Plenary Session: Socio-structural Influences on Health and Reproductive Behavior

Moderator:

The Role of Family Structure in the Evolution of Health from Adolescence to Young Adulthood

Andrea Beller, University of Illinois at Urbana-Champaign
Alexander Slade, coauthor

The incidence of intact two-biological-parent families has been steadily decreasing since the 1960s, lowering the well-being of children. While the majority of studies examine educational attainment, family structure may also affect human capital obtained through health investments. We utilize both the biological father and marital history questions in the Add Health Wave I parental interview to paint a dynamic portrait of the child’s living arrangements from birth to age 15. We then estimate both static logit models on Wave I data and discrete-time hazard models on data from Waves I through IV to test the hypotheses that growing up in a single-parent family increases the likelihood of smoking and adverse physical and mental health outcomes, commonly measured by self-reported health status, obesity, and depression. We find that boys whose biological father was absent during early childhood are more likely to continue smoking and remain in adverse physical health after Wave I. While Wave I health outcomes respond to childhood family structure more for girls than for boys, the adverse effects tend to be limited to adolescence in girls, but to last through young adulthood in boys. We also find that step- and cohabiting-father entrance diminishes the effects of biological-father absence. Our findings suggest that spending time in non-intact families during childhood may have negative consequences after adolescence, but entry of other fathers can mitigate some of them.

Romantic Partners, Peers and Drinking: Selection and Influence Mechanisms Associated with Drinking

David Kennedy, RAND Corporation
Kayla de la Haye, Harold Green Jr., Michael Pollard, Brett Ewing, Joan Tucker, coauthors

Peers are thought to be important determinants of adolescent drinking and are often the focus of studies of drinking initiation and escalation. However, romantic partners are also important influences on health behavior of adolescents but have not received as much attention as non-romantic peers. Few studies have examined or accounted for the role of drinking in friendship selection, especially among romantic relationships, and few have examined the co-evolution of romantic and non-romantic selection and influence and drinking behavior. This study will analyze relationship data from the Add Health in-home Waves I and II interviews for respondents from the two largest schools with saturated samples (i.e. each member of the school was included in the sampling frame). We will apply stochastic actor-based models for social networks to test the contribution of selection and influence to associations for romantic and non-romantic peers to drinking behavior. We will examine the role of drinking on romantic partner selection controlling for non-romantic peer network structure. We will also examine the influence of romantic partner drinking/non-drinking on change in drinking behavior between waves I and II. We will analyze data using the RSienna program.

Healthy Development in Young Adulthood: Getting and Staying “On-Track”

Tahilin Karver, Child Trends
Kelly J. Bell, Mary A. Terzian, Kristin A. Moore, coauthors

Young adults must navigate various developmental tasks as they transition out of adolescence into a new phase of “emerging adulthood” (Amett, 2004). During this phase, young people explore temporary roles before committing to the ones they will fill as adults. As a result, many young people today are increasingly “off track” relative to traditional expectations, with many not having achieved developmental tasks associated with adulthood. This study identifies clusters of young adults who represent various “on track” and “off track”
behaviors, describes the characteristics of each cluster, and examines transitions between “on track” and “off track” clusters using data from Wave III and Wave IV. Analyzing a sample of adolescents aged 12 to 17 at Wave I with valid weights and non-missing on the dependent variables (N=8,361), the cluster analysis identified five distinct clusters indicating “off track” status (based on high school non-completion, financial problems, heavy alcohol use, drug use, and/or delinquency). Results indicate that 50 percent of respondents who were initially “off track” at Wave III (ages 19 to 24) get “on track” by Wave IV (ages 25 to 30). In addition, the majority of young adults (79%) who were “on track” at Wave III remained “on track” at Wave IV. Confirming our hypotheses, adolescent depression/suicidality and early child abuse are predictive of “off track” cluster membership in young adulthood.

**Red and Blue Political Differences in the Timing and Relationship Context of First Births among Young Adults**

*David McClendon, University of Texas at Austin*

In the US, there is a strong relationship between politics and demographic behavior. Politically liberal or “blue” states have lower fertility and higher levels of delayed family formation and non-traditional childbearing. Politically conservative or “red” states display higher fertility, earlier family formation, and a greater emphasis on marital childbearing. Some scholars attribute this pattern to differences in cultural orientations, namely the post-materialist values of the Second Demographic Transition (SDT). I test this explanation at the individual-level by examining political differentials in the relationship context of first births among the Add Health cohort. I utilize Wave-4 pregnancy data to estimate event history models predicting the risk of first birth within four types of relationships: marriage, cohabitation, dating, and no relationship. Because relationship-status is reported at the time of the pregnancy, I restrict my outcome to pregnancies that result in a live birth. The SDT predicts that blues will be less likely, overall, to experience a first birth compared to reds. When they do experience a first birth, blues will be more likely than reds to be cohabiting. Finally, while the risks for dating and no-relationship births will decrease over time and the risks for marital and cohabitation births will increase, this pattern will vary by political orientation. This study sheds light on the contemporary cultural dynamics of young-adult fertility.

**Breakout Session 1**

**Methodology Session: Overview of Add Health for New Data Users**

Presenter: Kathleen Mullan Harris, University of North Carolina at Chapel Hill
Presenter: Mary McEniry, Interuniversity Consortium for Political and Social Research

This session will provide an overview of the Add Health design and data collection across all waves, from the In-school Administration in 1994 to the recent 2008 Wave IV follow-up. This session is intended for conference participants who have never used Add Health, are thinking about using Add Health, or are new to the study. Staff from ICPSR, which now has responsibility for disseminating both the public use and restricted-use files from all four waves of Add Health, will present information on the current data structures, data file descriptions, and data discovery tools and discuss how to find and explore metadata for all parts of the Add Health data system. Additionally, new methods for applying for restricted-use licenses will be described.

**Paper Session: Racial and Ethnic Influences on Health**

**Moderator: Francisco Sy, National Institutes on Minority Health and Health Disparities**

**Life Course Transitions and Racial and Ethnic Differences in Pathways to Adult Smoking**

*Elizabeth Lawrence, University of Colorado at Boulder*
*Fred Pampel, Stefanie Mollborn, coauthors*

Although black teens smoke less than white teens, the racial differences reverse by young adulthood. This shift in black-white disparities across ages and shifts involving other racial and ethnic groups reflect varied pathways to smoking that involve more than a continuation of patterns set out early in life. Despite considerable descriptive
evidence of the racial differences, the literature has done less well to explain the varied pathways. We utilize a life course perspective on social differentiation to determine whether race and ethnic differences in achieved socioeconomic status (SES) and the nature and timing of adult role transitions contribute to changing smoking disparities in young adulthood. The analyses use growth curve models to compare age trajectories of smoking across racial and ethnic groups. The results show that achieved SES and adult roles do not account for the divergent age trajectories in smoking by race and ethnicity. The findings suggest that normative environments may influence racial and ethnic disparities in adult smoking more than life course changes.

**Familism and Immigrant Generation: Measuring Obesity, Diabetes, and Hypertension among Mexican-Americans**

*Carolyn Zambrano, University of California at Irvine*

A high degree of social support and cohesion in Latino families has been credited with having a positive effect on health outcomes; for example, a higher degree of family support and cohesion is associated with a lower amount of psychological distress (Weisman et al. 2005). Higher levels of acculturation seem to be correlated with a decrease in familism; however, even a moderate sense of family obligation is correlated with positive emotional well being (Fuligni and Pedersen 2002), and even Latinos in the third generation have been found to have strong familial ties (Fuligni et al. 1999). Using four waves of the National Longitudinal Study of Adolescent Health, I will compare the health outcomes of first, second, and third-plus generation Mexican-American adults by utilizing measures of family cohesion. The measures of family cohesion will analyze closeness to parents and family cohesion (based on Lapez Turley et al. 2010). I will also utilize data about nutrition and physical activity to provide additional information about the relationship between adolescent health behaviors and health outcomes in adulthood. I will measure negative health outcomes by using a self-reported diagnosis of diabetes; additionally, I will use anthropometric and cardiovascular measures to establish obesity and high blood pressure.

**Wellbeing over the Life Course for Multiracial Individuals**

*Sarah Schlabach, University of California at Los Angeles*

Current research suggests multiracial adolescents are more likely to engage in risk-taking behavior, feel less socially accepted and have a less stable racial identification than their monoracial counterparts (Ruebeck et al., 2009; Udry et al., 2003). Additionally, multiracial individuals are more likely to experience depression, have lower school achievement and have lower feelings of self-worth than some of their monoracial counterparts (Cooney and Radina, 2000; Milan and Keiley, 2000). However, the question of whether these wellbeing differences persist over the life course remains unanswered. My aim for this study will be to give a more holistic look at wellbeing across the life course for multiracial individuals. I will use quantitative methodology to focus on three broad outcomes: emotional wellbeing, health status and educational attainment. I plan to use Waves I and IV of the National Longitudinal Study of Adolescent Health to answer the following three questions: First, do multiracial individuals tend to vary from monoracial individuals with respect to emotional wellbeing, physical wellbeing and educational outcomes in adolescence and in early adulthood? Second, do specific multiracial groups versus monoracial groups have persistent differences in said outcomes in adolescence and in early adulthood? Third, is gender of the minority-status parent associated with measurable differences in wellbeing for multiracial individuals in adolescence and early adulthood?

