NEIGHBORHOOD AND SCHOOL CONTEXTUAL FACTORS:

LONGITUDINAL OUTCOMES IN A HIGH-POVERTY

ADOLESCENT POPULATION

by

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A THESIS

Submitted in partial fulfillment of the requirements for the
degree of Master of Science in the Department of
Human Development and Family Studies
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2013

ABSTRACT

Research framed by Bronfenbrenner's ecological systems theory, suggests that neighborhood and school contextual factors greatly influence adolescent outcomes. While this research examines the multiple contexts that impact adolescent development, missing from the literature is an assessment that uses multiple data sources. Therefore, the present study used adolescent survey, school records, and Census data to examine the effects of perceived and structural neighborhood and school factors longitudinally. Additionally, many neighborhood-level studies treat demographic variables as covariates. But since poverty can be structurally portrayed in various ways, neighborhood-level population density was included as a predictor variable.

The present study examined the effects of neighborhood and school context on adolescent achievement, attendance, and school violations. It was hypothesized that population density, perceived neighborhood connectedness, safety, and school belonging would predict poorer student academic outcomes. A linear mixed model was used for the analyses.

The study's sample came from the Mobile Youth Survey (MYS), a fourteen-year longitudinal research project conducted in the low-income and public housing neighborhoods of Mobile, Alabama. The sample was over 99% African American and participants were between the ages of 10 to 18. To assess participants longitudinally four waves of MYS data (2006-2009) were paired with subsequent academic years.

Results indicated that school context explained a greater amount of the variance in the outcome variables in comparison to neighborhood context. Results also indicated that adolescent perceptions of neighborhood connectivity predicted higher reading achievement and increased school violations. Further, higher perceptions of school belongingness predicted increased reading and math achievement and lower rates of school violations and absences. High neighborhood-level population densities predicted increased student absences. Additionally, non-African American students had higher rates of absences. Lastly, students who qualified for free lunch had more school violations.

Consistent with Bronfenbrenner's ecological systems theory, the present study highlights the importance of examining multiple contexts when assessing adolescent outcomes. The results reiterate the complex nature of adolescent development. In future MYS and neighborhood-based studies, it may be favorable to compare different school-based policies and examine the influence of adolescent peer pressure.

DEDICATION

First, I dedicate my thesis to the adolescents in Mobile and Prichard, Alabama. My thesis could not exist without their committed participation in the Mobile Youth Survey (MYS) project. I also dedicate my thesis to the MYS project, which includes all hardworking lab members, summer interns, and student volunteers. Lastly, I dedicate my thesis to my advisor, Dr. John Bolland. The MYS was his creation and it became my inspiration.

LIST OF ABBREVIATIONS AND SYMBOLS

GPA ..... Grade Point Average

MCPSS ..... Mobile County Public School System

MYS ..... Mobile Youth Survey

NC ..... Neighborhood Connectivity

NLS ..... Neighborhood-Level Safety

NS ..... Non-Significant

PD ..... Population Density

SAT ..... Stanford Achievement Test

SB ..... School Belonging

SE ..... Standard Error

SES ..... Socioeconomic Status

Y1 ..... Assessment Year One

Y2 ..... Assessment Year Two

Y3 ..... Assessment Year Three

Y4 ..... Assessment Year Four

* ..... Significant

ACKNOWLEDGMENTS

The completion of this thesis project would not have been possible without the effort and support from many individuals. I wish to thank my thesis committee members: Dr. John Bolland, Dr. Sara Tomek, and Dr. Mary Curtner-Smith. Additionally, I wish a special thanks to Dr. Bolland for the Mobile Youth Survey summer internship experience and the invitation to seek my graduate degree with his mentorship. Further, I would like to recognize Dr. Cassandra Coddington for her guidance throughout the graduate school process. I wish to thank Dr. Anneliese Bolland for editing my thesis, but more importantly, for being a supportive coworker and dear friend.

I would not be who or where I am today without the love and support from my family and friends. I wish to thank my parents, Richard Hitchcock, Jr. and Marjorie Cady Hitchcock, and brothers, Sean, Ryan, and Michael Hitchcock, for their never-ending guidance, love, and support. I wish a special thanks to my best friend—and mother—for always believing in me when I sometimes found it difficult. Additionally, I would like to thank my lifelong friend, Dr. Marissa Lepkoske, for always being there for me. Lastly, I would like to thank my boyfriend and best friend Paul, for your love, support, and endless phone calls that kept me sane. Thank you all.

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CHAPTER 1

INTRODUCTION

The study of ecology, defined as the interactive relationship between people, peers, and their environments, has led researchers to focus on the contextual factors that influence child development. Shaw and McKay (1942) developed the social disorganization theory to explain how neighborhood structural factors influence and shape community outcomes. Their theory focuses on neighborhoods plagued with poverty and crime and how these factors lead to negative outcomes, such as delinquency in children. As the application of ecological theory continued, fellow researchers further dissected the multiple components of contextual influence. Thirty years after Shaw and McKay's theory, Bronfenbrenner (1977) developed the ecological systems theory to highlight the multiple contextual components that interact to explain the complex nature of child development.

Multiple system-level interactions influence a child's behavior and developmental outcomes. The ecological model proposed by Bronfenbrenner (1977) illustrates the synergic relationships that exist in the environment of a developing child's life. Child development is influenced by a child's existence within multiple contexts, such as the microsystem levels of home, neighborhood, and school. The interactions between these microsystems create a more complex mesosystem that uniquely influences child and adolescent outcomes. Each context is nested within broader contexts, with home nested in neighborhood and neighborhood nested within school, and further within city, state, and country. Each of these contexts influence each

other; thus, the developing child is effected by his or her parents and teachers but simultaneously influences his or her home and school environment (Bronfenbrenner, 1977, 1986).

Much research exists linking neighborhood and school contextual factors to adolescent outcomes, which will be highlighted in the review of the literature below. However, what is lacking from the literature is a longitudinal approach that utilizes multiple data sources to examine both the structure of neighborhoods and schools and perceived adolescent connections to those environments. In other words, studies tend to focus on a single context or only use a single data source so that the complex nature of adolescents and their environments cannot be fully assessed. But because the present study has access to multiple forms of data (adolescent survey data, school records, and Census data), the opportunity for examining multiple contexts from various viewpoints contributes a more holistic assessment to the field.

Additionally, population density is often treated as a covariate when analyzing neighborhood-level data. But, poverty can exist in many different forms. For instance, poverty can be rural, with low rates of area-level population density, or urban, with high rates of area-level population density. In the present study, population density is treated as a predictive factor. Therefore, this study is framed with neighborhood context, socioeconomic status, population density, and school context in mind. The present study examines these connections.

