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Users Conference

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Abstracts

Monday, June 20, 2016**Plenary Session****Family Background, Skin Color and Contact with the Criminal Justice System**

Jessica M. Kizer, University of California, Irvine

Using both nationally representative data and a sample of siblings, I examine the relationship between skin tone and being arrested as an adult. Despite sharing a family background, siblings vary from one another in variety of later life outcomes. While previous studies have examined sibling differences in criminal justice outcomes, no study has investigated whether skin color influences this relationship. Social scientists have demonstrated that skin color significantly shapes the life chances of blacks and Latinos, however very little work has been done on siblings. In this paper, I examine if skin color affects differential contact with the criminal justice system using both a nationally representative and sibling sample. My preliminary analyses suggest that men with darker skin are significantly more likely to experience an adult arrest than their lighter-skinned counterparts, and that this relationship remains even when looking at members of the same family.

Polygenic Predisposition to Educational Attainment and Characteristics of Individuals and their Environments: Evidence from the Add Health Study

Benjamin Domingue, Stanford University

As we enter the second decade of the genetics era, the descriptive knowledge derived from twin studies is being replaced by predictive knowledge regarding how genetics influence phenotypes. To better understand the complex process through which genetic differences lead to differences in attainment, the proposed study focuses on three questions involving mediation, distribution, and moderation of genetic influence on educational attainment, respectively. (1) Can we identify causal pathways through which the polygenic score leads to increased education? (2) Are there distributional differences of the polygenic score across relevant environments, such as schools? (3) Are there detectable environmental moderations of the effect of genetic predisposition on educational attainment? With respect to (1), we expect to find that increased genetic predisposition towards attainment is associated with higher cognitive ability. However, it is as of yet unclear whether the genetic effect is additionally mediated through psychological or health benefits. With respect to (2), we expect to see non-random patterning of predisposition across schools. Of particular interest is whether this study is able to identify school environments which are also associated with the polygenic influence on attainment. With respect to (3), we think it is too soon to know.

Breakout Session 1**Methodology Session: Overview of Add Health for New Data Users**

Presenters: Kathleen Mullan Harris, University of North Carolina at Chapel Hill & Ashley Sorgi, University of North Carolina at Chapel Hill

This session will provide an overview of Add Health design and data collection across all waves, from the In-school Administration in 1994 to the recent 2016 -2018 Wave V 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. Ashley Sorgi, Add Health Data Dissemination Coordinator, will present information on the current data structures, data file descriptions, and data discovery tools, including the Add Health Codebook Explorer Tool, and how to get access to the Add Health data, including applying for restricted-use data contracts.

Paper Session 1: Finances and Labor Market**The Rich get Richer...and So Do the Attractive? Ascribed Socioeconomic Status, Physical Attractiveness, and Achieved SES**

Christopher Dennison, Bowling Green State University

Research has consistently supported the idea that individuals deemed physically attractive fare better in achieved socioeconomic status. Moreover, through means of cumulative advantage, scholars recognize that individuals born into a wealthier family context also experience similar leverage in society. Yet, studies have not considered the extent to which one's ascribed socioeconomic standing moderates the effect of physical attractiveness on achieved SES. With this in mind, the present study assesses such relationship using data from the National Longitudinal Study of Adolescent to Adult Health (N: 14,620). Results confirm prior research that exhibit how physical attractiveness positively affects achieved SES. Furthermore, significant interactions with family SES suggest that those coming from the least advantaged backgrounds benefit the most from their appearance, and those of high socioeconomic background experience no significant effect from their physically attractive advantage.

Socioeconomic Status and Health among Transitions from Adolescent to Early Adulthood: Potential Mediating Factors

*Tze-Li Hsu, Sam Houston State University
Jin Young Choi, James B. Stykes, coauthors*

Socioeconomic status (SES) is a primary predictor of health over the life course. Some assert it has direct effects across different life-course stages and is associated with SES attainment in adulthood (Luo and Waite 2005; Power, Manor, and Matthews 1999; Turrell et al. 2002). Link and Phelan (1995) assert that SES serves as a fundamental cause of overall health. SES is not only associated with gainful activities (e.g., investment in human capital via education and employment), but it is also linked with multiple facets of the life course, including family and health trajectories (Barrett 2003). Moreover, individuals who transition into roles and statuses (e.g., student, employee, spouse) in a manner that adheres to age-based social norms report better health outcomes than their counterparts who deviate from normative trajectories (Lehrer 2008; Ucker 2012).

A wealth of scholarship has considered the linkages between SES and health, however, much of this work focuses on mid- and later-life (Luo and Waite 2005; Pavalko and Caputo 2013). Luo and Waite (2005) provide a unique contribution by highlighting the association between childhood health, adult SES, and well-being later in life, and their findings emphasize the role of social mobility to better understand health and well-being across the life course. Yet, their approach arguably focuses on the bookends of the life course and overlooks substantial diversity and heterogeneity in SES attainment during the transition to adulthood. We first review recent work exploring the association between SES and health. We then turn to a growing body of evidence examining accumulative processes between SES and health across the life course with special attention to gainful activities during the transition to adulthood.

Based on previous research, this study tries to focus on how gainful activity during the transition to adulthood might serve to increase social mobility (Luo and Waite 2005) or further reinforce cumulative advantage/disadvantage (CAD) theory based on Add Health targeting adolescent and young adulthood in its longitudinal study of adolescent to adult health. This study will discuss childhood SES, gainful activity, and health during the transition to adulthood with special attention to gainful activities as pivotal mediators in the childhood SES-health association using the Add Health data to fill the gap of literature looking at the long-term effects of health across life course.

Party Hard, Live Large: Adolescents' Alcohol Consumption and Future Wages

Tian Lou, University of Connecticut

Recent research found a positive relationship between male adolescents' alcohol consumption and their future incomes. One hypothesis is that the social skills that adolescents gain from drinking activities may help them get wage premiums in the future labor market. In this paper, I exploit the quasi-random variations in high school peer compositions as a treatment to teenage alcohol consumption and test whether this treatment could have similar

influences on future income. This paper finds that peer variables that could explain teenage binge drinking do not have significant impacts on future income. This result suggests that the influence of high school peers cannot be transmitted to future income through binge drinking. Thus, the effects of teenage binge drinking on future income might not be causal. This paper also shows that being exposed to peers with higher possibilities of binge drinking does not necessarily increase sociability.

Household Financial Assets and Health Disparities among Adults

Shiyou Wu, University of North Carolina at Chapel Hill

Kathleen Mullan Harris, Qi Wu, coauthors

This study explores the relationship of asset disparities (e.g., positive net worth vs. living with debt) with health disparities among young adults. Using Wave I and Wave IV Add Health data, this study investigates 3 health indicators: general health, physical health (BMI), and mental health (Depression). Results show that significantly higher rates of better general health are found for adults with moderate and high assets; neutral and positive net worth. A similar trend but with an inverse direction is found in the significantly lower levels of depression among adults with moderate or high levels of assets, and those with neutral or positive net worth (as compared with their reference groups of low asset, negative net worth, respectively.) However, the total assets value is not a significant predictor for physical health, whereas net worth is a significant predictor of physical health. Results suggest household assets are positively associated with health outcomes. However, different measures of household assets yielded different findings for the physical health indicator; this finding demonstrates the importance for future research to explicate the role of debt beyond assets in adults' health. A better understanding of various forms of financial resources (e.g., income, assets, and debt) and their dynamic relationships will contribute to developing effective asset-based interventions for improving health outcomes and well-being among adults.

Paper Session 2: Childbearing and Contraception

The Heterogeneous Treatment Effects of Teenage Childbearing on College Attendance: In the Case of the Violation of the Ignorability Assumption

Kiwoong Park, University at Albany, State University of New York

After accounting for confounding factors that affect both teenage childbearing and mother's outcomes, the causal effect of teenage childbearing is unclear. Specifically, given that the effects of teenage childbearing may vary by women in different subgroups, it is necessary to measure the heterogeneous treatment effect to reveal the causal effects. One recent article, "The Effect(s) of Teen Pregnancy: Reconciling Theory, Methods, and Findings" in *Demography* journal (Diaz and Fiel 2016), used propensity score matching (smoothing-differencing method) to address the heterogeneity treatment effects and found that the negative effects of childbearing on college completion and early earning is most pronounced among women who are least likely to experience a teenage pregnancy. They also highlighted that the negative effects are significantly weaker among women most likely to become a teenage mother.

Using Add Health data, this study replicates the findings of Diaz and Fiel (DF) and checks if the heterogeneous effects on education attainment (college attendance) is reliable. Since propensity score-based methods depends on the ignorability assumption, which means that treatment would be independent of potential outcomes by accounting for relevant covariates, it is crucial to include observable data to address selection into early fertility. However, DF's analysis did not include extensive social support measurements, which may influence the probability of selection into teenage childbearing. Therefore, this study first includes common observable variables, following DF's study and previous study using Add Health (Kane et al. 2013), and then includes social support and mistreated experience in respondent's childhood as covariates. In conclusion, this study partially speaks to the DF's first finding that the negative effects of teenage childbearing on college attendance are most pronounced among women least likely to become teenage mothers. However, the result using new covariates shows strong negative effect of teenage childbearing for women most likely to experience an early fertility, refuting DF's second finding that there is a weak but positive effect for most likely teenage mothers. These results suggest that the ignorability assumption of propensity score method is not likely to be verifiable, as Zhou and Xie discussed, and it is necessary to consider other methods together, like marginal treatment effects, to estimate the causal effects.

