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Adolescent Hopelessness: School Connectedness, Community Involvement, And Adult Supervision As Protective Factors In The Context Of Adverse Childhood Experiences

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ADOLESCENT HOPELESSNESS: SCHOOL CONNECTEDNESS, COMMUNITY INVOLVEMENT, AND ADULT SUPERVISION AS PROTECTIVE FACTORS IN THE CONTEXT OF ADVERSE CHILDHOOD EXPERIENCES

by

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DEDICATION

I would like to dedicate this dissertation to my family- Mom, Dad, Erin, Patrick, and Ryan- who have been there for me through good and bad, always supporting me, listening to me, and helping me. They have encouraged me, guided me, and been there throughout this entire process, and I would not have completed this dissertation or finished graduate school without their love and support.

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LIST OF ABBREVIATIONS

ACE	Adverse Childhood Event
CD	Concentrated Disadvantage
Cohort	Grade level in school
MS	Middle School
HS	High School
SSM	Sense of School Membership
CI	Community Involvement
PS	Parental Supervision

CHAPTER 1: INTRODUCTION

Study Context

While a large portion of adolescents receives adequate support and protection from their primary relationships and environments needed to ensure future success, there is another segment of this population for which this is not the case. Some adolescents experience a number of adverse events, where adults and others who should nurture and protect the adolescent instead expose their child to a number of deleterious experiences including and not limited to: inflicting abuse (physical, sexual, and emotional), neglect, as well as exposure to drugs and witnessing various forms of violence and inappropriate sexual behaviors. In the United States, over six million children and adolescents experience some form of abuse or neglect each year, with four to seven children or adolescents dying each day from some form of abuse or neglect ("National Child Abuse Statistics," 2014). In 2012, 80% of reported child maltreatment involved neglect, 18% involved physical abuse, 9.3% involved sexual abuse, 8.5% involved emotional abuse, and 10.5% was attributed to an unknown cause. These varying incidents are often referred to as "adverse childhood experiences" or ACEs. Research has found that these ACEs are related to a number of negative outcomes and can contribute to a sense of hopelessness and depression (Flouri & Panourgia, 2012).

Not every adolescent exposed to one or multiple ACEs will experience negative outcomes, hopelessness, and depression. Individuals who do not experience these outcomes might possess or be influenced by certain protective factors that may make them more resilient to ACEs (Afifi et al., 2011). These protective factors can be from school, home, community, or peers, and may impact adolescents in a number of ways. Despite these findings, more research is necessary to determine the exact nature of these protective factors and the effects they may have. Therefore, the current study examined the impact of ACEs on the development of hopelessness in adolescents,

and whether the protective factors of school connectedness, community involvement, and adult supervision moderated this association. This study used data from a larger study designed to examine multiple domains of a maturing adolescent's life.

Adverse Childhood Experiences

The concept of "adverse childhood experiences" is a broad category that has been interpreted to mean anything from childhood illnesses to serious accidents to abuse or neglect (Felitti et al., 1998). Research has examined the impact that these experiences may have on the future success and well-being of the adolescents who have experienced them (Felitti et al., 1998; Read & Bentall, 2012; Sroufe, Coffino, & Carlson, 2010). While, as stated above, the concept of "adverse childhood experiences" is broad in nature, the current study focuses on a particular subset of these experiences. Namely, the current study will explore the effects that experiences of physical, sexual, or emotional abuse, neglect, household alcohol/drug abuse, absent parents, household mental illness, domestic violence, divorce, and household composition may have on a developing adolescent (Felitti et al., 1998: Norman et al., 2012). These experiences are of particular interest as they are relational in nature, involving a proximal figure in the adolescent's life (i.e., parent, primary caregiver, guardian), and can have an enormous impact on a developing youth's world view, relationship with others, and mental health (Read & Bentall, 2012). Research has shown that early negative experiences with another person can be highly influential in the development of worldview, relationships, and mental health outcomes (Sroufe, Coffino, & Carlson, 2010).