**Depression and Antidepressant Use among Asian and Latino Adults: Association with Immigrant Generation and Language Use**

*Ping Chen, University of North Carolina at Chapel Hill*

*Jon M. Hussey, coauthor*

Despite comprising 20% of the US population, the psychological well-being of immigrants and their children remains under-investigated. Using data from all four waves of the Add Health study, this paper focuses on two outcomes that have been understudied: (1) depression and (2) levels of antidepressant use by race/ethnicity, immigrant generation, and linguistic assimilation levels during adulthood. Our findings reveal that depression is
prevalent among adult children of immigrants from various racial/ethnic groups, including Mexican Americans, other Latinos, and Asian Americans. Furthermore, our result indicates that Mexican Americans and Asian Americans have lower antidepressant use than whites, with Asian Americans having the lowest level of medication use when immigrant generation and other socioeconomic factors are held constant. We also find that language use is a significant predictor of antidepressant treatment. Each racial/ethnic subgroup that is linguistically less acculturated has much lower levels of antidepressant use than their English-speaking counterparts.

“Stop Watching My Every Move”: Racial Differences in the Effects of Parental Monitoring & Risk Factors of Delinquency
Clyde Lemon, Florida State University

Derived from social control, Gottfredson and Hirschi’s (1990) parental management thesis assumes that parents should provide adequate supervision over their children, recognize unacceptable behavior, and punish accordingly (Beaver, Ferguson, & Lynn-Whaley, 2010). This should inevitably decrease the chances of participating in delinquent activity (Barnes & Farrell, 1992). This finding has been consistently tested; however, an area of the study that has not been subject to considerable testing is if there are racial differences in the effects of parental monitoring. Theoretical arguments on this issue are developed. Using longitudinal data from Waves II and III, an analysis is conducted to consider these differences. It is hypothesized that there will be a significant relationship between parental monitoring and race and that this relationship will be highly significant for minorities.

Paper Session: Overweight, Obesity, and Body Image
Moderator: Rosalind Breslow, National Institute on Alcohol Abuse and Alcoholism

The Influence of Body Weight on Social Network Ties among Adolescents
Mir Ali, University of Toledo & Food and Drug Administration
Aliaksandr Amialchuk, John A. Rizzo, coauthors

Evidence of negative stereotypes, prejudice and discrimination towards obese individuals has been widely documented. However, the effect of a larger body size on social network ties or friendship formations is less understood. In this paper, we explore the extent to which higher body weight results in social marginalization of adolescents. Using data from a nationally-representative sample of adolescents, we estimate endogeneity-corrected models including school-level fixed effects that account for bi-directionality and unobserved confounders to ascertain the effect of body weight on social network ties. We find that obese adolescents have fewer friends and are less socially integrated than their non-obese counterparts. We also find that such penalties in friendship networks are present among whites but not African-Americans or Hispanics, with the largest effect among white females. These results are robust to common environmental influences at the school-level and to controls for preferences, risk attitudes, low self-esteem and objective measures of physical attractiveness.

The Weight of Reality: Why do Some Young Adults have Incongruent Perceptions of their Individual Weight Classifications?
Anna Bellatorre, University of Nebraska at Lincoln

The obesity epidemic in America is growing. Unlike many health problems, obesity seems as if it should be an easy condition for individuals to self diagnose. Lack of knowledge or denial, however, could inhibit self-recognition of weight problems. Guided by health congruency and social comparison theories, this study analyzes the factors associated with the degree of congruence between perceptions of subjective weight classification and objective BMI classification using waves I-IV of the National Longitudinal Study of Adolescent Health. Using multinomial logistic regression analysis, results show that the presence of other health conditions such as high blood pressure or high cholesterol increased agreement between the subjective measure of weight classification and objective BMI classification. Further, non-Hispanic white women are more likely to overestimate and black and Hispanic
women are more likely to underestimate their weight classification than white men are. Further study is needed to assess how these factors affect health protective behaviors over the life course.

**Black-White Differences in the Beauty-Weight Relationship**  
*Frank Heiland, City University of New York  
Mir Ali, coauthor*

This paper investigates the relationship between body weight, race, and beauty using interviewer-rated attractiveness of female adolescents using large samples of non-Hispanic white and African American female adolescents from the 1994 and 1996 waves of the National Longitudinal Study of Adolescent Health. Accounting for interviewer effects, we find that obese white female adolescents are 37% less likely to be perceived as physically attractive compared to their non-obese counterparts. Obese black teenagers, on the other hand, are only 28% less likely to be rated physically attractive when compared to their non-obese counterparts. Similarly, we observe that the penalty associated with higher BMI is 30% smaller for black female adolescents as compared to whites. We also find evidence that obesity and higher BMI are more strongly (negatively) associated with having an attractive personality among white girls than among black girls. On the other hand, obesity and BMI are more strongly associated with physical maturity among black girls. We discuss our findings in the context of the literatures on obesity penalties and socio-cultural body size norms.

**Evaluating the Relationship between Adolescent Attention Deficit/Hyperactivity Disorder Behavior and Subsequent Eating Disorder Behavior**  
*Jennifer Bleck, Stony Brook University*

This study aims to evaluate the relationship between ADHD and eating disorders in a nationally representative sample. The study also examines impulsivity as a potential underlying factor driving the relationship. Data from Wave I and Wave III of the National Longitudinal Study of Adolescent Health were used to build measures of adolescent ADHD and impulsivity behaviors and adult eating disorder behavior. Both bivariate and logit regression modeling were employed in this analysis. ADHD behavior predicted eating disorder behavior in both males and females. Impulsivity was associated with eating disorder behavior in males only. Excessive television watching during adolescence was a strong predictor of subsequent eating disorder behavior in females. Physicians and parents should monitor adolescents with ADHD for disordered eating behavior. The differences found suggest that prevention efforts should be tailored by gender. Future eating disorder prevention efforts should address the time spent watching television during adolescence.

**Breakout Session 2**

**Methodology Session: Add Health Genetic Data**  
Presenter: Andrew Smolen, University of Colorado at Boulder

The importance of genetic differences in observed variation between individuals is an active and important area of investigation. Add Health is unique among many large-scale studies in its inclusion of genetically-related individuals and collection of DNA information. This session will discuss the availability of that DNA information. A review of how the DNA was collected and the lab methods used to characterize differences between individuals will be introduced. Discussion will be given to the particular polymorphisms available presently, the additional polymorphisms to be assessed in Wave IV, and some issues relevant to their analysis.

**Paper Session: Educational Outcomes and Academic Success**  
Moderator: Brett Miller, *Eunice Kennedy Shriver National Institute of Child Health and Human Development*
Relationships between High School Peer Networks and Type of Postsecondary Institution Enrollment
Rachel Smith, City University of New York
Wendy Parker, coauthor

Educational norms are shaped by families, peers, schools, and neighborhoods, and these norms influence college choice. Specifically, researchers have demonstrated that students’ peer networks are related to their educational attainment in high school (Frank et al., 2008; Riegle-Crumb, Farkas, & Muller, 2006) and enrollment in college (Choi, Raley, Muller, & Riegle-Crumb, 2008). The current study extends previous work by including both social and academic peer networks in order to predict what type of institution students enroll in after high school, if any. The study’s hypothesis is that central network positions and homophilous relationships with peers in academic and social networks will be related to differences in type of postsecondary enrollment. The data for this study come from Add Health waves I and III, which is then linked to the Adolescent Health and Academic Achievement Study (AHAA). The dependent variables are institution type enrolled in, selectivity of institution, and racial/ethnic composition of the student body. Key independent variables include social network measures (characteristics of friends, in-degree, and network centrality) and academic network measures (co-enrollment in courses). The data will be analyzed using a combination of social network analysis and multilevel models (Frank, 1998). Expected results include that socially and academically homophilous peers will attend similar types of postsecondary institutions, net of controls.

Frequency of Somatic Symptoms and Student Perception of School Belonging and Competence
Kathryn Kirkpatrick, Ohio State University

When students report frequent somatic symptoms, they may be at increased risk both academically and socially (Beck, 2008). Perceived school belonging and competence have both been linked to academic outcomes (Anderman & Anderman, 1999; Elliott, McGregor & Thrash, 2002). This study was designed to explore relations between frequency of somatic symptoms and levels of perceived school belonging and competence. Wave I of the Add Health public access data set (Harris, 2009) was used for this study. Latent factors were identified for a structural equation measurement model of perceived belonging (5 items, \( \hat{\alpha}=.761 \)) and competence (3 items, \( \hat{\alpha}=.717 \)). After cross-validation of the measurement model, a structured means model was used to compare groups of students based on frequency of somatic complaints (high, middle, low). Somatic symptoms were measured with a sum score of 10 items describing physical complaints. The measurement model fit the data well (RMSEA=.047; GFI=.991). Differences (all \( p<.001 \)) in levels of perceived school belonging and competence were identified across all groups. Belonging and competence are both related to frequent experience of somatic symptoms; competence has a stronger relation with frequency of symptoms. Future research is needed to explore variables that might be serving as moderators or mediators to explain the differences related to levels of somatic complaints.