Neighborhood Context

Regarding neighborhood context, the present study focuses on adolescents' perceived (a) neighborhood connectivity and (b) safety. Neighborhood connectedness can be defined as a resident's sense of belongingness to their community and the subsequent feelings of importance, shared values, and commitment between neighbors (McMillan & Chavis, 1986). Adolescent perceptions of neighborhood connectivity have been linked to positive and negative outcomes.

Positive perceptions have been associated with lower rates of neighborhood-level violence and assault (Rountree & Warner, 1999; Bellair, 2000; Markowitz, Bellair, Liska, & Liu, 2001), child maltreatment (Coulton, Korbin, Su, & Chow, 1995), and distress (Cutrona, Russell, Hessling, Brown, & Murry, 2000). Poor perceptions of neighborhood connectivity have been associated with outcomes such as adolescent depression (Aneshensel & Sucoff, 1996; Latkin & Curry, 2003) and overall fear (Perkins & Taylor, 1996).

Poor perceptions of neighborhood safety have been associated with higher incidences of adolescent mental health issues like depression, anxiety, operational defiant disorder (ODD), and conduct disorder (CD) (Aneshensel & Sucoff, 1996). Additionally, lower perceptions have been associated with increased levels of neighborhood violence (Markowitz, Bellair, Liska, & Liu, 2001; Sampson & Raudenbush, 1999).

Researchers often examine the relationship between family-level factors like poverty, ethnicity, and household characteristics with child and adolescent achievement outcomes (Alexander & Entwisle, 1989; Chase-Lansdale & Brooks-Gunn, 1995). But beyond family-level factors, research has also linked neighborhood influence and academic outcomes. Many of these studies find connections between low-income neighborhood residence and increased adolescent high school dropout rates (Crane, 1991; Brooks-Gunn, Duncan, Kelbanov, & Sealand, 1993). Further, low-income and resource-deprived neighborhoods have been predictive of student grades and overall achievement, even when controlling for family-level influence (Dornbusch, Ritter, & Steinberg, 1991; Garner & Raudenbush, 1991). Interestingly, Dornbusch and colleagues found that the connection between low-income neighborhoods and student grades was stronger for their African American participants.

Socioeconomic Status

Socioeconomic status (SES) is often examined in neighborhood-level studies. SES is a measure designed to assess a person's wealth often through the factors of income, education, and occupation (Link & Phelan, 1995). In general, measures of low SES have been linked to poor health and educational outcomes. Regarding health, SES has been identified as a fundamental predictor of disease because the social factor influences access to vital resources that influence disease detection, treatment, and outcomes. SES and health have been extensively examined and the social factor has been consistently linked to higher rates of morbidity and mortality in most diseases (Antonovsky, 1967; Illsley & Baker, 1991; Adler et al., 1994).

The relationship between SES and educational outcomes is similar to that of health; that is, it relates to access. Lower SES has been linked to lower student grade point average (GPA) (Alexander, Entwisle, & Bedinger, 1994; Dornbusch, Ritter, & Steinberg, 1991; Gonzales, Cauce, Friedman, & Mason, 1996), achievement (Entwisle, Alexander, & Olson, 1994; Alspaugh, 1991; Balli, Demo, & Wedman, 1998), and attendance (Lindsay, 1982). Additionally, researchers have found an association between neighborhood affluence and child outcomes. More specifically, the presence of affluent neighbors was associated with higher childhood IQ and the presence of low-income neighbors was related to increased rates of child externalizing behaviors, such as destruction of property and negative attitude (Duncan, Brooks-Gunn, & Klebanov, 1994). Further, extremely low SES has been linked to neighborhood-level violent crime (Peterson, et al., 2000), victimization (Veysey & Messner, 1999), and lower rates of social cohesion (Steptoe & Feldman, 2001).

SES may prove to be a difficult measure to attain since there are multiple components. Researchers seldom measure all factors of SES, which can lead to residential confounding which

can then lead to biased results. The present study is based on a sample that is reasonably homogeneous in regards to SES, which allows the effects of most demographic SES factors to be controlled, with one notable exception: population density. Population density is not controlled for because poverty (low SES) can be rural (low population density) or urban (high population density). Therefore, the present study examines the effects of neighborhood population density on the adolescent outcomes, while controlling for other SES demographic measures (gender, race, and individual SES).

Population Density

Population density is a measure that is commonly used to identify the number of people living in a designated area, which is often delineated in the research by Census tract coverage (Coulton, Korbin, & Su, 1996). While seemingly unrelated, it is worth describing some research on population density that has been conducted with incarcerated populations. Overcrowding in incarcerated populations has been linked to increased disciplinary infractions, psychiatric commitment, suicide, and mortality (Paulus, McCain, & Cox 1981; Cox, Paulus, & McCain, 1984; Gaes & McGuire, 1985). Population density has also been studied in the contexts of home, daycare, and collegiate environments. Densely populated daycare centers have been linked to poor child behavioral outcomes, achievement (Maxwell, 1996), increased communicable illnesses (Hurwitz, Gunn, Pinsky, & Schonberger, 1991), and social withdrawal (Liddell & Kruger, 1989; Evans, Bullinger, & Hygge, 1998). Similarly in college environments, high residential dormitory populations have been associated to lower academic achievement and increased visits to the student health center (Stokols, Ohlig, & Resnick, 1978; Baron, Mandel, Adams, & Griffen, 1976; Mullen & Felleman, 1990).

An ecological perspective on residential crowding suggests that low SES households are more likely to be highly geographically concentrated or more densely populated, which leaves residents with increased risk and exposure to environmental stressors (Evans & Saegert, 2000). In neighborhood settings, high population densities have been associated with increased rates of chaos, violence, robbery, and even homicide (Evans & Saegert; Morenoff, Sampson, & Raudenbush, 2001). Additionally, higher population densities have shown adverse outcomes in child achievement (Evans & Saegert), psychological distress (Evans, Lercher, Meis, Ising, & Kofler, 2001; Rutter, Yule, Quinton, Rowlands, Yule, & Berger, 1974), and negative behavioral outcomes in school (Booth & Johnson, 1975; Evans, Lercher, & Kofler, 2002).

School Context

As previously mentioned, Bronfenbrenner's ecological systems theory not only focuses on the neighborhood context, but also attributes developmental outcomes to other influential environments, such as school. One could postulate, a child's residence influences the school he or she attends, and the quality of this school ultimately impacts his or her academic achievement (Cunningham & MacDonald, 2012). Further, research shows that minority populations are more likely to reside in high-poverty neighborhoods served by low-quality schools (Galvez, 2010; Newman & Schnare, 1997; Orfield & Lee, 2005). Subsequently, schools serving the poorest students have the lowest overall Standard Achievement Test (SAT) scores and the scores remain low over time (USDOE, 2001). Moreover, students who attend high-poverty schools and who receive free or reduced-cost lunch consistently score lower on achievement than their more economically advantaged classmates (USDOE; NCES, 2011a; NCES, 2011b; Caldas & Bankston, 1997).