As previous literature has shown, adverse childhood experiences such as sexual and physical abuse, neglect, and poor parental relationships, are linked to a number of negative consequences later in life, including a wide range of psychological symptoms and behavioral

problems (Bhandari and Barnett, 2007; Grant et al., 2000). For example, Chapman and colleagues (2007) found that adolescents who had experienced these negative events were more prone to affective and anxiety disorders, personality disorders, and substance abuse than their peers who had not undergone adverse childhood experiences. Rutter (1979) explored the effects of adverse experiences on a developing adolescent, discovering that it was not the type of risk, but rather, the accumulation of a number of risks, that led to more negative psychological outcomes. Building off of Rutter's idea of the accumulation of risks, a study conducted by Felitti and colleagues examined the relationship of health risk behaviors and disease in adulthood to exposure to childhood emotional, physical, and sexual abuse, using the Adverse Childhood Experiences questionnaire. Their findings indicated that those who experienced at least four types of childhood abuse or other adverse experiences were twelve times more at risk for alcoholism, drug abuse, depression and suicide attempts, confirming Rutter's hypotheses regarding number of risks as a significant predictor of future outcomes (Felitti et al., 1998; Rutter, 1979).

This finding has been replicated in different populations of adolescents, with numerous studies documenting that adolescents exposed to adverse life experiences are more likely to develop a variety of psychological and behavioral symptoms and problems than their peers who are not exposed (Duke et al., 2010; Flouri & Panourgia, 2012). Psychological symptoms include depression and suicidal thoughts, while behavioral problems include increased violence perpetration, delinquency, and risky behaviors, and have been studied in reference to a single adverse experience, as well as in reference to multiple adverse experiences (Duke et al., 2010). As determined by Masten and Coatsworth (1998), it is important to look at all possible risks, as risk tends to cluster within an individual, and thus, examination of a single risk does not fully capture an adolescent's reality and experiences. Caples and Barrera (2006) demonstrated that adolescents

who had been exposed to emotional abuse and other degrading parental behaviors were more at risk for developing internalizing problems. Haatainen and colleagues (2003) examined the effects of undergoing a single adverse childhood experience, as well as multiple adverse childhood experiences (three or more), finding that experiencing adverse childhood experiences makes men 2.70 times more likely and women 2.19 times more likely to experience feelings of hopelessness (Haatainen et al., 2003).

Hopefulness and Hopelessness

The concept of hopefulness has been extensively studied in the literature, and has been defined in a variety of different ways. One definition states that hopefulness is the positive "emotions and cognitions that energize behavior in the directions of future goals" (Callina et al., 2014; Schmid & Lopez, 2011). Lopez and colleagues (2009) found that higher levels of adolescent hopefulness predicted psychosocial well-being and achievement, as well as self-regulation and self-efficacy. However, the relationship between adverse childhood life experiences and hopefulness is less clear, as the literature shows mixed results. Several studies have demonstrated an inverse relationship between hopefulness and stressful or adverse life experiences, while others have found no relationship at all (Esteves et al., 2013; Yarcheski et al., 2011). However, the current study did not include a specific hopefulness scale; rather, it included a scale measuring an adolescent's level of hopelessness. Therefore, it is necessary to define "hopelessness" as well, as it is central to the goals of the current study, and will be used as a measure of an adolescent's level of hopefulness (i.e., lower scores on the hopelessness scale indicates more hopefulness).

Hopelessness has been defined in many ways in the literature, but in relation to adolescents, is often defined as "having negative expectations for the future" (Kazdin et al., 1983; Stoddard et al., 2011). Others, such as Warner and Joiner (1995, p. 778), have defined hopelessness as "the