Of Children and Men: The Effects of Resilience, Mentoring, and Maltreatment on Educational Attainment
Zachary Timpe, University of Wyoming

Resilience has been established as a protective factor in improving adolescents' likelihood of graduating from high school, and may foster positive development through successful adaptation to adversity. In this study, based on publicly available data from Waves I and III, I use principal components analysis to develop indices of community, family, and personal resilience for adolescents. I then examine how high-school graduation status is affected by these resilience indices, as well as by indicators of physical and sexual abuse, environmental and individual risk, and mentoring. I find evidence that community, family, and personal resilience can all help mitigate the impact of adversity in an adolescent's life. Resilience comes into play particularly when an adolescent experiences adversity, as indicated by positive coefficients on interaction terms between resilience indices and measures of adversity. Specifically, having a supportive family is particularly important to adolescents dealing with individual risk, as indicated for example by suspension from school or failing a grade. Surprisingly, the presence of physical
abuse seems to increase the odds of graduating from high school, and more so if the adolescent is part of a supportive community. With respect to mentoring, I find that mentoring relationships, particularly with male mentors, enhance the effects of personal resilience. From this, I argue that mentors should be viewed as a fourth source of resilience.

**Estimating the Effect of Friendship Networks on Educational Outcomes and Health Behaviors of Adolescents**

*Yuxiu Zhang, Yale School of Public Health*

*Jason M. Fletcher, Stephen L. Ross, coauthors*

Researchers typically examine peer effects by defining the peer group broadly due to the lack of friendship information and to enable the use of plausibly exogenous variation in peer group composition across cohorts in the same school. To solve this common problem, this paper estimates a linear probability friendship formation model using the school sample of Add Health, and generates predicted values of friendship ties. Using these predicted values as instruments, we are able to identify the causal effect of the composition of nominated friends by maternal education and racial categories on students’ educational outcomes, evaluation of school environment and health behavior (such as smoking and drinking). We find, first, the impact of friendship formation differs for male and female students. For females, students who have more friends whose mothers graduated from college are more likely to have higher self-reported GPA. For males, the impact of friend group composition is mainly on drinking behavior. Boys with one or more friends whose mothers are college graduates are 2-4% less likely to drink regularly or get drunk regularly. Regarding racial composition, we find controlling for own maternal education and ethnic/racial group, students with a high share of minority among these friends are more likely to drink and get drunk regularly. No significant effect of friendship composition is found for smoking.

**Paper Session: Pregnancy and Childbearing**

**Moderator: Rebecca Clark, Eunice Kennedy Shriver National Institute of Child Health and Human Development**

**Family Influences and Birth Outcomes among Adolescents**

*Yiqiong Xie, Tulane University*

*Emily W. Harville, Aubrey Spriggs Madkour, coauthors*

We examined how family influences are related to birth outcomes (birth weight and gestational age) among adolescent mothers, using data from the National Longitudinal Study of Adolescent Health. Women whose first pregnancy reported in Wave IV occurred after Wave I, during their adolescence and ended with a singleton live birth were included. To account for sample selectivity, we adjusted the sampling weights by multiplying the Wave IV sampling weights by the inverse of predicted probabilities of getting pregnant during adolescence as well as that of having a live birth. Multivariable analysis was used to model outcomes; predictors included baseline age, parent-child relationship variables, discussions of sex and birth control, parental disapproval of sex and family socio-economic variables. Among Black adolescents, higher level of parental disapproval, more discussion about sex, less discussion about birth control, parental inability to pay bills and not receiving public assistance were associated with lower birth weight; the same set of variables as well as living with two bio-parents were associated with lower gestational age. Among non-Black adolescents, moderate discussion of birth control and ever being a runaway or “ordered out” were associated with higher birth weight; ever being a runaway or “ordered out” was also related to higher gestational age. The effects of family influences on adolescent birth outcomes were mixed. The mechanism driving these unanticipated effects needs to be explored.

**The Impact of Early Parenthood on Mental Health and Role Functioning in Young Adulthood**

*Madeleine Currie, University of Massachusetts Medical School*

While existing research explores the effect of teen parenthood on later outcomes for teen parents and their children, little is known about what contribution early parenthood has on teens with depressive symptoms, or what
impact early parenthood and depressive symptoms may have on role functioning in young adulthood. While previous literature suggests that parental depression can have a negative impact on family life, developmental pathways related to young adult functioning and social conditions promoting healthy young adult outcomes are not well-understood. Research questions addressed are: 1) What are the contributions of early first parenthood and depressive symptomatology on mental health and role functioning outcomes in young adulthood? 2) What social supports in adolescence and early adulthood moderate the effects of early first parenthood on young adult mental health and role functioning? We use data from Waves I, III, and IV of the Add Health survey, including the 8-pt CES-D questions common across the four waves of Add Health data to identify depressive symptomatology, and reports of live births in Wave III to identify the age of first parenthood among participants. To measure social supports, we draw on data on the emotional quality of participants’ relationships with family members, peers, and teachers, and participants’ use of public assistance. To measure functional outcomes, we use data on educational outcomes and employment.

Labor, Education and Marital Outcomes for Teenage Childbearing in their Short-Run and Long-Run Life

Nga Nguyen, Rutgers University

Teenage childbearing is commonly viewed as an important social issue as it causes negative effects on the teen mother’s life. In this paper, by using the new Wave IV restricted data of the National Longitudinal Study of Adolescent Health, I investigate the causal effects of teenage childbearing on the mother’s education, labor and marital outcomes in two separate stages: Stage 1 when teen mothers are in pre-mature adulthood between 18 to 24 years old and Stage 2 when teen mothers are in mature adulthood between 24 to 32 years old. My empirical results suggest that there are negative impacts on these outcomes in the short-run but in the long-run teen mothers might overcome their early disadvantage and be compensated by delaying their childbearing so that they have some positive effects on labor outcomes. I use econometric methods to deal with issues of sample selection and missing variables. We start with methodological approaches used in previous studies and perform sensitivity analyses.

Educational Advantage and Pregnancy Intention Status

Akilah Wise, University of Michigan at Ann Arbor

To identify whether educational advantage is associated with pregnancy intention status outcomes. I used data from Wave I and Wave III of the National Longitudinal Study of Adolescent Health in order to examine whether indicators of educational advantage in youth predict the likelihood of reporting a pregnancy or birth as unintended (unwanted/mistimed) or intended. I hypothesized that women with educational advantage in youth were less likely to report an unintended pregnancy or birth and more likely to report an intended pregnancy and birth. Preliminary results are based on a sample of 2683 women who reported pregnancies or sexual activity in the past 12 months. Associations were assessed using multinomial logistic regression. I find that women who lived with two natural and married parents as a youth were 52.2% (RR = .478, s.e = .129) less likely to report a pregnancy as unwanted and 46.3% (RR = .537, s.e = .149) less likely to report a birth as mistimed. Of women who reported pregnancies, those with high college aspirations were 32% (RR = 1.32, s.e. = .164) more likely to report a pregnancy as mistimed. These results suggest that pregnancy intention status is a complex concept and that educational advantage, and other types of advantage, may complicate its understanding, requiring further investigation of this relationship.

Breakout Session 3

Methodology Session: Add Health Wave IV Biomarker Data

Presenter: Eric A. Whitsel, University of North Carolina at Chapel Hill

This session will describe the methods used to collect and control the quality of biological data at the Add Health Wave IV examination. Emphasis will be placed on interpreting disseminated data in ways that are consistent with
A Multilevel Study of Schools’ Influences on Adolescent Substance Use
Susan Haws, University of North Carolina at Chapel Hill
Susan T. Ennett, coauthor

Empirical research suggests that school contexts have significant effects on student substance use. The Theory of Health Promoting Schools (HPS), developed in the United Kingdom by Markham and Aveyard, proposes processes through which school contextual factors affect substance use. We apply the Theory of HPS to a U.S. context and present findings on the relationships between school value-added status, school ethos, and student use of cigarettes, alcohol, and marijuana. Data come from Waves 1 and 2 of the in-home survey conducted with students in grades 7-12 as part of the National Longitudinal Study of Adolescent Health. Factor analysis, linear regression, and multilevel modeling are used for measure development and model testing. Unconditional models reveal that there is significant variation in smoking, drinking, heavy drinking, and marijuana use between schools at Wave 2. Conditional models examining the effects of school context on substance use reveal that after controlling for demographic factors, family factors, baseline substance use, and school type, the individual analogs of the school context variables, including individual GPA, truancy, school bonding and academic well-being, are significantly associated with substance use outcomes in the expected direction. However, poorer school context, as indicated by three of the school level variables, is associated with a decrease in log odds of substance use. Implications of these unexpected findings are discussed.

