0.047).

Conclusions: Future orientation and substance use predict each other in this sample of serious adolescent offenders. The relationship is bidirectional with FO predicting slightly larger change in substance use score, than the change in FO score predicted substance use. These results support the conclusion that for high risk youth where results can sometimes be difficult to obtain, there is a role for encouraging increases in FO as a modifiable factor associated with positive changes in substance use trajectories; and simultaneously, a potential role for substance use treatment to heighten FO, and thus positive youth development overall.

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#21

PARENTS' IMPLICIT AND EXPLICIT ATTITUDES TOWARDS CHILDHOOD OBESITY

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Purpose: Pediatric obesity is estimated at 17% in the United States, with associated medical problems that negatively impact youths during childhood and adolescence and persist into adulthood. Psychosocial costs of pediatric obesity (e.g., low self-esteem, weight-related teasing) are also profound. Weight stigma—discriminatory attitudes and actions against individuals with obesity—involves subtly or overtly blaming individuals for obesity and attributing global negative traits to individuals because of obesity, such as seeing them as “stupid” or “lazy.” Weight stigma has been documented across many sources, including the media, health providers, and children themselves. The current study examined whether parents had implicit and explicit bias against children with obesity and explored whether certain parental characteristics were associated with negative biases.

Methods: Parents (N=271; n=80 fathers, n=191 mothers) of children 5-15 years old and recruited from the Mechanical Turk website completed an adapted version of the Attitudes Towards Obese Persons (Allison, Basile, & Yaker, 1991) measure of explicit attitudes towards children with obesity and the Implicit Association Test (IAT) of implicit attitudes towards children with obesity. IATs ask participants to classify adjectives into larger categories. Conceptually, individuals will have more correct classifications in “matched” conditions (when categories match implicit bias; in this version of the IAT, for example, “fat” and “bad” in one column and “thin” and “good” in another) than “mismatched” conditions (when categories are incongruent with implicit bias, for example, “fat” and “smart” in one column, and “thin” and “stupid” in another). Participants completed two practice conditions (flower/insect/good/bad, matched and mismatched), and four counterbalanced test conditions (thin/fat/good/bad, matched and mismatched; thin/fat/smart/stupid, matched and mismatched). IAT scores were the number of items correctly categorized within an allotted 20 seconds per task. The Yale institutional review board reviewed and approved this study.

Results: Parents demonstrated implicit bias against children with obesity: they correctly categorized more words in the matched fat/bad task (M=14.50, SD=4.24) than mismatched fat/good task (M=10.65, SD=3.17). Likewise, parents correctly categorized more words in the matched fat/stupid task (M=13.74, SD=4.20) than mismatched fat/smart task (M=10.74, SD=3.43). One sample t-tests indicated a significant percent loss in correct categorizations between the matched and mismatched tasks for good/bad ($p < .001$) and smart/stupid ($p < .001$). Parent gender, parent obesity, parent age, child gender, child obesity, and child age were all not significantly associated with parents' implicit attitudes. Parent obesity was significantly associated with less explicit bias compared with parent healthy-weight ($p = .005$); other parent and child variables were not associated significantly with explicit attitudes.

Conclusions: Weight stigma can have a devastating psychosocial impact on youths. The current study found that parents demonstrate implicit bias against childhood obesity across varied demographic

characteristics (including personal obesity and having a child with obesity), and only parent obesity was associated with explicit bias. Interventions to reduce widespread weight stigma are urgently needed to attenuate implicit biases and to improve the resilience of children with obesity to cope with discriminatory attitudes and actions.

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TRENDS IN RECEIPT OF BUPRENORPHINE AND NALTREXONE FOR OPIOID USE DISORDER AMONG ADOLESCENTS AND YOUNG ADULTS, 2000-2014

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Purpose: Opioid use disorder (OUD) frequently begins in adolescence and young adulthood. Intervening early with medication-assisted treatment is recommended by major professional organizations. Yet, no prior national studies have examined the extent to which adolescents and young adults (collectively, “youth”) with OUD receive recommended pharmacotherapy with buprenorphine or naltrexone. We sought to identify trends in and factors associated with receiving buprenorphine and naltrexone for youth with OUD in a large US commercial insurance database.