expectation that highly desired outcomes will not occur or that aversive ones will occur (negative outcome expectancy), and that nothing is going to change things for the better." Hopelessness itself can lead to many negative outcomes, including depression, anxiety, increased sexual risk taking in adolescents, and higher levels of interpersonal and intimate partner violence (Brozina, 2006; Duke et al., 2011; Kagan et al., 2012). Additionally, in urban adolescents, greater levels of hopelessness are associated with higher levels of engagement in at risk behaviors, such as increased violent behaviors and gang membership, greater amounts of substance use or abuse, a greater likelihood to engage in risky sexual behaviors, and more accidental injuries (Bolland, 2003; Stoddard et al., 2011). The current study uses the Hopelessness Scale, developed by Kazdin and colleagues (1983; 1986), to measure the adolescent's degree of feelings of hopelessness; however, the current study investigates hope as existing on a continuum, ranging from completely hopeless to completely hopeful, such that lower scores on this measure indicate a greater amount of hopefulness. The reason for this more positive focus is that the current study focuses on protective factors that may prevent an adolescent from developing hopelessness. While there is an increased risk for the development of hopelessness in adolescents exposed to adverse childhood experiences, protective factors may mitigate the development of hopelessness and promote the development of hopefulness. Therefore, adolescents may vary on the continuum of hopelessness, depending on the extent of adversity they experienced, as well as the type and nature of protective factors they may possess.

Protective Factors and Compensatory Processes

The current study also focused on several modifiable protective factors that may impact adolescents who have been exposed to adverse childhood experiences. As such, it is useful to discuss the current conceptualization of modifiable protective factors and compensatory processes.

Protective factors have been defined in a variety of ways over the years, and several papers by Rutter provide the basis from which many of the other definitions of protective factors have been formed. Rutter (1985) was the first to develop and systematically define protective factors as something beyond simply the opposite of risk factors. Instead, he conceptualized an interactive relationship between protective factors, risk exposure, and outcomes, proposing that exposure to a protective factor would be beneficial for those exposed to a particular risk, but would hold no benefits for those never exposed to the risk (Fergusson & Horwood, 2003; Rutter, 1985). Rutter defines a protective factor as a variable encompassing one or more of four major processes: risk reduction, reduction of negative chain reactions, establishment and maintenance of self-esteem and self-efficacy, and providing opportunities (Rutter, 1987). Furthermore, he continues by delineating three major categories of variables that may act as protective factors, namely personality features (e.g., self-esteem), family factors (e.g., cohesion, lack of strife), and the availability of external systems of support to encourage and support coping efforts made by a child or adolescent (Rutter, 1987).

Protective factors can also be delineated based on the degree to which they are modifiable. A modifiable protective factor, per the CDC's definition, is one "that can be leveraged and utilized to improve primary prevention efforts and is justified through prior theory and empirical research" (Center for Disease Control, 2011, p. 6). Fergusson and Horwood (2003) further elaborate on protective processes, stating that there are two main processes- protective processes and compensatory processes. Protective processes are those processes in which only those exposed to the protective factor receive the benefit, while compensatory processes are considered processes where the factor has an equal effect on everyone, regardless of experienced adversity (Fergusson & Horwood, 2003).

While much research has focused on protective factors and processes, less research has examined compensatory processes. Compensatory processes have been defined in a number of ways, but as mentioned above, they are generally defined as processes in which the positive factors have an equal effect on all exposed to the factor, regardless of risk or adversity level (Fergusson & Horwood, 2003). In other words, the factor must have a direct effect on the outcome regardless of any other factors involved, and also must be independent from any risk factors; sometimes, this factor is viewed as the opposite of a risk factor (Fergus & Zimmerman, 2005). Furthermore, this factor must have a positive main effect that negates or compensates in some way for the negative main effect of the risk factor; these factors can also be cumulative, working together to negate the risk factor (Fergusson, Vitaro, Wanner, & Brendgen, 2007). Most importantly for the current study, these factors can be changed for everyone and have an impact, rather than requiring exposure to a particular level of adversity before impacting outcomes (Fergusson & Horwood, 2003). Compensatory processes are less discriminating than protective factors, in that they affect outcomes regardless of risk level (Fergusson & Horwood, 2003).