Bayesian Network Structure Learning for Analyzing the Impact of Social Networks on Adolescent Heavy Drinking
Hannan Ma, University of Tennessee at Knoxville
Chien-fei Chen, Husheng Li, coauthors

We use data from Wave1 and Wave2 of the National Longitudinal Study of Adolescent Health to study the problem of alcohol use and negative consequences among adolescents using Bayesian network and statistical inference method. We constructed a Bayesian network to study both the factors associated with underage alcohol use, joint occurrence of drinking and risk behaviors, as well as the friendship influence on individual’s drinking behaviors via social network based on the friendship nomination provided in the in-school survey from Wave1. Finally, concurrent negative consequences of alcohol use and the longitudinal effects over time were shown by inference over the structure. Bayesian network is a probabilistic graphical model with connected nodes and directed edges. It models the causalities among nodes by the interconnected structure, and numerically quantifies the conditional probability of factors using statistical inference. We model each selected survey question as a factor and represent it as a node in Bayesian Network. Then the directed edges showing the cause-effect relationships are determined by Bayesian Structure Learning (BSL) algorithm. The structure is learned from training data (which is the selected no-missing data in Add Health) and is tested for high inference accuracy. The BSL algorithm proposed in this paper is a novel algorithm proved to have better performance than previous structure learning algorithms.

The Longitudinal Influence of Physical Activity on Adolescent Alcohol Use
Beverly Ruffin, Florida International University
Yasmin Rey, Mario De La Rosa, coauthors

The purpose of this research was to explore the influence of physical activity on depressive symptomatology and adolescent alcohol use during an underexplored transition from middle school to high school (e.g., 8th to 9th). Data from waves I and II of the National Longitudinal Study of Adolescent Health was used (N = 2,054; aged 13-15 years). The sample was ethnically and racially diverse (58.2% White, 24% African American, 11.7% Hispanic,
and 6.1% other). Structural equation models were developed to test the potential influence physical activity has on adolescent alcohol use (e.g., frequency of alcohol use and binge alcohol use) and whether the relationship was mediated by depressive symptomatology or varied as a function of gender. Results demonstrated that there was a significant influence of structured physical activity (e.g., sports) on adolescent alcohol use. However, engaging in structured physical activity appeared to contribute to greater binge drinking among adolescents. Instead of demonstrating a protective feature, the findings suggest that engaging in structured physical activity places adolescents at risk for binge drinking. The findings regarding mediation revealed binge drinking as a mediator between physical activity (structured) and depressive symptomatology. These findings provide support for research, practice, and policy initiatives focused on developing a more comprehensive understanding of alcohol use drinking behaviors among adolescents.

The Effect of Local Matching Market Conditions on Adolescent Health Behaviors

Timothy Classen, Loyola University Chicago
Lorens Helmchen, coauthor

Evidence is emerging about the lifelong consequences of many adolescent health behaviors, including obesity, lack of regular physical exercise, substance abuse, and inattention in school. Since these behaviors can affect workplace performance, earnings potential, marital outcomes, and health status later in life, it is important to understand the reasons for variation in their patterns. While much attention has been devoted to the role of peers in pressuring adolescents to engage in certain risky behaviors, less is known about the role of matching markets for potential romantic relationships in high schools on these behaviors. This project examines the influence of adolescents’ dating markets on weight problems (both measured and perceived), alcohol and tobacco consumption, and risky sexual behaviors during high school. We exploit variation in the grade-level gender composition of more than 70 of the high schools in the Add Health data to consider how the relative availability of potential partners may influence observed risky health behaviors. Preliminary results indicate that the proportion of male students in certain grades is associated with levels of physical activity (investment activity to attract mates) and substance use. This research provides insights into how local matching market conditions affect adolescent health that may have lifelong consequences.

The Longitudinal Relationship between Alcohol Consumption and Serious Violence

Roland Jones, Cardiff University
Stanley Zammit, Marianne Van Den Bree, Pamela J. Taylor, coauthors

There is a known association between acute alcohol consumption and violence, but the longitudinal relationship between adolescent alcohol consumption and later violence is not well understood. Our hypothesis was that teenage drinking would be an independent predictor of later violence. To investigate the longitudinal association between patterns and quantity of alcohol consumption and subsequent serious violence (controlling for important individual, household and neighborhood characteristics), we perform ordinal and logistic regression modeling using Add Health data from Waves I-IV, using complex survey design methods. The number of individuals exposed to alcohol at Wave I associated with at least one incident of violence at Wave II (the number needed to harm, NNH) was also calculated. All measures of alcohol use at Wave I were significantly associated with serious violence at Wave II, after adjusting for confounders. Frequency and quantity of alcohol use at Wave I were also associated with significant violence at Wave III, but not at Wave IV. The relationship between alcohol and violence was similar for boys and girls. The adjusted NNH for alcohol consumption at Wave I was 68, and for binge drinking was 34. Alcohol intoxication is associated with subsequent serious violence, and public health strategies to target early alcohol consumption may be beneficial in the prevention of serious violence equally in both boys and girls.

Paper Session: Transitions into Adulthood
Moderator: Jen Park, Office of Management and Budget
Assessing the Influence of Health and Health-Related Behaviors on the Transition to Adulthood

Danielle Dean, University of North Carolina at Chapel Hill
Michael Shanahan, Shawn Bauldry, coauthors

A growing body of research examines the effects of parental and adolescent health on adult socioeconomic status. Research in this area typically examines single outcomes, such as educational attainment or income. This study draws on a life-course perspective to analyze the effects of parental and adolescent health on the transition to adulthood. The transition to adulthood is conceived in terms of a series of interrelated processes involving education, employment, marriage, and parenthood. Using data from Wave I and Wave IV of the National Longitudinal Study of Adolescent Health and multinomial logit latent class regression models, this research identifies common pathways to adulthood and demonstrates that parental health (for women) and child and adolescent health (for men and women) predict the types of paths people take in ways consistent with expectations from life-course and inequality research. Adolescent smoking is found to have a particularly strong relationship for both men and women on the probability of transitioning into pathways involving higher education. This work underscores the utility of examining multiple processes in linking health and inequality.

Longitudinal Effects of Growing up with a Nonresident Father

Mindy Scott, Child Trends
Nicole R. Steward-Streng, Megan Barry, Frances Goldscheider, coauthors

Prior research shows that children with nonresident fathers experience lower well-being compared to children with resident fathers. However, this body of research mainly focuses on childhood or adolescent well-being. Using a sample of offspring from Waves I, III and IV of the National Longitudinal Study of Adolescent Health, we extend current research by examining trajectories of offspring well-being from adolescence into adulthood. We measure offspring’s depressive symptoms and problem drinking during adolescence, young adulthood and early adulthood, and use growth curve models to examine whether differences between growing up with a nonresident father versus a resident father persist over time. We also examine whether these differences vary based on the length of time spent without a father in the household, and for sons versus daughters. Preliminary results show that offspring with nonresident fathers start off with higher levels of problem drinking and depressive symptoms compared to those with resident fathers. Offspring that never lived with their father, or whose fathers had been absent from the household longer, have the highest levels of adolescent problem drinking and depressive symptoms. Interestingly, offspring who never lived with their father had the lowest levels of problem drinking in Wave IV, but continued to have higher levels of depression compared to offspring with resident fathers and offspring that lived with their nonresident father at some point.

Retrospective Self-Report of ADHD: Predictor of Risky Health Behaviors and Life Outcomes?

Janice Chisholm, City University of New York
William Gallo, coauthor

This study compares over-consumption of tobacco among adolescents who retrospectively self-reported ADHD during early childhood in a nationally representative US sample. Using Add Health Wave III data, we examine life outcomes (educational, vocational, and social) for adolescents who retrospectively self-reported ADHD in comparison with their peers. We compare respondents who retrospectively self-reported ADHD with youngsters who did not retrospectively self-report ADHD with respect to their risky health behavior in later adolescence, as well as their social, educational, and vocational experiences. As compared with those who did not retrospectively report ADHD, adolescents who retrospectively reported ADHD have an increased risk of engaging in over-smoking, and have less optimal life outcomes than their peers. Study limitations include the fact that measures of ADHD are retrospective, no information on treatment for ADHD is included, and results may be confounded by unmeasured variables. Young adults who retrospectively report ADHD are likely at high risk of less optimal outcomes as young adults. Intervention programs should target this group and evaluate to determine what interventions are effective in reducing poor health risk and life outcomes for these children. Future research may
explore whether interventions targeting children based on ADHD symptoms or diagnosis will reduce their propensity for engaging in risky health behaviors, and/or stem negative life outcomes.

**Adolescent Friendship Networks, Individual Attributes, and School-Level Effects on College Enrollment**  
*Zebing Wu, University of Iowa*

Friendships play an important role in adolescents’ educational transition from high school to college. This research aims to investigate the mechanisms of how adolescent friendship networks affect long term educational outcomes. Based on recent theories on educational attainment and stratification (e.g., Samuel Lucas and Stephen Morgan), many hypotheses are proposed: Educational outcome is a function of prefigurative commitment (e.g., educational expectation), but mediated by preparatory commitment (e.g., observed daily behaviors devoted to realize expectations); as an important part of preparatory commitment, adolescent friendship networks are related to student's educational attainments; some network-related influence effects vary by some exogenous individual attributes; influence effects are also dependent on network (school) level variables. By using the first three waves of Add Health data, this research applies advanced statistical techniques (e.g., ERGM and HLM) to model the influences of friends after controlling for prior selection effects which determine individuals’ choice of friends. Many individual, dyadic, and network structure variables in the models will remain a significant positive relationship with the probability of college enrollment. Some significant interaction terms of individual attributes (e.g., sex, race, educational achievement) are also found. Furthermore, school-level effects will help explain some variances in college enrollment.