Methods: We identified commercially insured adolescents and young adults of age 13 to 25 years with at least 12 months continuous enrollment who received a diagnosis of opioid use disorder (OUD) at two or more health care visits documented between July 2000 and July 2014. Data were obtained from the Optum database, which included insurance claims for visits to outpatient, inpatient, and emergency department settings. We identified individuals with OUD using International Classification of Diseases, Ninth Edition (ICD-9) codes 304.0 and 304.7. For each month youth had a claim with an OUD diagnosis, we determined whether they were dispensed an OUD medication in the subsequent 3 months. Medications included: (i) buprenorphine or buprenorphine/naloxone, (ii) oral short-acting naltrexone, and (iii) intramuscular extended-release naltrexone. We limited analyses to months after Food and Drug Administration approval for medications introduced during the study period (i.e., after approval of buprenorphine and buprenorphine/naloxone in October 2002, and of intramuscular extended-release naltrexone in October 2010). We first examined time trends in the proportion of youth receiving medications, then identified factors associated with dispensation using multivariable logistic regression. The study was approved by the Harvard Pilgrim Health Care Institutional Review Board.

Results: Among 27,677 youth with OUD, 18,138 (65.6%) were male and 22,222 (87.8%) were non-Hispanic white. Mean age (SD) was 21.2 (2.5) years at the time of first documented diagnosis. Overall, 9,616 (34.7%) were dispensed any medication, with 32.5% of all youth receiving buprenorphine or buprenorphine/naloxone; 5.3%, oral short-acting naltrexone; and 0.3%, intramuscular extended-release naltrexone. Overall, dispensation increased over time but was more common for adults 18-25 years with OUD than for adolescents <18 years (see Figure). Receipt of medication was less likely among females (adjusted odds ratio [AOR], 0.78; 95% confidence interval [CI], 0.74-0.82), non-Hispanic black youth

(AOR, 0.87; 95% CI, 0.76-0.98), Hispanic youth (AOR, 0.80; 95% CI, 0.72-0.90), and adolescents <18 years (AOR, 0.12; 95% CI, 0.10-0.14) relative to males, non-Hispanic whites, and young adults 18-25 years, respectively.

Conclusions: In this first national study of buprenorphine and naltrexone receipt among youth, dispensation increased over time. Although 1 in 3 youth with OUD received recommended pharmacotherapy, there are likely opportunities to expand medication-assisted treatment for young people and significant treatment disparities may exist based on gender, race/ethnicity, and age.

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DISCORDANT ADOLESCENT-PARENT DYADS DISCUSS PARTICIPATION IN A HYPOTHETICAL CLINICAL TRIAL: A QUALITATIVE ANALYSIS

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Purpose: Clinical trials often require adolescent assent and parental consent/permission; thus presenting the possibility that dyads may not agree about participation. However, little is known about how this discordance is managed. The purpose of this study is to analyze conversations between adolescents and parents about a hypothetical reproductive health clinical trial in order to understand the management of discordance.

Methods: Adolescents and their parents participated in a study assessing attitudes about clinical trial participation. In individual interviews they were informed about a hypothetical phase 1 microbicide safety study, and asked to rate on a 6 point scale their willingness for the adolescent to participate. Following the individual interviews, a subset of the participants participated in a videotaped conversation about trial participation. For purposes of the current project, only transcriptions from those dyads who held strong discordant opinions were analyzed. Discordance was defined by opposing scores on adolescent and parent responses from individual questionnaires. Prior to taping of the videos, adolescents and parents were unaware of the other's "willingness to participate" score. This selection process resulted in 30 videos averaging 30-minutes in length (range 20 – 45 min). Baseline characteristics of each dyad were described using SAS and coded in NVivo with a thematic framework approach.