Brownlee and colleagues (2013) simplify the concept of protective factors and compensatory processes by defining them as either internal (i.e., empowerment, self-control, self-efficacy) or external (i.e., peers, family, school, community). Protective factors are inversely correlated with negative outcomes, and that correlation is assumed to be causal in nature. Gilligan (2002) found that children and adolescents who have been exposed to negative life experiences often lack a "secure base" that is usually a family member or parent. Therefore, they must look to external sources for this secure base. This can include school or other extracurricular/outside activities, or any place where the child/adolescent can find a sense of belongingness or "fitting in." The current study examines three external protective factors within the social ecology that have

been identified in the literature: school connectedness, community involvement, and adult supervision. These external protective factors or external systems of support have been shown to be influential in promoting positive outcomes and attenuating the risk for negative outcomes. Furthermore, any one of these factors can be modifiable, whether by encouraging more connectedness at school (through clubs and extracurricular activities), by encouraging greater involvement within the community (through community events and activities), or by providing education to parents about the importance of remaining aware of their children's activities and whereabouts.

School Connectedness. Hamilton and colleagues (2012) defined school connectedness as "the belief among students that teachers and other adults within the school care about them as individuals and about their learning." This sense of school connectedness plays an important role in the prevention of future negative consequences, as stronger connectedness and more school involvement has been associated with fewer behavioral and psychological problems, even in the face of abuse, neglect, and familial instability (Hamilton et al., 2012). Catalano and colleagues (2004) found that youth with a better sense of school connection had more opportunities for positive development, while those with weaker connections continued to be at risk for failure. This is of highest importance for youth who have experienced adverse experiences, as they often lack good connections with family members and others traditionally expected to provide guidance and support. Furthermore, the school experience becomes essential for the positive emotional and social development of youth, especially those who have experienced negative or adverse life experiences (Gilligan, 2002). In other words, the school experience provides the adolescent with positive emotions and cognitions, which are used to pursue future goals, or, as defined earlier, hope. Additionally, research suggests that success and involvement at school can promote

resiliency and help a child or adolescent recover from past adverse experiences. For example, one study found that women who were exposed to childhood sexual abuse were more likely to recover if they experienced a positive school environment (Romans et al., 1995). In regards to school connectedness and hopelessness, limited research has specifically looked at the concept of hopelessness; much more has examined the relationship between school involvement and symptoms of depression. Li and Lerner (2011) found that those youth who were less engaged both emotionally and behaviorally in school and school-related events exhibited more depressive symptoms (including hopelessness), than those youth who were highly engaged both emotionally and behaviorally.

Community Involvement. Another potential modifiable protective factor among children and adolescents who have experienced adverse life experiences is community involvement. According to Stoddard and colleagues (2011), neighborhoods have an enormous influence on an adolescent's development, including influencing their values and view on what may be considered "normative" behaviors, as well as their expectations and perceptions of their future. This is particularly important when one considered the definition of hopelessness given by Warner and Joiner (1995), that hopelessness is the expectation that highly desired outcomes will not occur or that aversive ones will occur (negative outcome expectancy), and that nothing is going to change things for the better. Therefore, it stands to reason that if the neighborhood is particularly unwelcoming and negatively oriented, the adolescent will potentially adopt that perspective and spiral into hopelessness. A research study conducted by Wickrama, Merten, & Elder (2005) found that community disadvantage (e.g., poverty) was associated with an increased risk of non-normative life experiences in adolescence, such as dropping out of school and becoming pregnant. Furthermore, these non-normative life experiences were linked to the development of depressive

symptoms, including hopelessness (Wickrama et al., 2005). However, if the adolescent is given opportunities to become part of the neighborhood in some meaningful way (e.g., through activities, volunteering, etc.), they may potentially be protected from developing hopelessness, even in the face of adverse experiences, as involvement serves as a buffer between the adverse experiences and hopelessness development (Wickrama et al., 2003).