The present study focuses on the influence of perceived school belonging and how this contextual factor predicts student academic outcomes. School belonging is identified by a students' perceived sense of membership in their school community (Goodenow, 1993). School belonging also includes how a child perceives the interactions among other students, teachers, and staff. Perceived belongingness can also be described as experiencing a welcoming school environment, respect, and value from teachers and peers (Goodenow; Finn, 1989). Perceptions of school belonging have been linked to academic outcomes in adolescents (Goodenow; Finn, 1989; Finn, 1992). Research also has indicated that "at-risk adolescents" (low-SES, minority, and English as a second language), had lower perceptions of school belongingness and subsequently higher dropout rates (Finn, 1992).

In short, research framed by Bronfenbrenner's ecological systems theory, suggests that neighborhood and school contextual factors greatly influence adolescent outcomes. This research also highlights that increased risk factors, such as low SES and high population densities, lead to poor developmental consequences. While this research examines the multiple contexts that impact child and adolescent development, missing from the literature is an assessment that uses multiple data sources in neighborhood and school assessment. Therefore, the present study used multiple data sources to examine the effects of perceived and structural neighborhood and school factors longitudinally.

The purpose of the present study is to examine the association between the neighborhoods students live in and the schools they are required to attend and the effects of neighborhood and school context on achievement, attendance, and school violations. It is hypothesized that neighborhood-level SES predicts poorer student outcomes (i.e., lower achievement, increased school absences, and more school violations). Additionally, it is

hypothesized that low levels of neighborhood connectedness, safety, and attachment to school also predict poorer student outcomes. To determine the results, in this study, neighborhoods are nested within school so that student differences can be seen in the outcome variables. This nesting creates an examination of differences by neighborhood, suggesting significant neighborhood influence.

CHAPTER 2

METHODOLOGY

Before discussing the present study's assessment, it is important to fully describe the data used in this study. First, a description of the Mobile Youth Survey (MYS) will be presented. Then, because neighborhood has been operationalized in different ways, which influences study results, it is important to address how neighborhood is measured. Finally, a description of the data sources, subject population, and statistical technique are presented.

Study Background

The MYS is a fourteen-year longitudinal research project conducted between 1998 to 2011 in the low-income and public housing neighborhoods of Mobile and Prichard, Alabama. The MYS project examines how neighborhood context impacts adolescent risk, behavior, relationships, and developmental outcomes. The population demographics for this at-risk group include target neighborhoods selected based on the lowest median household income of the Mobile metropolitan statistical area (MSA) (Bolland, 2007). The 1990 Census data nationally ranked Mobile third in their measure of concentrated poverty, with 42% of all African Americans residing in high-poverty Census tracts (Jargowsky, 1997). The target neighborhoods for MYS participation in Mobile and Prichard are 95% African American. Both public housing and non-public housing low-income neighborhoods participated in the MYS, with participation coming from 48 targeted neighborhoods.

Consistent with Bronfenbrenner's ecological systems theory, the MYS project assesses a participant's developmental trajectory over time and in various settings. This approach allows

for the examination of multiple influential impacts on a child's life and their subsequent behavioral outcomes. Further, the MYS longitudinally examines adolescents, allowing researchers to study the participants' specific normative and non-normative developmental changes. In addition to the self-reported data collected from the MYS, the project utilizes other data sources, such as school records and Census data, which allow researchers to further examine the different contextual influences and developmental outcomes of socioeconomically disadvantaged adolescents.

The MYS data collection process consisted of subject recruitment and survey-site administration. These tasks were carried out by trained MYS interns. Inclusion criteria for MYS participation consisted of age and address requirements. Participants had to be between the ages of ten and eighteen, reside in a MYS target neighborhood, and have parental consent. Subjects were recruited through previous participation records and Mobile County Public School System (MCPSS) addresses. The MYS survey administration took place at easily accessible local community sites. The survey consisted of 408[1] questions and focused on the adolescent's feelings and experiences with their neighborhood, school, risky behaviors, and hopes for the future (Bolland, 2007). The surveys were administered in paper-pencil format and were read aloud by MYS interns matching the speed of participants. The total survey time lasted from an hour to an hour and half and subjects were compensated fifteen dollars for their time and participation.

[1] The 1998-2004 MYS survey consisted of 294 questions. A supplement survey was introduced in 2005 to examine new survey questions, resulting in a 406-question survey in 2006. Two additional questions were added in 2009. The present study is based on both the 2006 and 2009 format

Measuring Neighborhood

When conducting neighborhood-based research it is important to address how "neighborhood" is measured. Variations exist in the literature on how researchers define, operationalize, and examine neighborhood (Coulton, Korbin, & Su, 1996; Leventhal & Brooks-Gunn, 2000). Three main approaches have been identified by researchers: phenomenological, social interaction mapping, and standardized statistical measurements. The phenomenological approach delineates neighborhood based on residential attributes and perceptions (Coulton, Korbin, & Su; Galster, 1992; Korbin & Coulton, 1994). Unfortunately, resident consensus is more likely reached in neighborhoods with high levels of community identity or attachment, which makes examining the concept of neighborhood in areas with low levels of these characteristics more difficult (Galster).

A second approach focuses on the technique of social interaction mapping. This process consists of mapping resident interactions on a spatial grid to identify a measure of "neighborhood" (Coulton, Korbin, & Su, 1996; Entwisle, 1991). This method, however, potentially focuses more on interactional patterns rather than a neighborhood's makeup. Essentially, interactional patterns and the demographic characteristics of neighborhood residents are two separate measures (Coulton, Korbin, & Su).

Finally, a third approach uses standardized statistical measurements, such as Census tracts and zip codes (Coulton, Korbin, & Su; Tienda, 1991). Many researchers who examine neighborhood effects favor this method for its quantitative nature. But, the delineation of neighborhood by these statistical measures may not fully grasp a neighborhood's meaningfulness to its residents (Tienda). Further, in regards to Census tracts, critics have often noted that the

identified neighborhoods may be too expansive geographically, which can overestimate resident perceptions of neighborhood boundaries.

The present study implemented the phenomenological and standardized statistical measurement approaches to examine neighborhood more holistically. Phenomenologically, there is an examination of adolescent perceptions of neighborhood connectivity, safety, and school belonging. Next, the standardized statistical measurements of Census tract data and neighborhood population density were used. The Census tract data were used to assign participants to a specific MYS neighborhood and population density was used to ascertain area-level SES. The aforementioned measures are more fully described in the following data sources section.