Approaches for Addressing Missing Data in Statistical Analyses of Female and Male Adolescent Fertility

*Eugenia Conde, Texas A&M University
Dudley Poston, coauthor*

This paper uses data from Wave I and Wave III of the National Longitudinal Study of Adolescent to Adult Health (Add Health) to address the importance of handling missing data. We undertake two separate analyses, one for females the other for males, to predict the likelihood of the respondent having had a teen birth. Six theoretically relevant independent variables are used, including household income and parental education, which respectably have 26 and 15 percent of the data missing. These approaches to handle missing data are used in separate models: (1) listwise deletion, (2) overall mean substitution, (3) mean substitution based on race/ethnicity, (4) the proxy method where mother's education is used as a proxy for income, (5) dropping the two variables with excessive amounts of missing data, (6) multiple imputation using fully conditional specification iterative method, (7) multiple imputation using the Markov chain Monte Carlo iterative method with three auxiliary variables, and (8) without auxiliary variables. We show that depending on the method used, many of the independent variables in our models vary in whether they are, or are not, statistically significant in predicting the log odds of a person having a teen birth; and many of the independent variables that are statistically significant vary in the ranking of the magnitude of their relative effects on the outcome. The implications of the findings from a scientific and social policy perspective are discussed, and we make recommendations for how to handle models with large amounts of missing data.

The Social Determinants of Health: Associations with Adolescent Pregnancy

*Sarah Maness, University of Oklahoma
Ellen Daley, Julie Baldwin, Jeffrey Kromrey, Eric R. Buhi, coauthors*

Although rates of adolescent pregnancy are at a historic low in the United States, racial and geographic disparities exist. Examining relationships between the social determinants of health (SDoH) and adolescent pregnancy can help guide funding and policy, as well as improve interventions. This study analyzed data from the National Longitudinal Study of Adolescent to Adult Health to assess empirical relationships between SDoH and adolescent pregnancy. Bivariate tests and logistic regression were employed to examine the relationship between each area of SDoH, according to the Healthy People 2020 Social Determinants of Health Framework and adolescent pregnancy. Results indicated a relationship between 6 of 17 measures of SDoH and adolescent pregnancy. Significant areas included feeling close to others at school, receipt of high school diploma, enrollment in higher education, participation in volunteering or community service, litter or trash in the neighborhood environment, and living in a two-parent home. These results can help to guide future research as well as provide support for future funding and interventions that incorporate elements of SDoH that have associations with adolescent pregnancy.

Are Sibling Estimates Admissible Evidence for the Consequences of Teenage Childbearing?

*Sanders Korenman, Baruch College of the City University of New York
Frank Heiland, Rachel A. Smith, coauthors*

In a study that appeared in *Demography* in 2013, Kane, Morgan, Harris and Guilkey (KMHG) used Add Health data and four different strategies to control for heterogeneity bias in estimating the effects of teen childbearing on educational attainment of mothers. KMHG concluded that method choice affects estimates, and recommended that researchers employ multiple methods. Although they reported calculating estimates based on sibling-differences, they did not present the results. We began with replication of KMHG's descriptive statistics and OLS regression results. We next estimated models of educational attainment that included "sibling" fixed-effects. Consistent with prior literature, effects of teen childbearing on educational attainment from sibling comparisons were far smaller in magnitude than other estimates. Furthermore, taking advantage of the rich Add Health information on family relationships at baselines and oversamples of twins, we found that the more narrowly we defined the "sibling" relationship—from young women who resided together at baseline, to siblings, to biological full-siblings, to twins, to monozygotic twins—the smaller the point estimate of the effect of a teen birth. Estimates based on twin differences approached zero or reversed sign, though were less precisely estimated. We conclude that inclusion of results from "sibling" difference estimates would have strengthened KMHG's conclusion that the

empirical strategy used to address selection bias affects study results. And although we recognize and describe their limitations, we argue for the admissibility of sibling comparisons as evidence on the consequences of teenage childbearing.

Abortion and Mental Health in Early Adulthood: Longitudinal Evidence from the United States

Paul Sullins, The Catholic University of America

Objective: To examine the links between pregnancy outcomes (birth, abortion, or involuntary pregnancy loss) and mental health outcomes for U. S. women during the transition into adulthood.

Method: Panel data on pregnancy history and mental health history for a nationally-representative cohort of 4,515 women at (average) ages 15, 22, and 28 years from the National Longitudinal Study of Adolescent to Adult Health were examined for risk of depression, anxiety, suicidal ideation, alcohol abuse, drug abuse, cannabis abuse, and nicotine dependence by pregnancy outcome.

Results: After adjustment for confounding, abortion was associated with a 30% increased risk of mental health disorders examined. Birth was associated with a 40% reduced risk, and association with pregnancy loss was mixed.

Conclusion: The evidence confirms previous findings that, unlike other pregnancy outcomes, abortion may be associated with a small to moderate increase in risk of mental health disorders during late adolescence and early adulthood.

Breakout Session 2

Methodology Session: Overview of Ancillary Study Applications – Adding Supplemental Data to Add Health

Presenters: Robert Hummer, University of North Carolina at Chapel Hill & Kara Joyner, Bowling Green State University

An ancillary study is any study that proposes to secure funding to achieve one (or more) of the following aims: collect new data on Add Health respondents, merge secondary data sources onto Add Health respondent files using personal identifiers (e.g., geocodes), collect new biospecimens from Add Health respondents, or use archived biospecimens collected by the Add Health study. This session has two aims. First, it will provide a general overview of previously- and currently-funded ancillary studies to best illustrate the kinds of projects that have added so much value to Add Health. Second, it will provide more detailed information on the process of developing and submitting an ancillary study proposal. Specifically, this portion of the session will use a successful example of an ancillary study that has already been approved to discuss potential funding sources for ancillary studies, provide information on how to estimate the costs of ancillary variables, and offer tips on how to showcase the public health relevance of ancillary variables in grant applications. This session is intended for conference participants who either are interested in learning more about the ancillary studies that have added to the overall value of Add Health and to those who have ideas to write an ancillary study proposal.

Paper Session 3: Cardiovascular and Metabolic Disease

Adolescent Exposure to Community Violence and Adulthood CRP: A Stress Process Model

Max Reason, University of North Carolina at Chapel Hill

Cardiovascular disease (CVD) is the number one cause of death in most of the developed world. Life course studies of health have shown that stressful life events and social conditions in early life are associated with worse CVD outcomes in adulthood. The Biological Embedding of Early Adult Adversity Model posits that these early stressors can 1) dysregulate and “reprogram” the body’s stress response system, leading to a consistent, heightened state of inflammation, and 2) predispose an individual to seek immediate rewards over long term benefits. Both of these mechanisms are associated heightened CVD mortality and morbidity.

This study investigates the role of adolescent exposure to community violence (ECV) as a stressor that may impact CVD risk factors in early adulthood. These factors include both physical measures of stress and inflammation (C-reactive Protein and blood pressure) and negative heart health behaviors (smoking, fast food consumption, and sugar-sweetened beverage consumption). Waves I and IV of the Add Health study are used. Preliminary results show adolescent ECV is positively associated with all CVD risk measures in this study. However, after inclusion of demographic factors, personal and neighborhood SES, and measures of psychological health, only the CVD risk behaviors remained significantly correlated with adolescent ECV. These findings indicate that ECV can impact CVD risk through the adoption of negative health behaviors.

Same-sex Sexuality and Diabetes: A National Longitudinal Study of Adolescent to Young Adulthood

I-Chien Chen, Michigan State University

The health disparities in sexual minority population continue to be a public policy concern (IOM 2010). Growing evidence has suggested that sexual minorities experience disadvantaged health outcomes in comparison to their heterosexual counterparts (Liu et al. 2013). Using data from the National Longitudinal Study of Adolescent to Adult Health, this research examines the relationship between young adult sexual minorities, same-sex experiences in adolescence, and the developing risk of diabetes. Diabetes is the fastest growing chronic condition in the U.S., and the development of this disease is directly affected by social, biological and behavioral factors during adolescence and young adulthood. Working from a life course and minority stress perspective, we examine how the experiences of same-sex behavior and sexuality during adolescence to young adulthood is linked to the risk of developing diabetes. Linking the development of sexuality in adolescence with later biomarker data, this study aims to understand whether and under which conditions experiences of same-sex attraction, relationships and partners in adolescence impact later adult health. Relying on logistic regression models, the results indicate that same-sex experiences in adolescence increase the risk of diabetes for self-reported 100% homosexual (gay) group after controlling for sociodemographic characteristics and health-related behavior. Overall, the results suggest that the positive relationship between sexual minorities and the risk of diabetes, and the amplified impact of same-sex experiences in adolescence on diabetes is partially due to the kind of health behaviors that sexual minorities engage in as well as one's standard of living in age 26 to 34.