**The Effect of Family Structure on Juvenile Delinquency and Subsequent Adult Arrest**  
*Kiesha Warren-Gordon, Ball State University*

Undoubtedly, the rise of juvenile delinquency over the past several decades might have a direct link with a significant decline in the nuclear family (i.e., two-parent family) and a rise in other family structure types (e.g., single-parent or grandparent-head of household). In order to expand our understanding of the impact of the family structure on juvenile delinquency and/or criminal behaviors, the present study utilized Wave I and Wave IV of the National Longitudinal Study of Adolescent Health data set to analyze how the family structure that juveniles have resided in would impact their delinquent and/or criminal behaviors such as fighting with others, theft, or arrest as either a juvenile or adult. In regards to family structure in which the participating juveniles resided, this study’s results showed that 52.1 percent (n=3,389) of juveniles lived in a two-parent household, 36.1 percent (n=2,351) of juveniles lived in a single-parent household, and 11.7 percent (764) of juveniles lived in other family types without any parent in the household. Also, the results of logistic multiple regression analyses showed distinctively similar patterns of juvenile delinquency and police arrest as a juvenile or an adult, but some variations did exist. One of most important finding in this study was that race was not statistically correlated with either juvenile delinquency or police arrest as adults.
Friday, July 27, 2012

Breakout Session 4

Methodology Session: Appropriate Analysis in Add Health – Correcting for Design Effects & Selecting Weights
Presenter: Ping Chen, University of North Carolina at Chapel Hill

Add Health is a national longitudinal study that has special survey design features. This session will discuss how users can account for those features, including clustering, stratification, and unequal probability of selection. It will focus on how to choose correct sampling weights and avoid common errors. It will also give specific examples of using different statistical packages to run descriptive statistics, population-average models, subpopulation analysis, multilevel models, and weight scaling for multilevel analysis.

Paper Session: Gene-Environment Interactions
Moderator: Mike Spittell, NIH Office of Behavioral and Social Sciences Research

Genetics of Educational Attainment and the Persistence of Privilege at the Turn of the 21st Century
François Nielsen, University of North Carolina at Chapel Hill
Micah Roos, coauthor

We estimate quantitative genetic (ACE) models of educational attainment using structural equations methodology with data on 1,576 pairs of young adult siblings (n pairs = 200 MZ twins, 324 DZ twins, 639 full siblings, 213 half siblings, 68 cousins, and 132 nonrelated siblings) to distinguish the roles of genetic and environmental influences on educational attainment (highest degree earned). While many cognitive and educational outcomes show increasing effects of genes (heritability) and declining effects of the shared environment by late adolescence, we find that the role of genes in educational attainment is relatively weaker (23 percent of the variance in attainment) and the role of the shared family environment stronger (41 percent of the variance for twins and 30 percent of the variance for non-twin siblings) than is typically found for cognitive outcomes (such as IQ) at the same young adult stage in the life course. The pattern of persistent shared environmentality, especially for twins, is not accounted for by the strong degree of assortative mating in the data (parental correlation r = .629) nor by direct effects of educational attainment of the siblings on each other. This empirical pattern may reflect a greater impact of available family financial resources on educational attainment than on more purely cognitive outcomes, and the persistence of substantial inequality of opportunity for educational attainment in American society at the turn of the twenty first century.

Economic Background and Educational Attainment: The Role of Gene-Environment Interactions
Owen Thompson, University of Massachusetts at Amherst

On average, children from less economically privileged households have lower levels of educational attainment than their higher income peers, and this association has important implications for intergenerational mobility and equality of opportunity. Using genetic marker data from the National Longitudinal Study of Adolescent Health, this paper shows that the income-achievement relationship varies greatly across groups of children with different versions of a single gene, monoamine oxidase A (MAOA). For children with one variant of MAOA, increases in household income have the expected large positive association with college enrollment, college graduation, and total years of schooling completed. For children with another variant of MAOA, who comprise over half of the population, there is virtually no relationship between economic background and educational attainment. These results hold when the genetic component of the interactive effects are identified using MAOA variation between
full biological siblings, which biological principles assure is as good as randomly assigned. The mechanisms underlying this interaction as well as implications for policy and future research are discussed.

**Explaining the Increase in the Heritability of Religiosity from Adolescence to Early Adulthood as a Consequence of Time-Specific Genetic Effects**
*Jason Freeman, University of North Carolina at Chapel Hill*

The transition from adolescence to early adulthood is a period marked by significant changes in both behavior and personal autonomy. During this period religiosity tends to decline while substance use and chronic health problems both increase. In addition, behavioral genetic studies examining religiosity over the life course are revealing a consistent increase in the heritability (which is the amount of variance in a trait due to genetic factors) of religiosity between adolescence and early adulthood. While all these changes have been explored separately, no study has attempted to connect all these changes in a comprehensive framework. This study attempts to do that by using a series of univariate and bivariate Cholesky decomposition models to estimate the change in the amount of shared variance due to genetic factors between religiosity and phenotypes of substance abuse and self-rated health that occurs from adolescence to early adulthood. Findings show the increase in the heritability of religious attendance from adolescence to adulthood is at least partially due to the increase in the heritability of smoking and alcohol use during that same period for both males and females; while the increase in the heritability of religious salience is due to the increase in the heritability of smoking in males and alcohol use in females. Self-rated health shows no effect on the increase of heritability for religiosity from adolescence to early adulthood.

**Gene-Tobacco Policy Interaction and Adolescent Cigarette Use**
*Nantaporn Plurphanswat, Tulane University
Robert Kaestner, coauthor*

This study proposes a novel and plausible approach to investigate the importance of gene-environment interactions in determining adolescent cigarette smoking by using the genetic information from the National Longitudinal Study of Adolescent Health. We develop an alternative research design to explore how tobacco control policies may alter genetic influences in determining adolescent cigarette use. In particular, we employ the Blinder-Oaxaca decomposition approach. The basic idea is that the gaps in adolescent cigarette use between adolescents in one environment (e.g. living in high tobacco tax states) and those in another environment (e.g. living in low tobacco tax states) could result from the fact that (1) adolescents in high tobacco-tax states have different genetic markers than those who live in low tobacco-tax states i.e. difference in endowment and/or (2) the effects of these genes differ in high versus low tobacco-tax states. The latter reflects the effects of the gene-environment interactions. The empirical findings suggest the effects of gene-tobacco policy interactions vary by type of policies and by sex. Cigarette use for females seems to be more sensitive to tobacco policy than for males.

**Paper Session: Intimate Partnerships**
Moderator: Erica Spotts, National Institute on Aging

**Latent Class Predicted Pathways of Family Formation Impacts on Health and Risky Behaviors**
*Jennifer Pearce-Morris, Pennsylvania State University*

Using waves 1 and 4 of Add Health, this paper identifies family formation pathways experienced by women between ages 18 and 29, and examines pathways’ associations with well-being outcomes. From a life course perspective, timing and sequencing of family formation events, such as childbearing, cohabitation, and marriage, can influence future life outcomes due to opportunities and constraints they impose. Outcomes examined tap into domains of health and risky behaviors: depression, self-rated health, delinquency, and heavy drinking. It is hypothesized that those delaying family formation will have favorable levels of self-rated health and depression, but less favorable levels of heavy drinking. Cohabiters will exhibit increases in heavy drinking, pathways involving marriage will have favorable levels on outcomes, and women with early, non-marital childbearing will have less
favorable levels on outcomes. Latent class analysis reveals nine pathways: delayed starters (20%), cohabiters (13.5%), early single mothers (12.4%), married mothers with premarital cohabitation (11.7%), early married mothers (10.7%), married mothers (10.5%), single mothers (8.9%), cohabiting mothers (6.5%), and marrieds (5.6%). Preliminary results suggest that delayed starters and cohabiters exhibit significant increases in heavy drinking between waves 1 and 4, while cohabiting mothers exhibit declines in heavy drinking. Pathways are not significantly associated with changes in depression or self-rated health.

Racial/Ethnic Variations in the Health Consequences of Cohabitation and Marriage
Rhiannon Kroeger, Ohio State University

I use data from Waves 1 through 4 of the National Longitudinal Study of Adolescent Health to examine racial/ethnic variations in the health consequences of first marriage and current cohabitation formation. I include categories for non-Hispanic white, non-Hispanic black, non-Hispanic Asian, and Hispanic respondents. I use fixed-effects regression analysis to analyze within-person change regarding various health outcomes, and include interaction terms to test time-invariant race/ethnicity as a moderator. Outcome measures include depressive symptoms, body mass index, binge drinking, and tobacco use. Results indicate that blacks experience fewer health benefits than other racial/ethnic groups following first marriage and current cohabitation. Specifically, blacks experience lower declines in depressive symptoms and tobacco use and greater increases in BMI following marriage and cohabitation formation compared to their white, Hispanic, and Asian counterparts. One exception to this general pattern of results is that members of all racial/ethnic groups experience similar declines in binge drinking following both marriage and cohabitation. These results support the body of literature suggesting that the less normative nature of marriage among blacks has led black individuals to adapt to the absence of marriage by forming other sources of social support, therefore weakening the beneficial impact of marriage on health outcomes.