Adult Supervision. A final important piece of the protective factors puzzle is the concept of adult supervision, and the impact this may have on mitigating the potential development of hopelessness in the face of adverse childhood experiences. While little research has focused specifically on the effects of adult supervision on hopelessness, more has been conducted examining the relationship between an adult's involvement in an adolescent's life, and later internalizing problems such as depression. Adult or parental supervision generally involves awareness of an adolescent's activities as well as guidance for the developing adolescent (Bacchini, Miranda, & Affuso, 2011). The most important way in which adult or parental supervision functions is to act as protection against negative emotional experiences and to provide the adolescent with the perception that there is someone who cares about them and to whom they can turn in times of distress (Bacchini et al., 2011). Research has found that adolescents who lack adult supervision are more prone to a variety of negative consequences, including internalizing problems and depressive symptoms such as hopelessness (Barber, Olsen, & Shagle, 1994). Further research shows that parental supervision serves as a buffer between exposure to violence (especially personal victimization) and development of hopelessness such that large amounts of parental supervision attenuate the negative relationship between violence/exposure to adverse experiences and hopelessness (Ceballo, Ramirez, Hearn, & Maltese, 2010). Other research demonstrates that high parental supervision is associated with fewer internalizing problems

including depression, in addition to an overall reduction in youth mental health problems (Frojd et al., 2007; Yu et al., 2007).

Community Level Analyses: Concentrated Disadvantage

To this point, the primary focus has been the factors specifically impacting the individual and their unique life circumstances. However, in order to understand fully what may be impacting an individual's hopelessness, it is important, as proposed by Bronfenbrenner (1986), to examine the entire system in which the individual operates. While there are many aspects of the overall system (i.e., individual, family, community) that may impact an individual's hopelessness, the current study focuses on the amount of disadvantage a particular community experiences. In a method unique to this study, participants were stratified into three levels of community disadvantage: low, moderate, and high. This allowed for examination of differences in the impact of protective factors between groups experiencing different levels of concentrated disadvantage.

Concentrated disadvantage can be thought of as the neighborhood or community's proportion of socioeconomically disadvantaged persons, households, or families (Carpiano, Lloyd, & Hertzman, 2009). It is calculated by adding a set of defined risk factors to form a composite variable, which provides an overall estimate of disadvantage. Concentrated disadvantage is similar to the cumulative risk model (Lima et al., 2010), though concentrated disadvantage also includes measures of neighborhood and community disadvantage or risk factors, rather than solely those of an individual, as is most common in cumulative risk research (Lima et al., 2010). This allows for an examination of an individual's community context, which in turn enables the development of a deeper understanding of the actual risks and adversity they face (Lima et al., 2010). The current study conceptualized concentrated disadvantage of each school as including: mean level of income of students' families, percentage of students receiving free lunch, highest level of education

obtained in students' families, and violence statistics for the particular neighborhood surrounding the school, as used by Foshee and colleagues (Foshee et al., 2007).

Concentrated disadvantage is of particular interest, as there has been much recent research examining the link between disadvantage and adverse childhood experiences, particularly focusing on those children raised in impoverished homes. Low socio-economic status (SES) affects numerous aspects of a child or adolescent's life, including where they live, how they live, and who they live with, as well as how their parents respond to the pressures and stresses of poverty (Blair and Raver, 2012: Watson and McLanahan, 2011). Furthermore, it has been shown that the more parents must face stressors and pressures associated with poverty, the more likely they are to express emotional distress, anger, and aggression towards others in the household, including their children (Ackerman and Brown, 2010; Foster and Brooks-Gunn). Low SES and disadvantage have been associated with a greater likelihood for exposure to a number of traumatic or adverse childhood experiences, including abuse, neglect, and community violence (Bhandari & Barnett, 2007; McLoyd, 1998).

Recently, more research has begun to look at the effects of disadvantage on an adolescent's development of hopelessness and experiences of hopelessness, particularly focusing on greatly disadvantaged adolescents. Research has found that adolescents living in lower income communities are less likely to think about the future, which can lead to greater likelihood of developing hopelessness (Bolland et al., 2007). Furthermore, Bolland (2003) also found that youth from low-income neighborhoods scored five times higher on hopelessness scales than those youth from higher income or more affluent communities. Other research has found that neighborhood poverty and disadvantage (low income, violence, exposure to drugs) has also been associated with increased levels of internalizing symptoms including depressive symptoms and suicidal ideation