Mediators between Childhood/Adolescent Adversity, Adolescent SES, and Cardiovascular Disease Risk in Early Adulthood

*Jenalee Doom, University of Minnesota
Cari Clark, coauthor*

Cardiovascular disease (CVD) is the leading cause of death in the United States. Increasingly, research targets childhood as a period of vulnerability for the development of CVD. Adverse childhood experiences (ACEs) such as poverty, maltreatment, neglect, and family violence have been associated with the development of CVD later in life. This study examines a wide range of childhood and adolescent ACEs in relation to objective measurement of 30-year CVD risk in young adulthood, as well as potential mediators between ACEs and adult CVD risk. Participants (N=11,491) in the National Longitudinal Study of Adolescent to Adult Health with CVD risk factor data and valid sampling weights were included. An ACEs index assessed 12 items: dating violence, other adolescent interpersonal violence, 4 forms of child maltreatment, foster care, homelessness, and parental disability, alcoholism, incarceration, and death. The ACEs score ranged from 0 to 9. Framingham-based 30 year predicted risk of CVD was calculated from measures of BMI, smoking, diabetes, systolic blood pressure, and use of antihypertensive medication assessed at Wave 4 (mean risk = 13%, SD = 0.1). The total effect (direct plus indirect) of more ACEs on greater CVD risk was significant. There were significant pathways between ACEs and greater CVD risk through poorer health behaviors, greater financial stress, lower educational attainment, poorer maternal relationship, and failing to access needed medical care.

The Effects of Early Childhood Acculturation on Cardiometabolic Risk in Adulthood among Latina/os

Audrey Taylor, Willamette University
Michael Nino, coauthor

Purpose: The link between acculturation and Latina/o health has been studied extensively in social science research. Generally, studies find that greater acculturation is related to worse health. Further, a growing number of studies find that early childhood factors influence future health status during adulthood. However, the link between early childhood factors, acculturation, and future health is not well defined. This study seeks to understand how early acculturative processes influence later cardiometabolic risk among Latino/as in the United States.

Methods: Data were drawn from Wave I-IV of the National Longitudinal Study of Adolescent to Adult Health. Early acculturative measures, including immigration generation, language, and percent of Latino population that is foreign born, were captured at Wave I. The measure for cardiometabolic risk was constructed using eight biomarkers from Wave IV, which include C-reactive protein, glycosylated hemoglobin, waist measurement, systolic and diastolic blood pressure, high and low density lipoprotein, and pulse rate.

Results: It was found that early acculturative processes were significantly related to changes in cardiometabolic adulthood. When looking at the interaction between immigrant generation and Spanish language use in the home, it was found that Latina/os who spoke Spanish at home during the early years had lower levels of cardiometabolic risk later in life. Interestingly, when looking at the relationship between early language use, immigrant generation, and later cardiometabolic risk, differences between genders could be observed. Among females, speaking Spanish at home in the early years was protective against cardiometabolic risk for first generation immigrants but not second-generation immigrants. For males, speaking Spanish in home in the early years was protective against cardiometabolic risk for second-generation immigrants, but not first generation immigrants.

Conclusions: These findings demonstrate that early acculturative processes are influential in determining future cardiometabolic risk among Latina/os in the United States. The acculturation measures most influential in this process include language use and immigrant generation.

Paper Session 4: Education

The Impact of Adolescent Physical Activity on Educational Attainment

Kenneth Lee, University of California, Irvine

Although reviews of observational and experimental studies show positive associations between physical activity (PA) and academic achievement (Centers for Disease Control and Prevention, 2010; Fedewa & Ahn, 2011; Howie & Pate, 2012), the majority of the studies in these reviews is focused on children and further and more rigorous examination for adolescents with causal implications is important.

Drawing data from Add Health, I examine the extent to which physical activity, measured using a composite of PA items in Wave 1, predicts educational attainment, measured by years of completed schooling in Wave 4. I find a one standard deviation increase in PA is associated with a .132 year increase in completed schooling in the presence of the host of child, family, and other demographic controls in an OLS regression.

However, an OLS regression of educational attainment on PA may not produce a consistent estimate of the impact of PA. Among others, issues such as selection into and misreporting of PA may generate a correlation between PA and educational attainment even if PA does not have a causal impact. To account for the presence of these issues, I use the number of different PA resources in a 8.05 km network radius about an adolescent's home from Obesity and Neighborhood Database in Wave 1—conditioned on total annual snowfall, and the total number of crimes and the proportion aged 25+ with no high school diploma or equivalency in a respondent's county as an instrumental variable- to generate a consistent estimate of the impact of additional PA on educational attainment. The results from the 2SLS model using the PA resource counts as an instrumental variable and aforementioned conditions shows that a standard deviation increase in PA is predictive of an additional .587 years of schooling.

Additional analyses to be completed include examining the heterogeneous impacts by gender and racial subgroups, as well as by health. Mediation and moderation by income, gender, and race are also additional factors to consider in this analysis. Robustness checks using different Euclidean and network radii (1, 3, and 5km) for the PA resource counts will be used to confirm the 2SLS results. It would also be fruitful to examine grades in curricular classes as an achievement outcome.

The Thing about Schools: A Multilevel Analysis of the Educational Attainment of Mexican Americans

Mara Getz Sheftel, City University of New York

Karen Amaka Okigbo, City University of New York

Building on the body of literature seeking to understand the educational trajectories and social mobility of post-1965 immigrants to America, this analysis looks at how school characteristics impact the educational attainment of Mexican Americans. Using multilevel analysis of the nationally representative, longitudinal Add Health dataset we parse out the relative impact of a wide range of factors including: school type, size, demographic composition, school SES, academic culture, social culture and student body deviance on years of educational attainment. Consistent with literature on the impact of school academic culture on educational attainment, we find here that school level academic culture has a significant and positive impact on individual educational attainment. However, our study shows that for students of Mexican descent this relationship is not so straightforward, because the returns on school academic culture are considerably less for Mexican Americans than their non-Hispanic white peers.

Measuring Adolescent Family Environments and their Impacts amidst Increasing Family Complexity

Julia Arroyo, University of Florida

Increasing turbulence and complexity in American household membership has led to a growing proportion of children spending time living in households without one or both parents. As such, sociologists have called for study of "zero-parent" families, including those headed by grandparents, foster parents, or siblings. While some research compares young adult outcomes for youth in zero-parent families to those living with one or both parents, we are lacking designs which adequately conceptualize and compare adolescent family environments for youth in zero-parent families. With the present research, I fill this gap by describing variation in several measures of family environment in early and late adolescence, comparing these over time, across family type, by gender, and by race-ethnic background. Then, I conduct multi-group confirmatory factor analysis to assess the appropriateness of common conceptualizations of family environments for youth in zero-parent families. Finally, I conduct a series of regression analyses to assess the impact of zero-parent families on young adult outcomes, including educational attainment, family formation, and incarceration. These regressions represent more stringent tests of the impacts of family environment for youth in zero-parent families than are provided in extant literature, given that they include valid measures of family environment alongside family type, while also including a host of measures representative of both social selection and the youth's broader social ecology. Results indicate that researchers analyzing outcomes among youth in zero-parent families should use tailored measures of family environment and attend to variation by gender, while those collecting data should supplement traditional measures to better capture (and intervene on) the impacts of family and social ecology on adolescent and young adult outcomes.

Childhood Bereavement as a Mechanism of Cumulative Disadvantage

Margaret E. Gaines, Virginia Polytechnic Institute and State University

This study examines how the death of a parent as a child, adolescent, or teen may create risks that undermine lifetime educational attainment and workforce attachment—two key concepts that are strongly correlated to adult well-being. The research is theoretically important because it will enhance the theoretical understanding of the links between the experience of childhood adversity and its consequences for adult lives. It is also of practical significance, as it can inform and direct policy designed to support bereaved children and families. Using the life course paradigm and data from the National Longitudinal Study of Adolescent to Adult Health (Harris 2009)

(Harris 2009), adult outcomes of parentally bereaved children will be analyzed and compared to non-bereaved children.

In the normative life course pattern in the present-day U.S., the life event of parental death does not occur until adulthood. Although parental death as an adult can cause hardship, parental death in childhood is out of sequence with life events. For children, the impact of parental death is sudden and has lifelong cumulative effects. Parental death creates changes in family structure and relationships. The loss of a parent also means the loss of human capital and social capital, creating risk and vulnerability (Gertler 2004, Hagen 2010), and changing the opportunities that will be available to the bereaved child.