Data Sources

The present study assessed adolescents with survey, Census, and school record data. The study examined MYS data from 2006 to 2009. These specific years were selected because the 2006 MYS was the first survey year to implement the school belonging scale. Additionally, MCPSS records were used up until 2010 when the school system changed their management information system to a new format that altered the way the records were organized in comparison to previous years.

The MCPSS records were used to identify participants and measure race, gender, school lunch qualification status, and grade. MCPSS records were also used to measure the outcome variables: reading achievement, math achievement, school violations, and absences. The 2000 Census Bureau data were used to measure neighborhood population density. Scales from the MYS assessing neighborhood connectedness and school belonging were also used. Additionally,

a MYS question measuring perception of neighborhood-level safety was used. A list of these scale items can be found in Appendix A.

Measures

Demographic Variables

First, participants in this study were identified by their MYS personal identification (PID) number. The participants' PIDs were then linked to their MCPSS identification numbers through a process of linking addresses, age, race, and other identifying measures. Neighborhood affiliation was identified by the participants' self-reported address on the MYS. Neighborhoods were defined by physical boundaries. The MCPSS records identified school affiliation.

As previously stated, the demographic measures of student grade, gender, race, and school lunch status were gathered from the MCPSS records. Student grades ranged from first to twelfth and were recorded with the corresponding numerical grade by the school system. The MCPSS coded gender as male (M) or female (F). The present study re-coded males as "0" and females as "1." Further, race was coded as Black (B), White (W), Asian (A), or Hispanic (H). Because the majority of MYS participants are African American, this variable was recoded to Non-African American (NA = 0) or African American (A = 1). When student grade, gender, or race were not reported by the MCPSS records, the values were treated as missing.

School lunch qualification status (free, reduced, or paid) was used as a family-level measure of participant SES (Caldas & Bankston, 1997; Ensminger, et al., 2000). Student school lunch status was originally coded as paid (P), reduced (R), or free (F) in the schools files. These variables were re-coded as Left Blank or Paid (LB/P = 0), Reduced (R = 1), or Free (F = 2). The students who did not have a form filled out for school lunch status were indicated as "Left Blank" and grouped with "Paid" lunch status students. This was done because these students did

not seek the opportunity to receive free or reduced-cost lunch indicating that they may have not needed it.

Predictor Variables

Neighborhood population density was used to ascertain neighborhood-level SES (Baquet, Horm, Gibbs, & Greenwald, 1991; Jenkins, 1983). Baquet and colleagues calculated population density based on Census tract data and used the measure to evaluate area-level SES. The same method was used in this present study to measure neighborhood-level SES. This measure was calculated for each neighborhood based on the 2000 Census data.

Two MYS scales and one specific question were included for analyses. The neighborhood connectedness scale (Glynn, 1981; Perkins, Florin, Rich, Wandersman, & Chavis, 1990) is composed of 11 items that measure a participant's perceived connection to his or her neighborhood. An example item is, "I feel I am an important part of my neighborhood." For response, participants chose between answer choices of "Agree" or "Disagree." A scale score ranges from 0 to 11, with 11 indicating the highest sense of neighborhood connectivity.

The MYS school belonging scale is composed of 8 items that measure a participant's perceived school belonging and membership in the school environment. The scale is adapted from the attachment to school scale (Goodenow, 1993). An example item is, "It is hard for people like me to be accepted at my school." Answer choices for this scale include "Agree," "Disagree," or "I wasn't in school last year." A scale score ranges from 0 to 8, with 8 indicating the highest sense of school belongingness.

Lastly, a MYS question on neighborhood safety was included to assess how safe the participants felt in their neighborhood. The question asked, "How much of the time do you feel unsafe in your neighborhood?" The answer choices for this question were: "Never,"

"Sometimes," "Most of the time, but not all the time," and "All the time." All survey questions can be found in Appendix A.

Outcome Variables

As previously stated, all outcome variables come from the MCPSS records. All students with MCPSS records and who participated in the MYS between 2006 and 2009 were included in the analyses for student school violations and absences. Records for student absences in the 2009-2010 academic year were not analyzed because the files obtained from the school system were incomplete. Therefore, only three waves of data were assessed for absences, whereas four waves were examined for achievement and violations.

Reading and math achievement were measured from scores on the Stanford Achievement Test (SAT). This examination is given annually to students in grades three through eight (Pearson, 2012). Therefore, the achievement variables are only based on students who qualified for and took the SAT. While, there are several scores reported by the SAT (e.g., raw scores, percentile ranks), the present study used only percentile ranks as a measurement of achievement. The subject matter of each exam reflects the specific reading and math material taught in each particular grade. Measures of the absences and student school violations consisted of total counts for each academic year. School violations were not weighted, but equally counted, and ranged from uniform violations to tardiness to bringing a weapon to school. Here, a formal citation of a violation of school rules and policies indicates a propensity for disobedience.

Sample

The MYS population consists of over 12,000 participants from fourteen waves of data collected from 1998-2011. Participants reside in the low-income and public housing neighborhoods of Mobile and Prichard, Alabama. Also, although 95% of the target population is

African American, over 99% of the sample is African American or mixed race (Bolland, 2007). To assess participants longitudinally four waves of MYS data (2006-2009) paired with subsequent academic years were examined.

Analytical Approach

The present study examined four waves of MYS data from 2006 to 2009. For MYS/MCPSS correspondence by year, please refer to Table 1 at the end of this chapter. In the MCPSS multiple neighborhoods feed into specific schools. However, the correspondence is not complete, so neighborhoods cannot be treated as nested within schools. Moreover, since adolescents move from neighborhood to neighborhood and from school to school, respondents cannot be nested within either neighborhood or school.

To determine the relationships between the independent variables (neighborhood-level SES, neighborhood connectedness, neighborhood safety, school belonging) and the school outcome variables (achievement, absences, and school violations), a linear mixed model (Singer, 1998) was used. The linear mixed model considers the present study's three sources of clustering: repeated measures, school, and neighborhood. The present study treated neighborhood and school as random effects and neighborhood population density, neighborhood connectivity, neighborhood safety, and school belonging as fixed effects. All clustered effects are treated as random effects.

Table 1

MYS/MCPSS Correspondence

	Wave	MYS	MCPSS
Y1	9	2006	2006-2007
Y2	10	2007	2007-2008
Y3	11	2008	2008-2009
Y4	12	2009	2009-2010

CHAPTER THREE

RESULTS

In the present study, four years of data (i.e., MYS paired with MCPSS data) were examined, with demographic variables (i.e., gender, race, school lunch status, and grade) controlled for. In this chapter, the results are presented for all outcome variables.