(Dupere, Leventhal, & Lacourse, 2009). One potential explanation for this greater hopelessness displayed by adolescents from high disadvantage/low-income communities builds off of Oyserman's theory of the "possible self." As described by Oyserman, the "possible self" is the self an adolescent imagines in the future or hopes to become. For adolescents with strong support and resources, this possible self is seen as achievable and attainable. However, adolescents from a low-income or high disadvantage community may struggle to achieve this self and see repeated failures in their attempts. Oyserman's findings indicate that with each successive failure, a person becomes less hopeful about attaining the possible self and more hopeless about the current situation (Oyserman and Fryberg, 2006). As evidenced by the above studies, disadvantage has a significant impact on an adolescent's life, and further studies are needed to clarify the link.

While the link between disadvantage and hopelessness and other internalizing problems has been established, less research has examined the factors that may protect an individual, even in the face of great community disadvantage, particularly the protective factors of interest in the current study: school connectedness, community involvement, and adult supervision. Community disadvantage may influence the impact of the protective factors in a variety of ways. In the current study, two potential and competing mechanisms are of particular interest: protective factors will matter more at greater levels of disadvantage in the prevention of the development of hopelessness or, conversely, protective factors will matter less at greater levels of disadvantage in the prevention of the development of hopelessness. Why would protective factors such as school connectedness, community involvement, and adult supervision become more important to prevent hopelessness among children exposed to adverse childhood experiences in a more disadvantaged community? One proposed explanation comes from Chen and Miller's (2012) "shift and persist theory," that posits that even in adversity, those who can find someone or something to provide positive support

will learn to trust others, better regulate their emotions, and most importantly for the current study, focus on their futures (e.g., display hope). High disadvantage communities experience a larger number of stressors such as poverty, exposure to violence, chaos in the home, and poorer family interactions, to which those from low and medium disadvantage have less exposure (Chen & Miller, 2012). Therefore, per the shift and persist theory, additional support becomes key in preventing negative outcomes for those in high disadvantage communities. This support can come from a variety of places, including school, the community, or a trusted adult, and most importantly involve guiding an adolescent toward their future, building optimism toward the future (displaying hope), and helping them find their place in the world (Chen & Miller, 2012).

The other exploratory and theoretical explanation is that those from high concentrated disadvantage do not benefit from these protective factors, as they currently experience high levels of stressors. On the other hand, those from low concentrated disadvantage benefit from these protective factors to a greater extent as they are less stressed and therefore have the capacity to benefit from these factors. One study, which captures the essence of this proposed mechanism, found that white youth from affluent communities or communities with advantage who moved to more disadvantaged communities were more susceptible to community poverty when compared to those who grew up in this poverty (Wickrama et al., 2005). Another study lending support to this theory found that poor neighborhood conditions (i.e., disadvantage) increase daily stress and disrupt social ties, therefore making it more difficult for these youth and adolescents to access the potential protective factors, making them of little use (Cutrona, Wallace, & Wesner, 2006).

Current Study

The majority of research on adverse childhood experiences and hopelessness focuses on risk factors and negative outcomes, with less emphasis on protective factors that promote/influence

the developmental trajectory, particularly factors such as school connectedness, community involvement, and parental supervision. As such, given the significant gaps in our understanding of modifiable protective factors for hopelessness, the current study sought to expand the knowledge and literature about these protective factors. Therefore, the current project examined the relationship between the adverse childhood experiences reported by adolescents and their reported feelings of hopelessness, as well as potential protective factors that mitigate the relationship between at-risk youths' experiences of adverse experiences and the development of feelings of hopelessness. This study was conducted in response to a call by the CDC asking researchers to identify modifiable risk and protective factors that influence the developmental trajectory. Particularly of interest were the protective factors at the outer levels of the social ecology. The current study included a survey focusing on adverse childhood experiences, from questions about abuse and neglect to questions about personal safety. This study uniquely examined factors protecting against the development of hopelessness after traumatic experiences, an area in which the literature is currently lacking. The factors of school connectedness, community involvement, and adult supervision were chosen, as literature has shown that in the face of parental abuse/neglect and poor family environments these three areas may prevent the negative consequences mentioned above. Furthermore, the current study investigated concentrated disadvantage as a novel way to study the effect neighborhood level traits have on the development of hopelessness and the impact of the protective factors on hopelessness.