Do Adolescent Mental Health Issues Predict Unhealthy Young Adult Romantic Relationships?
Tawna Bandy, Child Trends
Mary Terzian, Kristin Anderson Moore, coauthors

Clinical practice and existing research suggest that mental health issues can negatively affect relationships, including romantic relationships (Gotlib, Lewinson & Seely, 1998). To date, however, very few large scale studies have followed adolescents into early adulthood to examine this issue. In our attempt to fill this gap, this study assesses whether young adults reporting isolated or recurring suicidality and depression during adolescence are more likely to report unhealthy relationships in young adulthood. Unhealthy relationships are defined by the presence of relationship violence, sexual infidelity, uncommitted relationship status, and/or a lack of mutual love. We analyze data from 6,760 heterosexual young adults, using cross tabulation analysis. Based on our review of the available literature (Barrios, Evertt, Simon, & Brener, 2000; Kandel & Davis, 1986) we hypothesize that young adults reporting isolated or recurring suicidality and depression as adolescents will be more likely to report relationship violence and sexual infidelity, and to report that they are not in a committed relationship, or a mutually loving relationship in adolescence. We test whether this pattern holds, using multivariate regressions to control for age, gender, parent education, family structure, income, and race/ethnicity. Findings suggest that young adults reporting mental health issues as adolescents are more likely to report relationship violence and sexual infidelity than those who did not, but are not less likely to report being in a committed relationship or a mutually loving relationship in young adulthood, net of controls.

Junk in the Trunk: Evaluating the Relationships between Body Mass Index and Interracial Dating for White Adolescent Females
Kivan Polimis, University of North Carolina at Chapel Hill

Increasing racial diversity in the United States coupled with changing cultural norms toward interracial dating fuels the growth of interracial couples. Past research on interracial dating provides modest information on the factors
that affect an individual’s tendency to date interracially. This shortcoming in available research is important because of the significant demographic changes that are being driven, in part, by interracial dating and marriage. Furthermore, adolescents maturing in an increasingly diverse climate have greater opportunities to date interracially with little research focusing on the factors that influence interracial dating for adolescents. The purpose of this paper is to examine the factors that influence heterosexual interracial adolescent dating, specifically the link between an adolescent’s body mass index (BMI) and the likelihood of that individual entering an interracial relationship. I hypothesize that white adolescent women with BMI levels that align with the body type preferences of black men will date interracially at higher rates than their peers with BMI levels that are not consistent with preferences common among black men. Using data from Add Health, I estimate the effects of BMI on the likelihood of an individual entering an interracial relationship through binomial logistic regression analysis. I find that for white female adolescents, as BMI increases the likelihood of dating black men increases as well.

Breakout Session 5

Methodology Session: Add Health Relationship Data
Presenter: Mariah Cheng, University of North Carolina at Chapel Hill

This session will discuss relationship and fertility data available in Add Health Wave IV, with focus on the nested data collection design, the relationship selection criteria, and the hierarchical file structures across the relationship, pregnancy, live birth, and child sections. Descriptive statistics on these data, as well as some technical data checking and file merging tips will be provided.

Paper Session: Parental Incarceration – Long Term Impacts
Moderator: Dana Simpson, Office of Behavioral and Social Sciences Research

Broken Ladders: The Effect of Parental Incarceration on Subjective Social Class
Unique Shaw, Bowling Green State University

Incarceration is seen as an engine of social inequality, producing marginalized subgroups of people within society (Wakefield and Uggen, 2010). Though research has largely indicated that processes of exclusion are apparent in the lives of offenders, such processes also work to create unintentional outcomes for their families (Murray 2007). This study uses the National Longitudinal Study of Adolescent Health to examine the subjective implications of incarceration on children. Particularly, this study explores how timing of incarceration, race, and gender work to moderate the association between parental incarceration and adult children’s perception of their social status relative to other people in the United States. Consistent with previous literature, the results indicate that parental incarceration holds negative implications for children of prisoners by significantly reducing respondent’s subjective social class. The effect of parental incarceration is most detrimental during younger ages, for Hispanic respondents, and for females. These findings suggest that the effect of incarceration extends beyond objective measures in the lives of families.

Parental Incarceration, Health Outcomes, and the Moderating Role of Internalizing/Externalizing Behaviors among Young Adults in the U.S.
Michael Roettger, Institute of Behavioral Science
Jason D. Boardman, Raymond R. Swisher, coauthors

Experiencing a parent undergo incarceration is an increasingly common lifecourse event for children and young adults. While a growing body of research has linked parental incarceration with a number of adverse outcomes, few studies have linked parental incarceration with physical health issues in children and adults. Using data from the National Longitudinal Study of Adolescent Health, we use longitudinal methods to examine the relationship between parental incarceration and physical health among adolescents and young adults. Building on recent research which suggests that internalizing and externalizing behaviors moderate health outcomes, we examine how the effects of parental incarceration on physical health may vary by whether respondents engage in
internalizing and externalizing behaviors. Our findings suggest that parental incarceration is associated with increased risk for health issues that include asthma, heart disease, migraine headaches, and STIs. Externalizing and internalizing processes are also found to moderate longitudinal health risks for obesity and self-rated health among women. Taken as whole, our findings suggest that parental incarceration is associated with increased risk of having physical health issues in early adulthood, particularly for women who do not engage in externalizing behaviors.

**Parental Incarceration History and Social Exclusion: Impact of Parent Gender and Child Age at Onset on Young Adult Outcomes**

*Rosalyn Lee, Centers for Disease Control and Prevention, National Center for Injury and Prevention Control, Division of Violence Prevention*

*Xiangming Fang, coauthor*

This study investigates the relationship between parental incarceration history (PIH) and young adult social exclusion (SE) outcomes and whether the association differs by gender of parent and developmental stage of child. Analyses utilized Wave 1 and Wave 4 data of the National Longitudinal Study of Adolescent Health. Dependent variables were an overall measure and three domains of SE -- material, relational, and justice system related. Independent variables were timing of first occurrence of maternal and paternal incarceration. Negative binomial and logistic regression models controlling for confounders were utilized to assess associations between PIH and SE. PIH was more strongly associated with material than relational SE; with the strongest association between PIH and young adult incarceration history. Maternal incarceration was more strongly associated with material and justice system related SE; while paternal incarceration was more strongly associated with relational SE. Larger effects were found for first occurrence of parental incarceration during adolescence as compared to childhood or young adulthood. Young adults who report parental incarceration history are at increased risk for SE. Maternal and paternal incarceration and age of child at first parental incarceration have different impacts on young adult outcomes. Additional studies are needed to identify factors that reduce risk of SE in children who face disadvantage, disruptions, and instability due to PIH.

**Parental Incarceration and Self-Reported Health in Adulthood**

*Kirby Thomas, Florida State University*

*Giuseppina Valle, coauthor*

Recent increases in parental incarceration, particularly among mothers, have motivated research efforts to focus on the effects of parental imprisonment on child well-being. While most research efforts have examined parental incarceration as a risk factor for children’s antisocial behavior, future offending, mental health problems, and drug abuse, little attention has been given to child physical health outcomes as they transition to adulthood. Using Waves I and IV of Add Health, we examine the effect of parental incarceration, both paternal and maternal, on child self-reported health in adulthood. Using ordered logistic regression, preliminary results indicate that controlling for background characteristics and health behaviors, paternal incarceration during childhood is associated with lower levels of self-reported health during adulthood. Furthermore, maternal incarceration during childhood is also associated with lower levels of self-reported health in adulthood, although this relationship is mediated to non-significance when controlling for childhood socio-economic status. As this research progresses, we will incorporate the potential moderation of gender and/or race and ethnicity to more adequately capture the effects of parental incarceration on the well-being of children, along with other types of health outcomes, as they transition to adulthood. We believe this study will begin shed light on the adverse health effects experienced by children with incarcerated parents.

**Paper Session: Neighborhood and Community Contexts**

Moderator: Lisa Begg, NIH Office of Research on Women’s Health
Assessing Perceived Neighborhood Environment on Adolescents’ Participation in Leisure-Time Physical Activity: A Longitudinal Approach
Kelin Li, University of Utah

In this study I apply a longitudinal approach to assess effects of perceived neighborhood environment on leisure-time physical activity participation during adolescent transition. Using several waves of data from the National Longitudinal Study of Adolescent Health, I employ logistic regression techniques and appropriate measures in exploratory analyses to assess the extent to which the neighborhood environment - particularly neighborhood social cohesion, neighborhood safety, and neighborhood facility access - effects adolescents’ participation in leisure-time physical activity. The dependent variable is measured using moderate-intensity physical activity. I also control for several predictors that are found of importance for leisure-time physical activity in previous researches, including sex, race/ethnicity, immigration status, marital status, and disability. Results confirm the significant relationship between neighborhood environment and adolescents’ participation in leisure-time physical activity, and have shown the positive association between neighborhood social cohesion and leisure-time physical activity as well as between neighborhood facility use and leisure-time physical activity.