The study of the effects of parental death on the life course of children in the United States has sociological significance because the United States is a country of high inequality and low socioeconomic mobility. The loss of a parent can further reduce or limit the important resources provided by parents to children (McLanahan and Percheski 2008). When such resources are cut short, the child's trajectory toward adult outcomes can negatively change (McLanahan 2004). These altered trajectories put children at risk of lower educational attainment, risk of instability in the workforce, and risk of decreased adult socioeconomic status, all of which have impact upon life-long well-being. The purpose of this research is to determine if the cumulative disadvantage experienced by minority children and poor children is increased by the death of a parent.

Education and Young Adult Cardiovascular Health

Elizabeth M. Lawrence, University of North Carolina at Chapel Hill

Robert A. Hummer, coauthor

Educational attainment shows strong associations with a variety of health outcomes including cardiovascular health (CVH). These associations likely result from the bundle of characteristics and experiences that is summarized by educational attainment. Research aiming to measure the health effects of educational attainment often treats these characteristics and experiences as confounders. We argue that not all childhood characteristics and experiences that shape both educational attainment and CVH are confounders; some are "intermediaries" that result from prior educational experiences and shape future education. We use data from the National Longitudinal Study of Adolescent to Adult Health to address three aims: identify intermediaries in adolescence, measure the association between intermediaries and CVH in young adulthood, and determine the extent to which intermediaries' effects on CVH work through educational attainment. We use Latent Class Analysis (LCA) to identify intermediary educational profiles and regression models to examine associations between these profiles and educational attainment and CVH. Results show six intermediary educational profiles, each demonstrating a unique combination of educational dis/advantage. The intermediary profiles are highly predictive of educational attainment and also demonstrate associations with young adult CVH. Preliminary results also suggest that educational attainment mediates the associations between intermediaries and CVH.

Breakout Session 3

Methodology Session: Add Health Genetic Data and Genome Wide Association Study

Presenters: Christy Avery, University of North Carolina at Chapel Hill & Ben Domingue, Stanford University

Previously, Add Health made candidate genes and some limited genome-wide association study (GWAS) data on approximately 2,000 sibling pairs available to researchers. The quantity of genetic data available on Add Health respondents is about to greatly increase, both in variant number and population size, as genome-wide data on roughly thirty million imputed variants in approximately 10,000 participants will be available online via dbGaP. This session will describe the Add Health GWAS data and potential uses to interested researchers. In particular, we introduce users to the GWAS data, describe data access steps, highlight best analytic practices, and present types of population-based research in which the data may be used.

Paper Session 5: Risky Behaviors**Smoking and Weight Status: Understanding the Relationship of Cigarette Smoking Trajectories through Adolescence and Weight Status in Young Adulthood in the US**

Minal Patel, National Cancer Institute
Annette Kaufman, coauthor

Introduction: Adolescent cigarette smoking has steadily declined since 1999 while childhood obesity rates have tripled since the 1980s. Few studies have looked at the relationship of smoking and weight in youth and young adulthood. This study examines the influence of smoking trajectories beginning in adolescence on weight status in young adulthood.

Methods: The study sample was drawn from Add Health Waves I-IV (N=13,361) excluding Wave IV pregnant women and active military. Repeated-measures latent class analyses generated the independent variable of smoking trajectory using smoking status in Waves I-IV and age of initiation. Weight status at Wave IV was primarily measured through self-reported body mass index (BMI) and waist circumference (WC) as a secondary measure. Covariates included self-reported gender, race/ethnicity, BMI, and parental household income (Wave I) and educational attainment (Wave IV). Weighted bivariate analyses assessed the relationship between smoking trajectories and BMI at each wave. Weighted multivariate linear regression models tested the relationship of smoking trajectories and weight status at Wave IV, controlling for demographic covariates.

Results: Four distinct smoking trajectories were generated: nonsmokers (44%), early establishers (23%), late establishers (21%), and experimenters (12%). The average BMI at Wave IV was 28.4. In bivariate analyses compared to nonsmokers, early and late establishers had a significantly lower BMI at Wave III, and all smoking trajectories had a significantly lower BMI at Wave IV. In an adjusted multivariate regression model predicting BMI at Wave IV, all smoking trajectories had a significantly lower BMI than nonsmokers [early establishers: $\beta=-1.27$, CI: -1.56, -0.98; late establishers: $\beta=-0.84$, CI: -1.16, -0.52; & experimenters: $\beta=-0.63$, CI: -0.93, -0.34; ($p<0.05$)]. An adjusted regression model predicting WC showed similar trends [early establishers: $\beta=-2.20$, CI: -3.05, -1.36, late establishers: $\beta=-1.08$, CI: -2.06, -0.10, & experimenters: $\beta=-1.05$, CI: -1.85, -0.24; ($p<0.05$)] compared to nonsmokers.

Discussion: This is one of the first studies to address the relationship of smoking trajectories and BMI at the national level. Clinical implications need to be further examined and account for the relative disease risk of changes in BMI and WC in relation to changes in smoking status. Future studies may consider lifestyle factors related to obesity such as physical activity and eating behaviors.

The Relationship between Alcohol Use and Gambling in Emerging Adulthood

Hyun-Jin Jun, University of Maryland, Baltimore
Donna Harrington, Paul Sacco, coauthors

Background: Alcohol is the most commonly used substance among emerging adults. Gambling among adolescents and emerging adults is an emerging public policy issue as gambling opportunities and accessibility increase the incidence of gambling participation. For affected individuals, alcohol and gambling problems in emerging adulthood can lead to short-term and long-term adverse consequences. Research suggests that alcohol use and gambling co-occurrence arises from shared etiological factors in adolescence and early adulthood. However, few studies have explored how alcohol and gambling evolve during emerging adulthood. Therefore, this study aimed to understand longitudinal relations between alcohol and gambling during this life transition.

Methods: Gambling behavior and problems were measured at Waves III and IV; depression, antisocial behavior, and alcohol use (past-year use, binge drinking, heavy drinking, and problems) were measured at Wave III. A weighted longitudinal path analysis examined the effects of early depression, antisocial behavior, and alcohol use (Wave III) on later gambling (Wave IV), adjusting for sociodemographic variables (Wave I), among emerging adults ages 18-29 in the National Longitudinal Study of Adolescent to Adult Health (Add Health).

Results: Gambling problems in adolescence (Wave III) increased the risk of antisocial behavior ($b=.21$, $p=.00$), past-year alcohol use ($b=.12$, $p=.00$), binge ($b=.26$, $p=.00$) and heavy drinking ($b=.20$, $p=.00$), and gambling participation ($b=.49$, $p=.00$) and problems ($b=.34$, $p=.00$) (Wave IV). Depression and alcohol use did not directly predict later gambling participation. Antisocial behavior was indirectly associated with gambling participation through binge drinking ($b=-.06$, $p=.05$). The model fit the data well ($\chi^2(9)=13.23$, $CFI=1.00$, $TLI=.997$, $RMSEA=.01$).

Conclusions: Adolescent gambling may be an early sign of a range of problem behaviors in emerging adulthood including substance use. Inconsistent with literature, antisocial behavior negatively predicted the gambling participation via binge drinking. Therefore, further research may consider differential effects of antisocial behaviors on gambling. In future research, we will examine gender-specific association between antisocial behavior on alcohol use and gambling.

Long-term Impacts of Substance Use at First Sexual Encounter

Sarah E. Underwood, Saint Louis University

T. Loux, coauthor

Early sexual activity has been linked to a variety of other high-risk activities and outcomes including likelihood of sexually transmitted infections, higher rates of early childbirth, risky sexual behavior, substance use and abuse, and poor academic behavior. Although early sexual activity is linked to substance use and abuse, little research exists investigating substance use during the first sexual encounter. In researching the impacts of substance use during first sexual encounter, the researchers hypothesize that those youth using substances, and especially those who self-identify as drunk or high during first sexual encounter, will be more likely to have early childbirth, engage in other high-risk activities, have more unstable relationships overall. This study will use The National Longitudinal Study of Adolescent to Adult Health dataset. Propensity score matching will be utilized to match those sober during first sexual encounter with those intoxicated during first sexual encounter. Primary dependent variables will include number of marriages, pregnancies, and divorces, high-risk sexual behaviors, and other lifestyle outcomes across the later lifespan. This study will provide insight into the long term effects of intoxicated sexual encounters on relationship and sexual behavior into adulthood. It serves to inform important sectors of practice by detailing the impacts of not only early-sex, but how substance use is related to sexual behaviors more directly.

Female Adolescent Eating Disorders or Disordered Eating Behaviors, Delinquency, Risky Sexual Behaviors, and Number of Children in Early Adulthood

Jennifer Tabler, University of Texas Rio Grande Valley

There is a well-documented link between eating disorders (EDs), and female infertility. However, it is unknown how adolescent EDs or disordered eating behaviors (DEBs) influence overall parity in early adulthood. Using data from Add Health, this study compares the number of children born to women in early adulthood who in adolescence self-identify having an ED diagnosis or engaging in DEBs to their same-sex peers without ED or DEB, using multinomial logistic regression. This study also tests whether adolescent delinquency and sexual risk taking mediates the relationship between ED or DEB and parity in early adulthood. Results indicate that women with ED or DEB have significantly higher relative risk of having three or more children compared to no children in adulthood (relative risk ratio=1.27; $p<0.05$) than un-afflicted peers, even when we account for adolescent delinquency and risky sexual behaviors. Despite fertility complications commonly associated with EDs, women with EDs or DEBs are likely to have multiple children by early adulthood. Because early parenthood changes the socioeconomic opportunities available to women, additional research is necessary to understand how EDs or DEBs may be associated with childbearing.