Description of the Sample

The overall sample size for the present study was 3,394. Reflecting the total number of observations across the four years of data for achievement and school violations, and the three years of data for absences, the number observations for each outcome variable varies slightly from the overall sample size, 2,559 for reading achievement (M = 35.51, SD = 24.22); 2,553 for math achievement (M = 40.42, SD = 24.90); 5,077 for student school violations (M = 9.90, SD = 9.76); and 5,095 for absences (M = 28.44, SD = 23.62). The total numbers of observations include repeated measures. Due to the longitudinal nature of the study, many participants had multiple achievement scores, absence counts, and school violation counts. Please refer to Table 2 at the end of this section for the total number of participants for each outcome variable by year. The achievement percentile ranks for both reading and math ranged from 1 to 99 over the four years. Additionally, the annual school violation counts ranged from 0 to 105 over the four years, and the annual absence counts ranged from 0 to 164 over the three years.

The sample's demographic statistics on gender, race, school lunch status, and grade are provided by year in Tables 3-6.

Gender

Participant gender was assessed in all four years. For reference, please see Table 2 at the end of this section. Gender was fairly evenly distributed in Y2 (M = 50.2%, F = 49.8%) and Y4 (M = 50.5%, F = 49.5%). Males had a slightly higher participation rate in Y1 (M = 52.0%, F = 48.0%) and Y3 (M = 51.2%, F = 48.8%).

Race

Participant race was recorded each year in the school records. For reference, please see Table 3 at the end of this section. As previously described, race was dichotomized: African American or Non-African American. In all four years, African American participants made up a very large majority of the sample: Y1 (A = 99.9%, NA = .1%), Y2 (A = 99.7%, NA = .3%), Y3 (A = 99.6%, NA = .4%), and Y4 (A = 99.6%, NA = .4%).

School Lunch Status

Participant school lunch status was recorded each year in the school records. For reference, please see Table 4 at the end of this section. As previously explained, paid and unfilled-out lunch records were grouped together into one variable. A large majority of participants received free lunch status (Y1 = 86.5%, Y2 = 91.8%, Y3 = 84.5%, Y4 = 86.1%), followed by paid (Y1 = 11.3%, Y2 = 6.3%, Y3 = 13.7%, Y4 = 12.3%), and reduced (Y1 = 2.2%, Y2 = 1.9%, Y3 = 1.7%, Y4 = 1.6%).

Grade

Participant grade was recorded each year in the school records. For reference, please see Table 5 at the end of this section. Participant grade ranged from grade one through twelve across all four years of data: Y1 (M = 8.05, SD = 2.07), Y2 (M = 7.97, SD = 2.09), Y3 (M = 8.37, SD = 2.22), and Y4 (M = 8.89, SD = 2.06).

Table 2

Total Number of Participants by Year

	Year			
	1	2	3	4
Reading Achievement	882	1,062	1,091	1,175
Math Achievement	883	1,056	1,085	1,174
School Violations	1,811	2,014	2,071	2,082
Absences	1,685	1,991	2,235	---

Table 3

Sample Size: Gender

	Year			
	1	2	3	4
Male	970	1,116	1,321	1,362
Female	894	1,107	1,258	1,336
Total	1,864	2,223	2,579	2,698
Missing	487	865	300	512

Table 4

Sample Size: Race

	Year			
	1	2	3	4
African American	1,856	2,216	2,576	2,695
Non-African American	2	6	11	11

Total	1,858	2,222	2,587	2,706
Missing	483	866	292	504

Table 5

Sample Size: School Lunch Status

	Year			
	1	2	3	4
Paid or Left Blank	210	139	379	329
Reduced	40	42	48	44
Free	1,608	2,020	2,334	2,308
Total	1,858	2,201	2,761	2,681
Missing	493	887	118	529

Table 6

Sample Size: Grade

	Year			
	1	2	3	4
Total	1,822	2,060	2,650	2,503
Missing	529	1,028	310	707
Mean	8.05	7.97	8.37	8.89
Standard Deviation	2.07	2.09	2.22	2.06

Random Effects

Participant neighborhood and school were treated as random effects. All 48 neighborhoods had participants present for analysis in each of the assessment years. The amount of variance explained by neighborhood was 0.67 percent for reading achievement, 0.95 percent for math achievement, 0.63 percent for student school violations, and 0.35 percent for student absences. There were 52 different schools in Y1, 46 in Y2, 68 in Y3, and 61 in Y4. The amount of variance explained by school was 9.7 percent for reading achievement, 13.4 percent for math achievement, 29.4 percent for student school violations, and 15.0 percent for student absences.

Fixed Effects

The results for both research questions that examine the effects of population density, neighborhood connectivity, neighborhood safety, and school belongingness are described below and can be found in Tables 6-13. An additional table displaying all results by outcome variables can be found in Appendix B.

Research Question One

For review, the first research question asked: does neighborhood-level SES predict adolescent school outcomes (achievement, absences, and school violations)?

Population density. Population density was used to measure neighborhood-level poverty. The population density measures ranged from 340 to 18,300 people per square mile (M = 5,292.79, SD = 2,743.05) over the four years. Population density was found to predict only student absences. More specifically, as neighborhood population density increased, student absences also increased (b = .0006, $t(64.4) = 3.17$, p = .002). For additional population density results please refer to Table 6 at the end of this section.

Research Question Two

For review, the second research asked: do adolescent perceptions of neighborhood connectivity, neighborhood safety, and school belonging predict adolescent school outcomes (achievement, absences, and school violations)?

Neighborhood connectivity. Measures of neighborhood connectivity raged from 0 to 11, with 11 indicating the highest value of neighborhood connectivity (M = 8.86, SD = 2.43). The results indicated students with higher perceptions of neighborhood connectedness scored significantly higher in reading achievement (b = .62, t(2,544) = 3.19, p = .0014); students with higher perceptions of neighborhood connectedness also trended toward higher math achievement (b = .32, t(2,311) = 1.77, p = .0766). Further, students with higher perceptions of neighborhood connectedness had higher rates of school violations (b = .18, t(5,177) = 3.73, p = .0002). For additional neighborhood connectivity results, please refer to Table 7 at the end of this section.

Neighborhood safety. Neighborhood safety was assessed with one MYS question. Neighborhood safety did not significantly predict any of the outcome variables. For all neighborhood safety results, please refer to Table 8 at the end of this section.

School belonging. Measures of school belonging ranged from 0 to 8, with 8 indicating the highest value of perceived school belongingness (M = 6.28, SD = 1.71). The results indicated that students with greater perceptions of school belongingness scored significantly higher in reading (b = 1.58, t(2,529) = 5.74, p < .0001) and math (b = 1.63, t(2,271) = 6.25, p < .0001) achievement. Further, students with greater perceptions of school belongingness had lower rates of school violations (b = -.38, t(5,143) = -5.31, p < .0001). Finally, as perceived school belonging increased, student absences decreased (b = -.69, t(4,910) = -3.81, p = .0001). For all school belonging results, please refer to Table 9 at the end of this section.