Results: The mean age of the 30 adolescents was 15.8 years (SD = 1.09); 70% of adolescents were Hispanic (37% of the interviews were conducted in Spanish); 37% male; and 63% had no sexual experience beyond kissing. One parent was a father; the rest were mothers. The direction of the initial discordance was 12 adolescents who strongly/moderately disagreed about participation (with parents who agreed) and 18 parents who strongly/moderately disagreed about participation (with adolescents who agreed). Baseline characteristics showed the discordant dyads (n = 30) were not different than non-discordant dyads (n = 156) in terms of adolescent demographics (i.e., age, ethnicity, language,

gender, sexual experience). The transcripts varied in the degree to which the initial discordance was evident, with dyads ranging from agreeing with each other immediately (n = 4) to never coming to an agreement (n = 4). When discordance was evident, participants focused on the specific details of the study, often focusing on whether or not the adolescent would be willing to accept the procedures, the perceived need for the adolescent to be sexually experienced and the potential risks of participation. Parents and teens demonstrated a similar range of approaches to resolving the discordance including asking for information and sharing their perspective. Communication styles included interrupting, countering, or being repetitive. Sometimes individuals made it clear that the decision was one's responsibility (adolescents because they are actually doing the study or the parent because they are the parent).

Conclusions: While not all dyads were able to come to a resolution, most did, and serious conflict was not observed. Understanding variations in content and processes to resolve discordance among dyads could lead to interventions to support smooth decision-making about participation in reproductive health clinical trials.

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Tobacco Use Trends and Associated Drug and Alcohol Use in Oklahoma Adolescents

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Purpose: In 2007, e-cigarettes were introduced into the US market, and their use has experienced rapid growth. There is concern that e-cigarettes, hailed as a method of harm reduction through use in smoking cessation, may serve as a means of introducing and potentially addicting adolescents to nicotine. This study examines the rates of tobacco use in Oklahoma youth and explores associations of conventional and e-cigarette use with other drug and alcohol use.

Methods: 1,611 questionnaires from the 2015 state YRBS data were analyzed using SASsurveys included items regarding several categories of health-risk behaviors; they were anonymous and confidential. Rates of conventional cigarette use were noted from prior state YRBS data from 2003 onward to assess trends in smoking. Current use of a product was defined as use on one or more occasions during the 30 days prior to survey. "Ever" use of a product was defined as having tried this product in a lifetime. Conventional cigarette use was defined as use of cigarettes, cigars or cigarillos, but did not include e-cigarettes. Lifetime drug use was defined as use of cocaine, inhalants, injection drugs, heroin, methamphetamines, steroids or ecstasy. Adjusted odds ratios were calculated using bivariate and multivariate analyses between conventional and e-cigarette use with other drug and alcohol use, adjusting for age, gender and race/ethnicity. This study was approved by the Oklahoma State Department of Health IRB.

Results: In 2015, 19.2% of adolescent females and 28.0% of adolescent males currently used e-cigarettes in Oklahoma, while 12.3% of adolescent females and 20.0% of adolescent males used conventional cigarettes. 23.77% non-Hispanic Black, 23.1% Hispanic, 28.0% non-Hispanic Native

American, 22.7% non-Hispanic multiple race, and 23.5% non-Hispanic White adolescents currently used e-cigarettes. Since 2003, there was a nearly 50% decline in conventional smoking from 31.2% to 16.2% in Oklahoma. When including e-cigarette use, the overall reduction was a significantly more modest 2% during the study period, from 31.2% of adolescents who reported conventional cigarette use in 2003 to 29.2% who reported conventional cigarette or e-cigarette use in 2015. Only 61% of adolescents who currently use e-cigarettes smoke the products exclusively. When adjusting for gender, age, and race/ethnicity, teens who use only e-cigarettes had a higher odds than their peers who do not use e-cigarette products to have ever tried marijuana (AOR 3.51, CI 2.42-5.08) or alcohol (AOR 10.27, CI 5.37-19.63), currently use marijuana (AOR 2.68, CI 1.93-3.72) or alcohol (AOR 4.00, CI 2.57-6.23), have lifetime drug use (AOR 1.90, CI 1.06-3.48), and have misused prescription medications (AOR 1.52, CI 1.06-2.16). Similarly, adolescents who currently use conventional cigarettes have higher odds than their peers who do not use e-cigarettes of drug and alcohol use.

Conclusions: While conventional cigarette use is declining, there has been a modest reduction in overall smoking rates over 12 years in adolescents in Oklahoma when accounting for the rise in e-cigarette use. Similar to adolescents who report conventional smoking, adolescents who use e-cigarettes are significantly more likely to have tried or currently use alcohol and drugs than their peers who do not use e-cigarettes.

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