Paper Session 6: Romantic Relationships and Sexual Behavior**Examining Sexual Initiation Patterns and Links to Adult Relationship Histories***Gary Glick, University of North Carolina at Chapel Hill**Carolyn Halpern, coauthor*

A burgeoning research literature has begun to examine how specific characteristics of initiation into partnered sexual behavior (e.g., timing, spacing, sequencing) predict concurrent and prospective adjustment. Using restricted-use Add Health data from Waves I and IV (N = 11,991), we examined whether five distinct sexual initiation patterns, identified using Latent Class Analysis, are associated with a variety of adult relationship outcomes. Multinomial logistic regression, controlling for relevant socio-demographic covariates (e.g., race, SES, family structure), was employed in all analyses. Contrary to expectations, we found no evidence to suggest that early or atypical sexual initiation patterns are linked to potentially problematic romantic relationship histories (e.g., having a child with a non-residential partner, serial cohabitation). In contrast, postponement of sexual initiation well into adulthood and beyond statistical norms (Mage = 21.7), was associated with drastically reduced odds of reporting romantic histories that carry the most potential to disrupt other life domains. Respondents who postpone sexual initiation also may be adhering to more traditional relationship scripts (e.g., less likely to cohabit prior to marriage, fewer sleepovers at each other's residences per week) and may enter into significant relationship milestones, such as marriage, at an accelerated rate. Implications for theories of emerging adult development will be discussed.

Variability in the Accuracy of Young Men's Reports of Their Partner's Hormonal Contraceptive Use*Elizabeth Karberg, Child Trends**Jennifer Manlove, Elizabeth Wildsmith, Mindy Scott, coauthors*

Teen and unplanned pregnancy prevention efforts have expanded to focus on the role of males in contraceptive decision-making, and several evaluations rely on male reports of contraceptive use as key outcomes of interest. However, it isn't clear how accurate males are at reporting contraceptive use, particularly their female partners' use of hormonal and long-acting methods of contraception.

Men may erroneously assume their partner is using an oral contraceptive when, in fact, they are not. Alternatively, because condoms are the only method effective in protecting against STIs, it has been speculated that some women may deliberately tell their partners that they are not using hormonal contraception even when they are, in order to encourage their partners to use condoms to reduce STI risk.

The Add Health Romantic Pairs sample provides an opportunity to assess the accuracy of male reporting of female contraceptive methods. The proposed paper will examine couple-level reports of contraceptive use, comparing males who accurately report their partner's method with those who over-report or under-report female method use. We will examine whether accuracy of reporting differs by race/ethnicity, age, relationship status, relationship duration, family structure, education, and measures of relationship intimacy and commitment. All descriptive, cross tabulation, and regression analyses will be conducted separately for couples that are married, cohabiting, and outside of a union. We expect that men who are younger, unmarried (cohabiting or not in a union), have less than some college education, and are in shorter-term and less committed relationships will have less accurate reports of contraceptive use than men who are older, married, have at least some college education, and are in longer-term and more committed relationships.

Preliminary analyses suggest that nearly 20% of men inaccurately report their partner's hormonal or long-acting method use and that relationship status, relationship duration, and presence of children in the household are linked to the accuracy of male reports.

Differences in Romantic Relationship Satisfaction among Normal Weight, Overweight, and Obese Women

Caren Steinway, The Children's Hospital of Philadelphia

Felipe Garcia-Espana, David Webb, Jennifer Harding, Jennifer Culhane, Alison Hipwell, Aletha Akers, coauthors

Background: Obese adolescent and young adult women report high levels of social exclusion and sexual risk taking, suggesting poor relationship functioning. We explored whether obesity is associated with lower romantic relationship satisfaction in early adulthood.

Methods: Using Add Health Wave IV data, a 7-item outcome variable assessed satisfaction with the current or last romantic partner. Satisfaction was categorized as low, medium or high. Our predictor, self-reported weight at Wave IV, was categorized as normal, overweight, or obese using CDC guidelines. Using multivariable multinomial logistic regression, we calculated the odds of low satisfaction. Demographic (age, race, education, income), relationship characteristics (relationship type, relationship duration, number of lifetime sex partners), peer skills (number of close friends), depression, personality (extraversion, agreeableness, anger-hostility) and measures of stress were covariates.

Results: 36% of the sample was obese, 69% White, 19% African-American (AA); 52% married; mean age of 28.2. In unadjusted analyses, obese women reported lower relationship satisfaction than normal weight women [OR=0.74; 0.61-0.90]. In multivariable analyses, the association was non-significant [OR=1.07; 0.86-1.33]. Race and income appeared to drive the initial association with African American women and lower income women who were less satisfied in their relationships.

Conclusions: Race and income are important drivers of relationship satisfaction for young women. We are currently assessing if weight trajectories during the adolescent to adult transition predict relationship satisfaction.

Tuesday, June 21, 2016

Breakout Session 4

Methodology Session: Methods for Multilevel Modeling and Design Effects in Add Health

Presenter: Sharon Christ, Purdue University

This presentation provides an overview of two approaches to modeling Add Health data while correcting for the complex sample design features of the Add Health study. Multilevel and marginal modeling approaches will be discussed, including longitudinal modeling within these frameworks. Special focus will be on how to properly adjust model estimates for the complex sample design of Add Health, including applying the correct sampling weights and correcting for the non-independence (clustering) of observations. Treatment of missing data will also be touched upon due to its relationship to sample weight selection. Incorporation of contextual variables available in the Wave I, II, III, and IV Contextual files and the Wave I and III ONE files within these model types will be addressed. The pros and cons of the different modeling approaches and estimation methods will be considered in light of the Add Health design and the available weight variables.

Paper Session 7: Psychological Health

Developmental Gene-environment Interplay in Adult Antisocial Behaviors

James J. Li, University of Wisconsin–Madison

Behavioral genetic studies have indicated that aggressive and non-aggressive rule-breaking subtypes of antisocial behavior (ASB) are etiologically separable, with unique genetic and environmental risk factors that may differentially predict adult outcomes (Niv et al., 2014; Kendler, Aggen, & Patrick, 2013; Burt, 2009). Using a vantage sensitivity framework, the current investigation tests the association between aggregate genetic sensitivity scores (using additive and dominance models across candidate genes in the dopamine and serotonin

systems) with early maltreatment exposure (risk factor) and self-reported childhood family support (enrichment factor) in the prediction of Wave IV adult ASB. Preliminary results indicate that adults maltreated as children who had high genetic sensitivity scores had more antisocial behaviors than maltreated adults with lower genetic sensitivity scores. Genetic sensitivity scores did not interact with childhood family support in predicting their adult ASB. The follow-up examination investigates whether the association between maltreatment exposure and adult ASB among the high genetic sensitivity group is mediated by aggressive and/or non-aggressive rule-breaking subtypes of ASB using latent growth curve analysis of ASB items from Waves I-III. It is hypothesized that this association will be mediated by the aggressive developmental subtype of ASB, given previous behavioral genetic evidence of higher genetic influences underlying the aggressive subtype.

Crisis versus Chronic Strain Responses to Adolescent Stressors

Julie Skalamera Olson, University of Texas at Austin

Two competing models suggest that scientific understanding of the mental health risks posed to youth by stressful events might depend on the window of time in which these risks are assessed. The crisis model is characterized by an immediate mental health breakdown that is followed by recovery. The chronic strain model is characterized by enduring distress. Extant evidence suggests that mental health risks are often greatest in the immediate aftermath of a stressor experience, thereby supporting the crisis model. What needs to be explored, however, is the potentially great variability in this general pattern—particularly in terms of how the broader social contexts in which youth are embedded—shape mental health responses. The local resources that young people draw on from their families, peers, schools, and neighborhoods, may vary in important and systematic ways leading to differences in the protection from enduring mental health penalties following exposure to a stressor. In this spirit, the current study will use data from the National Longitudinal Study of Adolescent to Adult Health to test crisis versus chronic strain responses among young people. This overall goal will be accomplished by addressing three aims: 1) to identify how trajectories of mental health across the transition to adulthood vary by characteristic adolescent stressors; 2) to identify variability in young people's mental health responses to stress via growth mixture modeling; and 3) to determine how variability in mental health response to stress may be influenced by their local contexts.

Insights into Potential Biomarkers of Resilience in Adolescents

Sarah E. Underwood, Saint Louis University

Jin Huang, coauthor

Resilience has become increasingly important in social work literature. It has been linked to improved outcomes after exposure to biological illness and stressful familial events. Despite the growing importance of the construct, little data exist, specifically sources of resilience in individuals, and researchers have failed to identify specific mechanisms of resilience consistently.