Residential Proximity to Peers and Adolescent Friendship Networks
Brian Soller, Ohio State University
Dana L. Haynie, Christopher R. Browning, coauthors

Much research has focused on the association between features of social networks and adolescent development. While some studies have focused on the selection and influence of pro-social versus delinquent peers, the role residential proximity plays in shaping individual positions within peer networks has been overlooked. Incorporating insights from social network perspectives, sociology, and geography, we formulate hypotheses regarding the association between residential proximity to school peers, as measured by the average distance from one’s home location to other student’s within the school, and numerous dimensions of adolescents’ school-based friendship networks. We then test these hypotheses using data from the National Longitudinal Study of Adolescent Health. We find that after controlling for key school and individual characteristics (including residential distance from the school), adolescents’ residential distance from other students in the school is negatively associated with network centrality, peer status (as measured by Bonacich Centrality), popularity (i.e., number of nominations received), the number of sent ties, and the number of reciprocated ties. Individuals’ out-of school involvement with friends appears to mediate much of the association between residential distance from peers and network positions. We discuss the policy and theoretical implications of the results of our study.

Neighborhood Context and Birth Outcomes: Preconception Diet and Physical Activity Level as Intervening Behavioral Variables
Lee Flagg, University of Alabama at Birmingham

Using a human ecological model of health, preconception diet and physical activity level were hypothesized to mediate the associations between neighborhood disadvantage and disorder and birth weight, as well as neighborhood disadvantage and disorder and gestational age. Analyses were conducted using data from Waves 1 and 3 of Add Health. The final analytic sample consisted of 523 adolescent and young adult mothers giving singleton live births in 1997 and 1998. The primary dependent variables were birth weight (grams) and gestational age (weeks). An index of various census tract-level indicators was created to capture neighborhood disadvantage, while individual-level perceptions of neighborhood conditions and safety were used to assess neighborhood disorder. OLS regression results indicated neighborhood disadvantage was negatively associated with birth weight. After controlling for race, the coefficient for neighborhood disadvantage was no longer statistically significant. Controlling for individual-level race, an increase in the proportion of Blacks in the census tract, a measure of neighborhood disadvantage, was associated with a decrease in gestational age. No evidence was found for the mediation hypotheses. To the author's knowledge, this is the first study examining diet and physical activity as possible behavioral pathways between the neighborhood context and birth outcomes.
Peer Friendship Networks and Immigrant Mental Health: Evidence of Segmented Assimilation Theory

Michael Nino, University of North Texas
Tianji Cai, coauthor

This paper examines the relationship between adolescent friendship networks and depressive symptoms among immigrant adolescents. Using segmented assimilation theory, two hypotheses were derived: (1) that racially and ethnically homogeneous immigrant peer networks enable immigrant youth to have lower levels of depressive symptoms when compared to their native born counterparts, and (2) that adolescent immigrants who follow a more traditional form of assimilation by integrating into more heterogeneous networks can also decrease the likelihood of experiencing depressive symptoms. Key findings indicate that first generation immigrants, who are integrated into more racially and ethnically homogenous networks, are less likely to experience depressive symptoms, providing evidence of successful selective assimilation among first generation immigrants. Adolescent immigrants integrated into homogenous friendship networks can also protect against deteriorating mental health outcomes. For first generation immigrants, a close reciprocated friend and the number of received nomination significantly decrease the likelihood of depressive symptoms. These results indicate adolescent immigrants who adhere to a more straight-line form of assimilation are also protected against heightened levels of depression. Overall results provide sufficient evidence for segmented assimilation.

Breakout Session 6

Paper Session: Peer Networks
Moderator: Annette Kaufman, National Cancer Institute

Peer Influences among Adolescents: In School and at Home
Xu Lin, Wayne State University

This study analyzes peer influences in adolescents’ various activities – both those that usually occur in school as group activities (including skipping school and physical fighting) and those that usually occur as individual activities at home (lying to parents and television viewing) - by using the Add Health in-school data. I employ the spatial autoregressive (SAR) model in Lee et al. (2010) to separately identify endogenous effects, contextual effects and correlated effects. The nonlinearity introduced by the SAR model helps resolve the ‘reflection problem’, and the omitted variable bias is addressed by the group fixed effect. Several alternative spatial weights matrices and an alternative model are investigated to evaluate the robustness of the results. I find that both endogenous effects and contextual effects exist in all of the four activities considered. There is evidence that peer effects are stronger for group activities that usually occur in school than those individual activities that usually occur at home, and that estimation of peer influences in home activities is subjected to more severe omitted variable bias. Friend heterogeneity does not appear to be an issue such that a simple spatial weights matrix of assigning equal weight among friends will serve the estimation purpose satisfactorily. The results exhibit slight changes with the friendship reciprocity assumption imposed and they are sensitive to the alternative model specification with SAR disturbances.

Peer and Academic Social Networks Influence on Health
Wendy Parker, Albany College of Pharmacy and Health Sciences
Rachel A. Smith, coauthor

Recent literature hypothesizes an increasing role for the social and academic relationships of adolescents connected to a number of health outcomes. Using Add Health data, which is then linked to the AHAA, this project seeks to understand the relationship between academic and social networks in high school as they relate to overall health status, as well as several specific health outcomes and conditions including obesity and ADHD. The research question for this study is as follows: is a high school student’s position in an academic or social network related to self-rated health? Secondly, is a high school student’s position in an academic or social network related
to several physical and behavioral health outcomes? What is the direction of the relationship? These data sets are well-suited to this project because of the rich social network data from a number of schools which is linked to post secondary educational records as well as robust health information, chronic conditions and biomarker information. Using a combination of social network analysis and multilevel models to analyze and craft these elaborate networks, we hope to begin to better understand the role of academic and/or peer networks in the health of adolescents. Pajek will be used to compute network data, which will then be incorporated into the multilevel models. Social networks are measured in terms of friendships, and academic networks are measured in terms of co-enrollment in courses.

The Use of Spatial Methodology to Estimate Peer Effects and Risky Behavior by African-American Adolescents

Olugbenga Ajilore, University of Toledo

This is a proposal to study how peer effects play a role in risky behavior by African-American adolescents. Only recently has there been a focus on peer effects and the importance of social networks. The study of peer effects in health behaviors has flourished because of the realization that while individuals make choices based on individual preferences, their decisions can be influenced by others (Blume and Durlauf, 2005). Peer groups can influence adolescent decision-making through three mechanisms: endogenous interactions, contextual interactions, and correlated effects (Manski, 2000). Several authors have sought to empirically test these interactions and effects, though most have only examined the endogenous interactions (Blume and Durlauf, 2005; Fowler and Christakis, 2007). Most scholars use either school fixed effects or instrumental variable regression techniques to model the endogenous interactions. Lee (2007) argues that using spatial analysis brings the model closer to the standard social interactions model by explicitly modeling the contextual effects. Bramoullé, Djebbari, and Fortin (2009) characterize the networks for which the endogenous and exogenous effects are identifiable. Lee, Liu, and Lin (2010) propose a quasi-maximum likelihood approach to estimating a social interaction model with network structures. My plan is to use these models to answer questions of the influence of peer effects on the risky behavior of African-American adolescents using Add Health data.

Longitudinal Consistency in Self-Reported Age of Sexual Debut among Young Adults

Shoshana Goldberg, University of North Carolina at Chapel Hill
Abigail Haydon, Amy Herring, Carolyn T. Halpern, coauthors

In the present study we examined consistency in self-reports of age at first vaginal sex among 9,399 male and female respondents who participated in Waves III and IV (separated by approximately 7 years) of the National Longitudinal Study of Adolescent Health. Respondents were coded as consistent if they reported an age at first vaginal intercourse at Wave IV that was within 1 year of the age they reported at Wave III. Sociodemographic, behavioral, and cognitive predictors of consistency were examined using bivariate and multivariate logistic regression, with separate models fit for males and females. Overall, 85.43% of respondents (88.8% of females, 81.7% of males) were able to provide consistent reports. Among both males and females, consistency was associated with age, years since first vaginal intercourse, race/ethnicity, and lifetime number of opposite-sex partners in final multivariate models. Respondents who were older and had more recently had their first sexual experience were more likely to be consistent. For females only, those who reported a history of non-parental, physically forced sex were less likely to be consistent. Our findings indicate that most young adults consistently report age at first vaginal intercourse, supporting the credibility of retrospective self-reports about salient sexual events such as timing of first vaginal intercourse.

The Effect of Childhood Maltreatment on Early Sexual Debut, Delinquency and HIV Risk Related Sexual Behavior among Young Adults

Paper Session: Sexual Behaviors
Moderator: Susan Newcomer, Eunice Kennedy Shriver National Institute of Child Health and Human Development
Rabindra KC, University of Texas at San Antonio

The objectives of this study are to find the effect of childhood maltreatment on early first sexual debut, delinquency and HIV risk related sexual behavior among young adults, and to find the net effect of childhood maltreatment on HIV risk related sexual behavior after controlling the effect of delinquency and early first sexual debut. This study will use the public use data from waves I, II and III of the National Longitudinal Study of Adolescent Health. HIV risk-related sexual behavior will be measured from Wave III; delinquency will be measured from Waves I, II and III from common questions asked in all three waves. Likewise childhood maltreatment will be measured from Wave III by retrospective questions. HIV risk-related sexual behaviors will be measured from condom use, multiple sexual partners and paid sex. Early first sexual debut will be measured from the age at first sex before the age of 18. Other variables- age, sex, race, nativity, residence, and parents' education- will be used as control variables. Logistic regression will be used to see the effect of childhood maltreatment on early first sexual debut, delinquency, and HIV-risk related sexual behavior. The net effect of childhood maltreatment will be explored after controlling for delinquency and HIV-Risk related sexual behavior and other background and socioeconomic variables. STATA statistical software package will be used for the data analysis.