Table 7

Neighborhood Population Density

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	-5.4E-6	.000284	91.8	-.02	.9849[NS]
Math	8.39E-6	.000296	75.3	.03	.9775[NS]
School Violations	.000037	.000089	53.5	.42	.6759[NS]
Absences	.000691	.000218	64.4	3.17	.0023[*]

Table 8

Neighborhood Connectivity

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	.6239	.1953	2,544	3.19	.0014[*]
Math	.3290	.1857	2,311	1.77	.0766[NS]
School Violations	.1828	.04898	5,177	3.73	.0002[*]
Absences	-.08836	.1240	5,010	-.71	.4761[NS]

Table 9

Neighborhood Safety

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	-.2486	.4213	2,480	-.59	.5551[NS]
Math	.06576	.3985	2,189	.17	.8689[NS]
School Violations	.001045	.1149	5,128	.01	.9927[NS]
Absences	-.3661	.2895	4,798	-1.26	.2061[NS]

Table 10

School Belonging

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	1.5803	.2753	2,529	5.74	<.0001*
Math	1.6314	.2610	2,271	6.25	<.0001*
School Violations	-.3844	.07239	5,143	-5.31	<.0001*
Absences	-.6975	.1830	4,910	-3.81	.0001*

Demographic Results

The following results describe the significant relationships between the covariates and the outcome variables (reading achievement, math achievement, school violations, and absences) over the four years of assessment. For all covariate results, please refer to Tables 9 through 12 at the end of this section. Regarding gender, females scored significantly higher than males in both reading (b = 6.13, t(1,772) = 6.21, p < .0001) and math achievement (b = 4.70, t(1,786) = 4.62, p < .0001). Additionally, school violations were significantly higher in males compared to females (b = -1.95, t(3,297) = -7.63, p < .0001). Concerning participant race, non-African American students had a significantly higher rate of absences than African American students (b = -5.87, t(5,172) = -2.00, p = .0451). Regarding school lunch status, students who were recipients of free lunch had more school violations (b = .7616, t(5,069) = 3.44, p = .0006) than all other students. Further, as student grade increased, both reading (b = -1.00, t(930) = -2.04, p = .0420) and math achievement (b = -2.63, t(1,493) = -5.51, p < .0001) decreased. Also, as student grade increased, school violation counts decreased (b = -.89, t(3,174) = -7.66, p < .0001).

Table 11

Gender

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	6.1360	0.98888	1,772	6.21	<.0001*
Math	4.7069	1.0183	1,786	4.62	<.0001*
School Violations	-1.9563	0.2563	3,297	-7.63	<.0001*
Absences	-1.0470	0.7016	3,194	-1.49	.1357NS

Table 12

Race

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	.1982	3.8243	2,269	.05	.9587NS
Math	-3.7245	3.8692	2,095	-.96	.3359NS
School Violations	-1.7747	1.1571	5,148	-1.53	.1252NS
Absences	-5.8766	2.9326	5,172	-2.00	.0451*

Table 13

School Lunch Status

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	.5425	1.2522	2,632	.43	.6649NS
Math	-1.1990	1.2095	2,568	-.99	.3216NS
School Violations	.7616	.2211	5,069	3.44	.0006*
Absences	.01466	.5801	5,202	.03	.9798NS

Table 14

Grade

Variable	Estimate	Standard Error	DF	*t*	*p*
Reading	-1.0076	.4948	930	-2.04	.0420*
Math	-2.6340	.4783	1,493	-5.51	<.0001*
School Violations	-.8914	.1164	3,174	-7.66	<.0001*
Absences	.3227	.2822	1,677	1.14	.2530NS

CHAPTER 4

DISCUSSION

The present study longitudinally examined the contexts of neighborhood and school and the influence of these environments on adolescent academic outcomes. Various data sources were used to attain a more holistic contextual assessment. Additionally, the use of a predictor variable from one data source and an outcome variable from another not only strengthened the holistic nature of the study, but also helped to eliminate the potential for common method variance that may confound other studies. The present study used survey, school record, and Census data. The data sources provided both structural and perceptual neighborhood and school measures to fully assess participants.

The structural and perceptual neighborhood measures identified different predictive outcomes. Area-level population density was used as a structural neighborhood measure and only significantly predicted student school absences, whereas the phenomenological measure of neighborhood connectivity was predictive of reading achievement and school violations. This finding shows that different assessment techniques measuring the same context can yield different results. Therefore, operationalizing variables, like neighborhood context, with different approaches can better explain the complexity of adolescent developmental outcomes.

The random effects showed that school environment explained a substantial amount of the variance in the outcome variables. This result was expected because the outcome variables reflect school-based circumstances, which may be influenced by school composition and school policy. Although expected, it is definitely worth mentioning that school explained almost thirty

percent of the variance in school violations. This is a very large and substantial amount that suggests that student violations are not simply based on a student's behavior, but largely by the school he or she attends. To illustrate further, the following example is provided. Each school has and enforces its own student policies and school rules. Therefore since policies differ between schools, it makes sense that student school violations would vary between schools as well. It would be interesting to compare MCPSS school policies and rule handbooks to see if school strictness and enforcement could potentially impact significant differences between schools and student violations.

At first glance the neighborhood random effects seem very low. But, even after controlling for school effects there was still a modest and potentially important level of variance explained by neighborhood. This interpretation is based on Duncan and Raudenbush's (2001) evaluation of neighborhood explained variance. The researchers suggest that explained neighborhood variance, even if very low, can still have an important impact on study results. Duncan and Raudenbush suggest that in order to have a large amount of neighborhood variance researchers would need to examine multiple neighborhood types. Even though the present study assessed 48 different MYS neighborhoods, these neighborhoods may be too similar in neighborhood and family-level characteristics to show large effect sizes in the outcome variables. More specifically, even though there are population density differences between MYS neighborhoods there are still many shared characteristics, such as race and family-level SES.

The analysis on school belonging examined a school-based variable and subsequent academic outcomes. Therefore, the fact that school belonging significantly predicted all outcome variables is not too surprising. A high sense of school belonging was found to be predictive of higher math and reading achievement, as well as lower rates of student school

violations and absences. These results coincide with the literature (Goodenow, 1993; Finn, 1989; Finn, 1992).

It is also worth mentioning that the sample's mean for school belonging (M = 6.28, SD = 1.71) was comparable to Goodenow's (1993) original assessment (M = 3.80, SD = .75). The present study's school belonging scale included eight items with a maximum value of eight, whereas Goodenow's included five items with a maximum value of five. What is interesting is that Goodenow's original assessment included a sample of mainly Caucasian, middle class, middle school students. The present study's population demographics are very different, but the results are still comparable. So potentially, there may not be as much demographic influence of race and income on a student's perceived school belonging as Finn (1992) concluded. Or maybe since the present study's sample was fairly homogenous in race and SES, like Goodenow's sample, the low-income and minority risk factors that Finn identified may not be as pertinent.