A single measure of resilience was created by assessing resilient behaviors at all waves of data collection in the public use dataset of Add Health. By assessing longitudinal health markers commonly associated with resilience, resilient individuals were identified. Following the identification of resilient individuals, logistic regression was used to identify predictors of experiencing resilience.

Demographic characteristics were found to be significant predictors of resilient behavior, with minority status positively predicting resilience and gender negatively predicting resilience. Age was also found to be a positive risk factor.

Results suggest that there is a racial distinction to those individuals deemed resilient. Much of this can potentially be explained by social phenomena; C-Reactive protein levels and subclinical symptoms suggest that there is a biological function to resilience. By increasing our understanding of the relationship between inflammation and resilient outcomes, we can create better operationalizations of resilience.

Adolescent Exposure to Community Violence and Depressive Symptoms among Adolescents and Young Adults: Understanding the Effect of Mental Health Service Usage

Wan-Yi Chen, West Chester University
Yookyong Lee, coauthor

Objective: This study addresses gaps in existing literature regarding impact from exposure to community violence by assessing (1) whether sub-types of adolescent victimization are linked to depressive symptoms; (2) whether adolescent victimization is linked with mental health service use; and (3) the role of mental health service use in attenuating symptoms arising from victimizations.

Methods: Data from four waves of the National Longitudinal Study of Adolescent to Adult Health was utilized.

Results: Findings indicate adolescents witnessing community violence were more likely to experience depressive symptoms during adolescence but not during their young adulthood; direct exposure to violence during adolescence does not predict depressive symptoms in adolescence but does in adulthood. Use of mental health service mediates report of depressive symptoms for adolescents witnessing community violence.

Conclusion: The finding that direct exposure to violence during adolescence does not predict adolescent depressive symptoms, but does for adult depressive symptoms points toward a more complex etiological process whereby a cascade of risk may be activated by violence exposure that is not measurable until adulthood. This result shows the need for gateways that enable adults to access mental health services and for comparable or unique strategies for adolescents to access mental health services.

Paper Session 8: Victimization and Crime/Delinquency**Parental Incarceration and Neighborhood Attainment**

Jessica Finkeldey, Bowling Green State University

Prior studies have found that parental incarceration is related to antisocial behavior, contact with the criminal justice system, economic hardship, and residential instability, among other things. However, the majority of research on parental incarceration has focused on childhood outcomes and no prior studies have empirically tested the relationship between parental incarceration and neighborhood attainment. Thus, the current study addressed an important gap in the literature by examining how experiencing the incarceration of a parent as a minor influenced neighborhood attainment in adulthood using Waves I, III, and IV of the National Longitudinal Study of Adolescent to Adult Health (Add Health). Analyses reveal that those who experience parental incarceration live in significantly more disadvantaged areas in adulthood than those who don't experience parental incarceration, and this effect is, in part, mediated by adult statuses. Thus, the current study supports recent research that has found parental incarceration has life-long effects on children.

Trajectories of Criminal Offending: Does Timing of Transition into Parenthood Matter?

Jessica Ziegler, Bowling Green State University

Over the past thirty years, criminological research has developed a larger focus on the process of desistance from crime. Scholarship in this field has found particular life course transitions, including marriage, employment, and the military to serve as turning points in decreasing criminal involvement (Sampson and Laub 1990; Uggen 2000). The relationship between parenthood and criminal desistance, however, has produced largely mixed results, calling into question whether parenthood is related to decreases in crime (Sienneck and Osgood 2008). Prior research on parenthood and desistance has yet to fully explore whether the timing of this transition, which is one of Elder's (1994) core principles of life course research, changes the nature of criminal involvement. I use data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to examine the relationship between the timing of the transition into parenthood and both non-violent and violent criminal trajectories. Results from growth curve trajectory models illustrate that individuals who transition into parenthood during both adolescence and adulthood experience initial decreases in non-violent and violent crime, but the initial decrease in crime is diminished as time increases. Significant interactions between parenthood timing, neighborhood poverty, and gender provide evidence that adolescent transitions into parenthood are less beneficial for those

who are from impoverished neighborhoods and females. The implications and future directions for research regarding the relationship between parenthood and criminal desistance are also discussed.

A Multidimensional Analysis of Youth Assault Injury Influences

Diana F. Wilkerson, Walden University

Peter B. Anderson, coauthor

Using the Add Health Wave II restricted-use in-home data and the problem behavior theory lens, a structural equation model was conducted in this cross-sectional study to answer one question: Whether the construct of Røysamb, Rse, and Kraft's (1997) multidimensional model fitted the data explaining the relationships between assault injury and each of the 22 risk and protective variables and 3 unobserved factors (i.e., High Action, Addiction, and Protection) and among the unobserved factors and the 22 risk and protective variables. While answering the study's questions, age, sex, race, and socioeconomic status were controlled. The construct of the multidimensional model significantly explained the relationships between youth assault injury and 3 unobserved factors that researchers have failed to examine in the past decade. If health professionals would apply the findings from this study to their work, positive social change could result from reductions in youth assault injury influence on adolescents' engagement in other risk behaviors that could lead to improved lives for our youth; as well as lowered physical, emotional, and economic costs related to youth assault injury.

The Overlap of Domestic Violence across the Life Course

Amaia Iratzoqui, University of Memphis

The transmission of domestic violence is traditionally viewed within a framework of a cycle of violence, examined in terms of the connection between (1) child abuse victimization to child abuse perpetration, (2) domestic violence within the home (including victimization of the child) to the risk for subsequent violent behavior, including the perpetration of intimate partner violence, or (3) the experience of child abuse to the continued risk for victimization, both generally and within intimate relationships. The current research merges each of these three perspectives to examine the overlap of domestic violence across the life course across three waves of the Add Health data, from abuse in childhood to child abuse perpetration in adulthood, and the connection between these behaviors and adolescent dating and adult intimate partner victimization.

A Safe Place to Grow Up? Trajectories of Adolescent Violent Victimization across Neighborhood Types

Tara Warner, University of Nebraska-Lincoln

Violent victimization is concentrated among youth, and has numerous negative consequences, including increasing subsequent victimization. Although criminologists are exploring trajectories of victimization over the life course, few recognize that these trajectories do not develop in a vacuum, but unfold in a system of interacting contexts. Particularly important are neighborhood contexts, which structure the risks and opportunities to which adolescents are exposed. Drawing on life course theory and intersectionality, the current study explores victimization as a developmental process unfolding differently across types of neighborhoods. Using all four waves of Add Health in-home survey data and neighborhood compositional indicators from the Wave I Contextual and Wave I Obesity and Neighborhood Environments (ONE) databases, with gender-stratified three-level growth models, the current study examined how direct (experienced) and indirect (witnessed) violent victimization trajectories differed across neighborhood types (measured via latent class analysis), and whether such differences were explained by key risk/protective factors (e.g., school/parent attachment). Analyses illustrate an age-victimization curve and that neighborhood type affects initial levels of and age-graded change in violent victimization, suggesting that violent victimization is context specific. Victimization patterns remain unexplained (are in fact exacerbated) by individual, peer, and family factors.

Breakout Session 5

Methodology Session: Add Health Biomarker Data

Presenter: Eric 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 and V examinations. Emphasis will be placed on interpreting disseminated data in ways that are consistent with results of embedded reliability and validity studies.

Paper Session 9: Childhood Maltreatment

Resilience among Neglected Children through Young Adulthood: The Impact of Social Networks

Elizabeth Beatriz, Northeastern University

Background: With nearly 80% of child victims of maltreatment reporting neglect, neglect is the most prevalent form of child maltreatment. In 2013 there were 539,576 substantiated or indicated reports of neglect in the U.S. Neglect has both short and long term consequences including psychiatric disorder, drug use, suicidality, risk-taking behavior, poor health status, violent behavior, delinquency and criminality. However, many are resilient to such adverse outcomes. Recent studies have begun to identify factors associated with resilience. Social support by friends and family has been shown to be a protective factor for a range of outcomes, but has not been extensively studied in regards to the impact of child neglect.

Purpose: This study will identify individual-level predictors of resilience among neglected children as they grow into adulthood, with a particular emphasis on the protective impact of peer social relationships and networks.

Method: Using the National Longitudinal Study of Adolescent to Adult Health data from Waves I through IV, I will identify trajectories of depressive symptoms of the 411 participants whose parents or adult caregivers did not meet their basic needs before 6th grade and the 1,536 whose parents or other adult caregivers left them alone when an adult should have been with them. By focusing on depressive symptoms as a specific domain of resilience, I will discuss correlations between these trajectory types and the quantity and strength of peer social relationships.

Conclusion: The findings of this research will greatly add to the field of child maltreatment. By adding to the understanding of the mechanisms of how individuals who were neglected in childhood are able to avoid adverse outcomes through the life course, these findings can inform childhood neglect treatment and policy.