The Effects of Adolescent Overweight and Overweight Perceptions on Sexually Transmitted Disease Risk in Young Adulthood
Khadija Turay, University of North Carolina at Chapel Hill
Carolyn Halpern, coauthor

Research has examined how adolescent sociodemographic factors and behaviors influence young adulthood sexually transmitted disease (STD) risk. However, little is known about potential effects of measured body mass index (BMI) and perceived overweight during adolescence on young adult STD risk, even though during adolescence individuals internalize perceptions about an increasingly adult appearance and establish expectations about intimate relationships. Using National Longitudinal Study of Adolescent Health data from Waves I, II, and III, this paper examines associations between measured BMI and perceived overweight during adolescence (WII) and being diagnosed with one or more STDs (Chlamydia, gonorrhea, and trichomonas) in young adulthood (WIII). The STD outcome variable will be constructed from WIII biomarker variables. These associations will be examined with binary logistic regression models controlling for age, adolescent socioeconomic factors, perceived pubertal status, and young adult BMI. Analyses will be stratified by race and gender. Given that adolescence is developmentally significant, higher BMI levels are stigmatized, and appearance concerns are associated with risky sexual behaviors, it is hypothesized that higher BMI levels and overweight perceptions in adolescence influence relationship power differentials, discourage safer sex practices throughout the life course, and increase young adult STD risk. Results can inform teen sexual health education efforts.

Hidden Dangers? A Comparison of White and Asian Americans’ Self-Efficacy for Birth Control in Adolescence and Efficacy Effect in Young Adulthood
Wei-Ting Lu, City University of New York

This research examines the factors associated with and consequences of birth control self-efficacy in Asian Americans, with whites as the reference group. This research uses data from 3,925 adolescents recruited from Wave I (1994-1995) and Wave IV (2007-2008) of the National Longitudinal Study of Adolescent Health. 3,720 are white adolescents and 205 are Asian American adolescents. Multivariate regression, crosstabs, and two-way ANOVA are used to compare the factors that influence and consequences of birth control self-efficacy on Asians and whites from adolescence to adulthood. This research found that: (1) on average, Asian American adolescents’ self-efficacy for birth control is statistically significantly lower than that of white adolescents; (2) teenagers’ close relationship to their parents has a statistically significantly different effect on contraceptive efficacy among Asian Americans than it does on white adolescents (the closer the relationship between Asian American adolescents and their parents, the less self-efficacy these teens have for birth control); (3) racial
difference in birth control self-efficacy is also associated with the rate of pregnancy termination. Those Asian Americans who lack strong confidence in practicing birth control have a high risk of pregnancy termination.

**Paper Session: Suicidal Behaviors and Depression**
Moderator: Rosalyn Lee, Centers for Disease Control and Prevention

**Effect of Youth Suicidal Behavior on Perceived Connection to Mother, Father, and Family**
*Jonathan Singer, Temple University*
*Katherine L. Musliner, coauthor*

The goal of this study was to determine if there is an association between youth suicidal behavior and subsequent perceived parental connection. We hypothesized that youth who reported suicidal ideation or attempt at W1 would report greater increases in perceived support at W2 than non-suicidal youth. Key variables included W1 & 2 report of suicidal ideation, attempt, and attempt with medical attention, and three 4-item scales measuring maternal, paternal and family connectedness. In order to compare suicidal and non-suicidal youth’s connectedness over time we created change scores by subtracting connectedness scores at W1 from connectedness scores at W2. Multiple linear regression models were conducted, controlling for LGB status, race, single/two parent household, parental income, gender, and grade level (middle or high school). In the adjusted models, non-suicidal youth reported a significantly greater decrease in perceived connectedness than suicidal youth for mothers (t=-6.56, p<.001), fathers (t=-25.74, p<.0001) and family (t=-2.99, p=.0033) between W1 and W2. Although there was a significant difference between non-suicidal and suicidal youth, our hypothesis was only partially supported: Youth who made suicide attempts with medical attention reported increases in perceived connectedness with mother (m = .24) and family (m = .22), but not father (m = -.36). Suicidal behavior might serve to increase youths’ parent-family connectedness.

**Does it Get Better? LGB Depression and Suicidality from Adolescence to Adulthood**
*Robert Odom, University of Kentucky*
*Sharon S. Rostosky, Fred Danner, coauthors*

In response to tragic suicides of gay youth, author Dan Savage and his partner, Terry Miller, began the “It Gets Better” social media project in September 2010, demonstrating the power of social media to capture the attention of youth and adults alike (www.itgetsbetter.org). Videos told youth to “hang in there” through the tough period of high school because “it gets better.” Although studies have documented that same-sex attracted youth, as a group, are at higher risk for depression (e.g., Fergusson, Horwood, Ridder, & Beautrais, 2005) and suicidality (e.g., Russell & Joyner, 2001) than heterosexual peers, the literature also lends support to the “It Gets Better” hypothesis. An Add health study found that suicidal ideation is mostly confined to the adolescent years for gay men (Russell & Toomey, 2010). Few longitudinal studies, however, have examined depressive symptoms over time. The present study examines whether depressive symptoms and suicidality decrease over time for those meeting criteria for clinical depression in adolescence. Participants were a diverse sample of 15,701 individuals who were interviewed at Wave I and IV. A CESD measure included in Wave I was used to include only participants who met criteria for depression in adolescence. Principle results focus on a decrease in depressive symptoms and suicidality among all orientations. Sex and orientation differences are presented. Discussion focuses on between group differences and implications.

**School Climate Dimensions and Adolescent Depressive Symptoms: A Multilevel Analysis**
*Hilary Drew, Ohio State University*

Prevalence estimates indicate 11% of youth meet the criteria for a major depressive disorder with approximately 8% experiencing impairment (Merikangas et al., 2010). Given the extent of impairment related to experiencing depressive symptoms, identifying risk and protective factors is critical. The literature on risk and protective factors point to individual, family, and community factors associated with depressive symptoms (Dallaire et al., 2008). Specifically, the school context exerts a significant influence on youth development, including depressive
symptoms (Gadeyne, Ghesquiere, & Onghena, 2006). This study examined the relationship between school climate and adolescent depressive symptoms and the extent to which this relationship varies for racial and sexual minority youth compared to majority youth. Data from the Add Health Waves I and II In-Home Questionnaires were used. Multilevel mixed-effects linear regression was employed to answer the research questions. The school climate dimensions primarily associated with depressive symptoms included: perceived school connectedness, perceived teacher support, and median school level income. Higher perceived school connectedness, perceived teacher support, and median school level income were associated with fewer depressive symptoms. The relationship between school climate dimensions and depressive symptoms did not significantly vary for sexual and racial minority youth.

Assessing the Roles of Peer and Parental Support in Adolescence and Adulthood as Moderators in the Association between Childhood Sexual Maltreatment and Adult Depression

Katherine Musliner, Johns Hopkins University
Jonathan B. Singer, coauthor

To determine whether peer and parental support in adolescence and adulthood moderate the association between childhood sexual maltreatment (CSM) and adult depression, analyses were conducted using data from waves I and IV of the restricted version of Add Health. Peer and parental support were measured using individual items and item scales from waves I and IV. Outcome measures included two assessments of depression: current depression measured using a 10 item sub-scale of the CES-D, and lifetime depression measured using self-reported history of diagnosis. Multiple logistic regression models adjusted for gender, race, age and non-sexual childhood maltreatment showed that high peer and parental support in adulthood predicted lower rates of current depression for all participants, regardless of CSM history. For lifetime depression, all measures of support were associated with lower rates of depression among participants with no CSM history, but among survivors of CSM, only parental support in adolescence was significantly associated with lower rates of depression (OR = .60, 95% CI [.40, .91]). Among survivors of CSM, only parental support in adolescence appears to protect against a lifetime history of depression. This analysis provides the first data to support the long-term benefits for reducing depression of focusing on support during adolescence for victims of CSM.

Add Health gratefully acknowledges the support of the following federal agencies and foundations:

- Eunice Kennedy Shriver National Institute of Child Health and Human Development
- National Cancer Institute
- National Center for Health Statistics, Centers for Disease Control and Prevention, DHHS
- National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, DHHS
- National Center for Minority Health and Health Disparities
- National Institute of Allergy and Infectious Diseases
- National Institute on Deafness and Other Communication Disorders
- National Institute of General Medical Sciences
- National Institute of Mental Health
- National Institute of Nursing Research
- National Institute on Aging
- National Institute on Alcohol Abuse and Alcoholism
- National Institute on Drug Abuse
- National Science Foundation
- Office of AIDS Research, NIH
- Office of the Assistant Secretary for Planning and Evaluation, DHHS
- Office of Behavioral and Social Sciences Research, NIH
- Office of the Director, NIH
- Office of Minority Health and Health Disparities, Centers for Disease Control and Prevention, DHHS
- Office of Minority Health, Office of Public Health and Science, DHHS
- Office of Population Affairs, DHHS
Add Health Users Conference Abstracts

- Office of Research on Women's Health, NIH
- MacArthur Foundation
- Robert Wood Johnson Foundation