The fact that overall average of student school absences was twenty-eight days is also worth highlighting. As previously mentioned, student absences ranged from 0 to 164 over the three years. The presence a few student outliers with very high absence rates caused the overall average to be greatly inflated. The modes for the student absences over the three years were: four absences in the 2006-2007 academic year, seven absences in the 2007-2008 academic year, and nine absences in the 2008-2009 academic year. These values seem more reasonable. But in reality, twenty-eight days (or basically a month) was the average for the present study.

The present study's unexpected findings mostly occurred when examining neighborhood context. First, results indicated that higher population densities predicted increased student absences. It is logical to think that buses would transport students to school, especially if they

lived in highly dense neighborhoods. But, higher population densities also could suggest a presence of increased peer pressure to potentially skip school.

Second, higher perceptions of neighborhood connectedness predicted increased student school violations. An explanation for this finding may suggest that as neighborhood connectedness increased so did peer influence. Further, peer influence may be gang related. For example, if gangs are prevalent in a certain neighborhood an individual may have a strong connectivity to this neighborhood based on their gang membership. This individual may experience peer pressure to engage in deviant behaviors. But, neighborhood connectedness also predicted higher reading achievement. This could potentially suggest that any neighborhood-based connection—whether good or bad—could positively influence adolescent cognitive functioning and therefore reading achievement. Finally, significant results were not found for perceived neighborhood safety and the outcome variables.

Interestingly, the results also indicated that positive school influence predicted favorable student outcomes, whereas positive neighborhood influence actually predicted some unfavorable school outcomes. Adolescents who had high levels of perceived school belonging had greater reading and math achievement, as well as lower rates of student school violations and absences. All significant school belonging outcomes led to favorable adolescent outcomes. Inversely, neighborhood population density and perceived neighborhood connectedness predicted more unfavorable than favorable adolescent outcomes. More specifically, as neighborhood population density increased student absences also increased. Additionally as perceived neighborhood connectivity increased, reading achievement did increase, but school violations increased as well. Further research and analyses may shed light onto why neighborhood-level factors, especially a positive variable like neighborhood connectedness, led to unfavorable academic outcomes.

Moreover, examining the correlation between school belonging and neighborhood connectedness would also be an additional and interesting future step.

The present study also supported the notion that population density is an important neighborhood-level measure in its own right. In other words, the neighborhood-level factor is often lumped together as a demographic SES covariate with race, family income, and education-level. But even though the low-income target population is very homogenous in regard to SES, there is variability in the measure of population density. This variability shows that poverty can be rural, with low measures of population density, or urban, with high measures of population density.

It is also worth highlighting an interesting demographic finding. The demographic findings on participant race indicated that non-African American students had significantly higher rates of absences compared to African American students. This finding coincides with a previous MYS study that examined adolescent race and risk behavior. The study found that Caucasian and mixed-race adolescents had higher rates of risky behavior in comparison to the African American adolescents (Bolland, Bryant, Lian, McCallum, Vazsonyi, & Barth, 2007).

The present study did have limitations, which may have impacted findings. The Stanford Achievement Test (SAT) was used to measure student reading and math achievement. But, this annual state test is only given to students in grades three through eight. Therefore, student achievement could not be assessed in all participants. Further, the present study was only able to assess student absences in three out of the four years. The MCPSS 2009-2010 attendance file was incomplete and could not be used. Regarding the MYS, it would have been favorable to assess the sample over the entire fourteen-years. This could not be completed for all variables because the school belonging scale was only added to the MYS in 2006. Moreover, unlike the

neighborhood connectivity and school belonging scales, the neighborhood safety variable was only measured with one MYS question. Additionally, no significant results were found between neighborhood safety and adolescent academic outcomes. Results may have differed if the MYS had a scale like the neighborhood connectivity or school belonging scales that assessed multiple survey-level questions. Finally, a complete nesting of neighborhood within school was not possible because students change residence and school and not all neighborhoods feed directly into one specific school.

Consistent with Bronfenbrenner's ecological systems theory, the present study highlights the importance of examining multiple contexts when assessing adolescent outcomes. The present study's results reiterate the complex nature of adolescent development. In future MYS and neighborhood-based studies, it may be favorable to a) compare the different MCPSS school-based policies, b) examine the influence of adolescent peer pressure, and c) un-dichotomize race. The amount of variance explained by school, especially regarding student school violations, was substantial. In future studies, it would be interesting to examine specific MCPSS schools' policies and student handbooks to highlight the significant academic and behavioral differences students experience simply because of the school he or she attends. Peer pressure scales for the MYS already exist and could help explain how peer influence on school and risky behaviors impact academic outcomes. Further, race could be expanded into the original school district categories of Caucasian, Asian, and Hispanic; alternatively, it could be expanded into the MYS categories of African American, Caucasian, or mixed race. The MCPSS does not have a variable for mixed-race, and the previous MYS study indicated that mixed-race affiliation was of importance (Bolland, Bryant, Lian, McCallum, Vazsonyi, & Barth, 2007). Therefore, it may be favorable to assess race with the MYS data instead of the MCPSS school records.

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Appendix A

Mobile Youth Survey Items used for Present Study

1. Neighborhood Connectedness Scale:
    a. I feel I am an important part of my neighborhood.
    b. If I moved away from my neighborhood, I would be sorry to leave.
    c. Very few of my neighbors know me.
    d. I have friends in my neighborhood who know they can depend on me.
    e. I do not like living in my neighborhood.
    f. There are people in my neighborhood I can depend on.
    g. I have friends in my neighborhood I can depend on.
    h. If you don't look out for yourself in my neighborhood, no one else will.
    i. No one in my neighborhood takes any interest in what their neighbors are doing.
    j. It is hard to make good friends in my neighborhood.
    k. If I am upset about a personal problem, there are people in my neighborhood I can turn to.

2. Neighborhood Safety Question:
    a. How much of the time do you feel unsafe in your neighborhood?

3. School Belonging Scale:
    a. I feel as if I don't belong at my school.
    b. Most students at my school like me the way I am.
    c. It is hard for people like me to be accepted at my school.
    d. There's at least one teacher in my school I can talk to if I have a problem.
    e. Most teachers at my school are interested in me.
    f. People at my school notice when I'm good at something.
    g. Teachers at my school are not interested in people like me.
    h. The teachers at my school respect me.