The Lasting Mental Health Burden of Experiencing Parental Psychological Neglect in Adolescence

Elizabeth C. Coppola, Purdue University

Sharon L. Christ, Abigail M. Johnson, coauthors

While experiences of caregiver neglect in childhood are implicated in maladaptive psychological and behavioral development, it remains understudied as a type of maltreatment, especially in adolescence. One reason for fewer studies is that neglect is difficult to observe and measure. Neglect may occur in different forms, such as physical, psychological/emotional, and supervisory. The psychological neglect subtype includes a lack of warmth, nurturance, and support from caregivers. Neglect is the most common type of child maltreatment in the US and the incidence of the psychological neglect subtype more than doubled in the US between 1993 and 2006 (ACF). For these reasons, measuring psychological caregiving, including neglect, and evaluating the role it plays in mental health is important.

We developed a measure of parental psychological caregiving that captures the full range of care, including psychological neglect, using youth reported items from Waves I and II of the Add Health study and confirmatory factor analysis. We will evaluate how psychological neglect experience in adolescence relates to psychological health trajectories throughout adolescence and into adulthood using outcomes from all waves of the Add Health study. Three domains of mental health will be simultaneously evaluated: suicide proclivity, depression, and self-

esteem. We hypothesize that psychological neglect (lack of care) in adolescence, conditioned on retrospective reports of other types of maltreatment in childhood (from Waves III and IV), will be linked to an elevated risk of suicide and depression, and lower levels of self-esteem. We also expect these negative impacts to have lasting effects into adulthood.

The Effects of Adverse Childhood Experiences on Subsequent Injury in Young Adulthood: Findings from the National Longitudinal Study of Adolescent to Adult Health

Michelle Sotero, University of Nevada, Las Vegas

The objective of this study was to examine the association between adverse childhood experiences (ACEs) in the context of family and community and the likelihood of subsequent unintentional and intentional, nonfatal injury in young adulthood (ages 24-32 years). Using a cross sectional study design, data from Waves I and IV of the National Longitudinal Study of Adolescent to Adult Health, a nationally representative sample ($n = 14,800$) was used to examine the relationship between 16 types of ACEs and a cumulative ACE score and the odds of seven injury outcomes in young adulthood. Over a third (37.6%) of young adults sustained at least one of the seven injury outcomes. Most (93.4%) participants endorsed at least one ACE type with a mean ACE score of 2.99 (SE, 0.26). Overall, child maltreatment, particularly physical abuse and emotional neglect, tended to have a strong influence on the odds of both unintentional and intentional injury as a young adult ($p < .05$). Interpersonal loss, such as a family member or friend's suicide attempt or experiencing the death of a parent tended to have a strong influence on the odds of intentional injuries ($p < .05$). With the exception of suicide attempt, we found a significant graded relationship between the number of ACE exposures and injury. For every additional ACE endorsed, the odds of injury were: Serious Injury (odds ratio (OR): 1.16), Motor Vehicle Accident (OR: 1.09), Physical IPV (OR: 1.13), Sexual IPV (OR: 1.22), Shot/Stabbed (OR: 1.16), Beaten Up (OR: 1.25). This study suggests that exposure to ACEs in childhood and adolescence are risk factors that increase the odds of subsequent injury in young adulthood.

Childhood Abuse History and Early Adulthood Health

*Ying Huang, University at Albany, State University of New York
Weihui Zhang, coauthor*

We are planning to assess the associations between childhood physical and sexual abuse experience and early adulthood health. We also want to examine the extent to which persistent depression and contemporaneous socioeconomic status would mediate this association. We have three hypotheses: 1) the frequency of childhood abuse experience is likely to be related to the severity of the health problems; 2) persistent depression mediates the later life health effect of childhood abuse; 3) individuals' current SES may partially explain the association between childhood abuse and poor health outcomes. We intend to use the publically available Add Health data from Waves I through IV. The outcome variable is self-rated health (SRH). Independent variables include respondent's experiences of physical and sexual abuse. For mediation analyses, we will use persistent depression and adult's current SES, which should be captured by a set of three indicators: the highest educational attainment, material hardship, and total taxable income in the previous year. Multivariate logistic models is determined to assess the relationship between childhood abuse experience and self-rated health, separately for sexual and physical abuse; then we will add the potential mediation variables into the base models separately. We expect to find support for the hypothesis that childhood abuse elevates risks of being in poor health through the mediation mechanism of persistent depression and adult SES.

Paper Session 10: Social Networks and Peers

Social Network Characteristics of Adolescents with Learning Disabilities

Elizabeth Humberstone, Johns Hopkins University

Previous studies suggest that peers impact adolescents' behaviors, opinions and academic achievement. While past research using Add Health network data has assessed social network influence on many adolescent subpopulations, such as those identifying as racial minorities or immigrants, little work has been done on the peer networks of adolescents with disabilities. The purpose of this study is to compare social networks of adolescents with disabilities with those without reported disabilities. The data for this study comes from the National

Longitudinal Study of Adolescent to Adult Health (Add Health) Wave I and Network Variables data sets, which will be analyzed using multilevel modeling. The dependent variables for this study include network characteristics (e.g. number of friends nominated by the participant, number of friend nominations received by the participant, participant centrality in the network) and characteristics of friends (e.g. peers reporting disabilities, academic achievement, family characteristics). The key independent variable for this study is reported disabilities, both generally and disaggregated by disability type. Control variables include: gender, race, age, GPA, and family characteristics. It is hypothesized that those reporting disabilities will face greater social isolation compared to peers without disabilities after taking into account these controls.

Extracurricular Activities and Adolescent Friendships: Do the Benefits of Participating Vary by Mental Health Indicators?

David R. Schaefer, Arizona State University
Andrea Vest Ettekal, coauthor

According to positive youth development perspectives, extracurricular activity (ECA) participation bolsters positive developmental outcomes, including friendships. Limited research suggests that ECAs may be especially helpful for adolescents who face challenges making friends. Our interest is in mental health, which is a primary indicator of risk for poor friendship outcomes, such as low peer acceptance. We use social network analysis to investigate the impact of ECAs on friendships for adolescents who vary across mental health indicators, including depression, suicidality, and self-esteem.

We use Waves I and II data from two schools in Add Health. At Wave I, adolescents reported participation (yes/no) in 30 different types of ECAs (e.g., sports, clubs). Mental health and friendships (10 closest friends) were measured in both waves. Stochastic actor-based models predicting friendship change revealed that adolescents were 1.5 times more likely to be friends if they participated in ECAs together. However, the effect of ECA co-participation on friendships did not differ by mental health. ECAs were just as likely to promote friendships among co-participants regardless of mental health status.

Next, we calculated the relative influence (RI) of model effects, which indicates how important ECAs were for friendship compared to other modeled friendship processes (e.g., reciprocity, transitivity, homophily). The relative influence of ECA co-participation varied by mental health, such that adolescents in poorer mental health were relatively less likely to select friends through ECAs than through other processes. This occurs because, for instance, 1) depressed students were less likely to join activities, and, net of participation rates 2) friendships with co-participants were less likely to be supported by other friendship mechanisms (e.g., transitivity) for depressed youth.

These findings suggest that ECA participation promoted friendship regardless of depression status, but allude that the mechanism by which ECAs promote friendship may differ for at-risk adolescents. Ongoing analyses investigate 1) how the effect of ECAs on friendships for at-risk youth differs by activity type (e.g., sports), and 2) alternative processes explaining at-risk adolescents' friendships. Our discussion highlights how the positive outcomes of ECAs may appear similar for at-risk vs. not at-risk youth, but the underlying developmental processes within ECAs likely differ.

Gender and Racial Peer Effects with Endogenous Network Formation

Xu Lin, Wayne State University

We apply a high order spatial autoregressive (SAR) model to simultaneously capture heterogeneous peer effects from multiple gender and racial groups, as well as endogenous network formation. In students' GPA and smoking behaviors, we find that within-gender endogenous effects are stronger than cross-gender effects. Females and whites are more sensitive to peer influences and more influential than other students. Intra-race spillover effects are stronger than inter-race effects for whites, but not for non-whites. For contextual effects, we show that peers' age, race and family background, but not gender composition, are relevant for both GPA and smoking behaviors. Homophily on observed and unobserved characteristics are important for friendship formation. However, the formation of friendship is not necessarily motivated by common interest in outcomes such as smoking. Our findings suggest that coeducational or desegregated schooling may help increase academic achievement, but not reduce smoking frequency.

An Exploratory Study of Sustained Friendship and Criminal Activity across the Life-Course*Kiesha Warren-Gordon, Ball State University**Michael Brown, coauthor*

Having delinquent peers is a risk factor for delinquency. Little research has been conducted that sheds light on the importance of sustained peer group relationships in understanding unlawful conduct. Peer relationships are measured at two points in time: during adolescence and early adulthood. This study explores the extent to which peer group relationships are related to unlawful behavior over the life course. The National Longitudinal Study of Adolescent to Adult Health (Add Health) dataset is used to conduct this study.

Breakout Session 6**Methodology Session: Add Health Relationship and Fertility Data**Presenter: *Bianka Reese, University of North Carolina at Chapel Hill*

This session will discuss relationship and fertility data available in Add Health Wave IV, with a 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 11: Race/Ethnicity**Trajectories of Risky Behaviors in Adolescents by Race and Ethnicity***Thomas McCoy, University of North Carolina at Greensboro**Eunhee Park, Jennifer Toller Erausquin, Robin Bartlett, coauthors*

Purpose: Adolescence is a vulnerable time for development of risky behaviors associated with disease and premature death (CDC, 2013). Behaviors such as smoking, substance use, and violence are initiated and established from adolescence to adulthood (Mahalik et al., 2013). Various risky health behaviors have different trajectories in young adulthood, and these trajectories may differ among subpopulations based on race/ethnicity (Allen, McNeely, & Orme, 2016; Chen & Jacobson, 2012; French, 2012). However, there is limited knowledge about similarities and differences in the pathways of development for various risky health behaviors, and about the role of race/ethnicity (Chen & Jacobson, 2012). In this study, trajectories of six different behaviors [tobacco, alcohol, and marijuana use; sedentary, sexual, and suicidal behaviors] will be compared by race/ethnicity.

Methods: Participants who were interviewed at all four waves from the National Longitudinal Study of Adolescent to Adult Health (Add Health) (N=9,421). All measures were based on self-report. Behavioral outcomes that will be studied include number of cigarettes smoked and days of cigarette smoking or chewing tobacco, drinking 5 or more drinks in the past year, how often getting drunk, number of hours playing video or computer games per week, number of times thinking about committing suicide and actual suicide attempts, marijuana use in past 30 days, and ever having sexual intercourse. Growth curve modeling was used to estimate behavior trajectories over time using multilevel negative binomial regression or logistic regression models.

Results: Preliminary results indicate that risk behavior development trajectories vary by the type of behavior as well as by race/ethnicity. It is expected that young adults who are white will show steep increase and then decline across the period than minority young adults. Study findings will help pinpoint critical time points for providing interventions for each behavior among the targeted subpopulations.

Racial-ethnic Disparities and Risk Factors in Latent Class Trajectories of Antisocial Behaviors*Ryann Morrison, University of Wisconsin–Madison**James Li, coauthor*

Racial-ethnic differences in the subtypes and trajectories of antisocial behavior (ASB) have been understudied. This understanding is important because racial-ethnic differences in the structure and trajectories of ASB may

yield important insights into the possibility of targeted treatments and preventions. In this exploratory study, we first conduct factor analytic models of antisocial behaviors across Wave I-III of the Add Health data for African-American and Caucasian individuals separately, and then conduct a latent class trajectory analysis of ASB factors across the waves. Given heterogeneity of ages at each wave, we will group the variables by age. Hence, ASB class trajectories will be measured from early adolescence (age 13) to early adulthood (age 25). Then, we examine potential risk factors for class trajectories using psychosocial data from Wave I, including perceived parental support (e.g., "How much do you feel that your parents care about you?") and school cohesion (e.g., "You feel like you are a part of your school"). On the basis of prior research, we hypothesize that latent class trajectories will differ between African-American and Caucasian subgroups, and that risk factors will differentially predict the trajectories for either racial-ethnic group such that individuals who receive less family support and/or experience lesser school cohesion will likely belong to the most aggressive (i.e., worst) ASB trajectory.

Mapping Fluidity, Multiplicity, and Consistency in Racial/ethnic Identification

Jiannbin Lee Shiao, University of Oregon

Research on racial identities has expanded from using personal race data as indicators of relative group salience, e.g. to estimate the average effect of being black relative to being white, to studying multiple observations of race data as indicators of diverse components of racial/ethnic experience, e.g. self-identification, perceived identity, and parental ancestry. Using the National Longitudinal Study of Adolescent to Adult Health (Add Health), I map the relative consistency of race data across observations of parent self-report, respondent self-report in adolescence (at school and at home), respondent self-report in young adulthood, and interviewer report in adolescence and young adulthood. First, I distinguish (a) the respondents whose data is singular and consistent across multiple observations from (b) those whose data show fluidity or multiplicity. Second, I compare alternative methods of assigning a single category to observation-contingent respondents (the official Add Health method, supplementation with the "best race" variable, and aggregate removal to a new category) by assessing the robustness of their associations with select personal, contextual, and social network characteristics.

Paper Session 12: Nutrition/BMI

GMM Logistic Regression Model for Obesity with Time-Dependent Covariates

Rachael Rhodes, Arizona State University

Jeffrey Wilson, Di Fang, coauthors

The prevalence of obesity is a major public health concern with its causes confounded in the fields of biology, social-economics, and psychology. The progression of obesity through time calls for special attention as there is likely a causal effect between behaviors in a prior time period and the obese outcome later. The objective of this study is to identify the prevalence and risk factors of obesity based on Add Health data in the US while accounting for feedback between obesity and its contributing factors. To this end, we employ the Add Health data (public data). The outcome measures were height and weight that were calculated into the body mass index (BMI). The BMI is then translated into a binary variable indicating whether the respondent is obese. To facilitate comparison between models, we first employed a standard logistic regression that accounted for the correlation between present covariates and future outcomes as well as present outcomes and future covariate measures. Furthermore, we accounted for the correlation inherent from the repeated measures of the adolescent as well as the correlation realized on account of the feedback created between the responses at a particular time and the predictors at other times. We then explore an alternative approach using a generalized method of moments (GMM) with time-dependent covariates while relaxing some assumptions about the feedbacks. The GMM results showed that the variables hours spent watching television, participation in vigorous physical activities, moderate physical activities and low-impact physical activities, what the children thought about their health, gender, race and time point 2 and time point 3 are significant factors of obesity. Adolescents with disadvantaged socioeconomic and community status were at higher risk of obesity. Significant community- and household-level variations were also found. Our study contributes to the existing public health literature by providing a novel approach to evaluate obesity related drivers while accounting for the feedback of such factors through time. Failing to address such feedback effects can lead to biased estimation and unfounded implications. In this sense, our study presents a more robust interpretation of the issue on obesity utilizing the longitudinal survey provided by Add Health.

Heavily Stressed?: A Longitudinal Examination of the Effect of Bodyweight Perception on Chronic Stress

Heather Covington, University of Florida

Over the past two decades, a multitude of studies have documented the adverse effects of psychosocial stress on bodyweight and adiposity (for example, see reviews by Gunderson et al. 2011, Sinha and Jastreboff 2013). However despite considerable evidence linking body size to internalized weight-based stigma, the potential role of bodyweight perception as a source of chronic stress has received scant attention. The aim of this research is to examine the effect of bodyweight perception on both perceived stress and cumulative physiological manifestations of stress.

This paper employs all four available waves of the National Longitudinal Study of Adolescent to Adult Health to document longitudinal patterns of bodyweight perception, and examine how these patterns influence both perceived stress and physiological indicators of cumulative stress (allostatic load). Using latent class analysis, we will first identify trajectories of bodyweight perception (from early adolescence to early adulthood). Next, the trajectories generated by the latent class analysis will be used as an explanatory variable in regression models to determine the impact of bodyweight perception on stress in early adulthood. We expect respondents who experience long-term dissatisfaction with their weight and those who experience recent increases in dissatisfaction to experience the most stress.

A fuller understanding of the connection between stress and bodyweight perception can inform policies and interventions intended to reduce the negative consequences of bodyweight perception and stigma-related stress, potentially helping to increase health and wellbeing for people of all body sizes.

Health Disparities from Adolescence to Early Adulthood among Individuals with Disabilities

Lindsay A. DuBois, University of Wisconsin–Madison

Maureen Durkin, coauthor

Compared to people without disabilities, individuals with disabilities experience significant health disparities. This study uses data from the National Longitudinal Study of Adolescent to Adult Health to understand the trajectories of health among individuals with disabilities compared to peers without disabilities during transition from adolescence into adulthood. In adolescence, individuals with disabilities were significantly more likely than non-disabled peers to experience poorer self-reported health, absence due to health issues, depression, and suicidal thoughts. In young adulthood, those with disabilities were also more likely to be overweight. Further, the disparities in self-reported health, depression, suicidal thoughts, and overweight increased significantly over time. These findings point to important implications about the need for and timing of interventions to reduce disparities.

Weight Misperception and Frequency of Fast Food Consumption among Overweight and Obese Adolescents in the U.S.

Silda Nikaj, Texas Christian University

Aliaksandr Amialchuk, Mir M. Ali, coauthors

The literature documents that many overweight individuals misperceive their weight status. However, little research exists on how perceptions of weight are related to eating behaviors such as fast food consumption. This paper examines whether misperception of weight status is linked to fast food consumption among overweight and obese adolescents. Using data from the National Longitudinal Study of Adolescent to Adult Health we find that underestimation of weight status is associated with increased frequency of fast food consumption. Even after accounting for actual weight, perception of weight status is an important determinant of adolescents' fast food consumption.

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