Appendix B

Results by Outcome Variables

Outcome Variable	Predictor Variable	Estimate	SE	DF	*t*	*p*
Reading Achievement	PD	-5.4E-6	.000284	91.8	-.02	.9849[NS]
	NC	.6239	.1953	2,544	3.19	.0014[*]
	NLS	-.2486	.4213	2,480	-.59	.5551[NS]
	SB	1.5803	.2753	2,529	5.74	<.0001[*]
	Gender	6.1360	0.98888	1,772	6.21	<.0001[*]
	Race	.1982	3.8243	2,269	.05	.9587[NS]
	Lunch	.5425	1.2522	2,632	.43	.6649[NS]
	Grade	-1.0076	.4948	930	-2.04	.0420[*]
Math Achievement	PD	8.39E-6	.000296	75.3	.03	.9775[NS]
	NC	.3290	.1857	2,311	1.77	.0766[NS]
	NLS	.06576	.3985	2,189	.17	.8689[NS]
	SB	1.6314	.2610	2,271	6.25	<.0001[*]
	Gender	4.7069	1.0183	1,786	4.62	<.0001[*]
	Race	-3.7245	3.8692	2,095	-.96	.3359[NS]
	Lunch	-1.1990	1.2095	2,568	-.99	.3216[NS]
	Grade	-2.6340	.4783	1,493	-5.51	<.0001[*]
School Violations	PD	.000037	.000089	53.5	.42	.6759[NS]
	NC	.1828	.04898	5,177	3.73	.0002[*]
	NLS	.001045	.1149	5,128	.01	.9927[NS]
	SB	-.3844	.07239	5,143	-5.31	<.0001[*]
	Gender	-1.9563	0.2563	3,297	-7.63	<.0001[*]
	Race	-1.7747	1.1571	5,148	-1.53	.1252[NS]

	Lunch	.7616	.2211	5,069	3.44	.0006*
	Grade	-.8914	.1164	3,174	-7.66	<.0001*
Absences	PD	.000691	.000218	64.4	3.17	.0023*
	NC	-.08836	.1240	5,010	-.71	.4761NS
	NLS	-.3661	.2895	4,798	-1.26	.2061NS
	SB	-.6975	.1830	4,910	-3.81	.0001*
	Gender	-1.0470	0.7016	3,194	-1.49	.1357NS
	Race	-5.8766	2.9326	5,172	-2.00	.0451*
	Lunch	.01466	.5801	5,202	.03	.9798NS
	Grade	.3227	.2822	1,677	1.14	.2530NS

Appendix C

IRB Approval

Office for Research

Institutional Review Board for the Protection of Human Subjects

THE UNIVERSITY OF ALABAMA RESEARCH

December 21, 2012

John Bolland, PhD
College of Human Environmental Sciences
Box 870158

Re: IRB Protocol # 12-025 "Contextual and Developmental Processes of Mentoring: Identifying Critical Components of Effective Prevention Programming for Impoverished Adolescents"

Dear Dr. Bolland:

The University of Alabama Non-Medical IRB recently met to consider your application. The IRB voted to approve your protocol for a one year period.

Your application will expire on December 13, 2013. If your research will continue beyond this date, complete the IRB Renewal Application by the 15th of the month prior to project expiration. If you need to modify the study, please submit the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this application, please include the above application number.

Good luck with your research.

Sincerely,

Stuart Usdan, PhD
Chair, Non-Medical Institutional Review Board
The University of Alabama

358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
FAX (205) 348-7189
TOLL FREE (877) 820-3066

IRB#: 12-025

UNIVERSITY OF ALABAMA INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS
REQUEST FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS

I. Identifying information

	Principal Investigator	Second Investigator	Third Investigator
Name:	John M. Bolland	Ginger Lockhart	
College:	Human Environmental Sciences	Arts and Sciences	
University:	University of Alabama	Utah State University	
Address:	208 CDRC Box 870158		
Telephone:	8-9953		
FAX:	8-8153		
E-mail:	jbolland@ches.ua.edu	ginger.lockhart@usu.edu	

Title of Research Project: **Contextual and Developmental Processes of Mentoring: Identifying Critical Components of Effective Prevention Programming for Impoverished Adolescents**

Date Printed: 10/31/12 Funding Source: OJJDP

Type of Proposal: _X_ New ___Revision ___Renewal ___Completed ___Exempt

Attach a renewal application

Attach a continuing review of studies form

Please enter the original IRB # at the top of the page

UA faculty or staff member signature: John M Bolland

II. NOTIFICATION OF IRB ACTION (to be completed by IRB):

Type of Review: X Full board _____ Expedited

IRB Action:

___Rejected Date:_____

___Tabled Pending Revisions Date:_____

___Approved Pending Revisions Date:_____

_X_Approved—this proposal complies with University and federal regulations for the protection of human subject

Approval is effective until the following date: 12/13/2013

Items approved:

X	Research protocol:	dated
___	Informed consent:	dated
___	Recruitment materials:	dated
___	Other:	dated

Approval signature _ ___ _____ Date 12-21-12

AAHRPP DOCUMENT # 140
THE UNIVERSITY OF ALABAMA
HUMAN RESEARCH PROTECTION PROGRAM

IRB Application Study Personnel Sheet (Insert after Face Sheet

Study Personnel and Study Responsibility

Name and Degree(s) or student status (e.g., master's student)	Study Position Title (PI, Interviewer, Data Analyst, etc.)	Study Responsibilities	Date of Certificate of Investigator /staff Human Subjects Training
Alverson, James Ryan	Student Assistant	Analyze data, write manuscripts	On File
Bolland, Anneliese	Student Assistant/Data Analyst	Analyze data, write manuscripts	On File
Bolland, John	Co-PI	Manage data, analyze data, write manuscripts	On file
Bolland, Kathleen	Investigator	Analyze data, write manuscripts	On File
Brown, Brittany	Student Assistant	Analyze data, write manuscripts	On File
Bryan, Derrick	Investigator	Analyze data, write manuscripts	On File
Coddington, Cassandra	PI	Manage data, analyze data, write manuscripts	On file
Coleman, Julianne	Investigator	Analyze data, write manuscripts	On File
Dantzler, John	Investigator	Analyze data, write manuscripts	On File
Davis, Tonya	Student Assistant	Analyze data, write manuscripts	On File
du Maine, Nicole	Student Assistant	Analyze data, write manuscripts	On File
Granstaff, U. Shanette	Student Assistant	Analyze data, write manuscripts	On File
Hardy, David	Investigator	Analyze data, write manuscripts	On File
Hitchcock, Shannon	Student Assistant	Analyze data, write manuscripts	On File
Holder, Crystal	Student Assistant	Analyze data, write manuscripts	On File
Hooper, Lisa	Investigator	Analyze data, write manuscripts	On File
Lian, Brad	Investigator	Analyze data, write manuscripts	On file
McDaniel, Sara	Investigator	Analyze data, write	On File