Aims and Goals

1. The first aim was to examine whether adverse childhood experiences such as abuse, neglect, and/or parental alcohol/drug abuse predict hopelessness as reported by the adolescent. It was expected that the more adverse life experiences experienced, the more hopelessness would be

reported, and that those who reported fewer adverse childhood life experiences would report less hopelessness.

2. The second aim was to examine protective factors in the face of negative life experiences, by first testing for main effects of school connectedness, community involvement, and adult supervision on hopelessness. Additionally, the current study examined whether school connectedness, community involvement, and/or adult supervision moderated the expected relationship between adverse childhood experiences and reported hopelessness. Previous research has examined these environmental factors as moderating child and adolescent outcomes, particularly those outcomes involving child psychopathology such as hopelessness and depression (Grant et al., 2006). Specific hypotheses were as follows:

a. Higher levels of school connectedness would attenuate the expected association between adverse childhood experiences and hopelessness.
b. Higher levels of community involvement would attenuate the expected association between adverse childhood experiences and hopelessness.
c. Higher levels of adolescent-reported adult supervision would attenuate the expected association between adverse childhood experiences and hopelessness.

3. The third aim was to examine whether adverse childhood experiences and the amount of hopelessness varied depending on the amount of concentrated disadvantage present in a community. It was hypothesized that students living in communities with more concentrated disadvantage would experience more adverse childhood experiences and report greater levels of hopelessness than those with low and moderate levels of concentrated disadvantage.

4. The fourth aim was to examine whether protective factors (school connectedness, community involvement, and adult supervision) operated differently across different levels of community

disadvantage. It was expected that the protective factors would operate differently across the different levels, and that those experiencing high levels of concentrated disadvantage would benefit the most from exposure to the proposed protective factors.

5. The fifth and final aim was to examine whether age (6^{th} vs. 9^{th} grade) or sex (male vs. female) impacts the manner in which protective factors operate across the sample. These were exploratory analyses to determine whether age and/or gender may impact the development of hopelessness in response to adverse childhood experiences.

CHAPTER 2: METHOD

Overview

The current study used data from a larger study designed to investigate potential modifiable risk and protective factors that are related to the development of intimate partner violence (IPV) in adolescents. This larger study, the SHARE study ("Strengthening Supports for Healthy Relationships: A Gender-Sensitive, Mixed Methods Analysis of Protective Factors for Intimate Partner Violence"), was a collaboration between Wayne State University, Eastern Michigan University, and the Centers for Disease Control, and focuses particularly on gender differences in the development of IPV and the role technology may play in this development (Grant Number: 5U01CE002115-02). The SHARE study investigated a variety of other topics as well, including family relationships, exposure to trauma (adverse life experiences), social support, neighborhood and school involvement, and psychological disturbances such as hopelessness. The goal of the current project was to examine the relationship between adverse life experiences and the development of hopelessness, as well as the protective factors that may mitigate the development of hopelessness. Furthermore, it examined the effects concentrated disadvantage has on an individual's experience of hopelessness, as well as the way in which it affects reactions to trauma exposure.

Study Design and Setting.

The total number of participating school districts was six, and the number of participating schools was 16. However, three schools did not participate in the first year of survey administration, as they are new and had neither 6th nor 9th graders enrolled; these schools intend to participate in the follow-up data collections. Two samples of students were selected from each school district: middle school (6th grade) and high school (9th grade). Permission was gained from

the school principals to access school mailing lists of 6th and 9th graders enrolled; each adolescent's family received a packet containing a letter and information sheet detailing the project and explaining the process of "passive consent." Parents were given the opportunity to "opt-out" their child by calling the school, calling the SHARE research office, or by signing and returning a letter to the school stating that they did not agree to their child's participation in the study.

Participants for each school were randomly selected using a computer-based random number generator, selecting 100 participants and ten to fifteen "alternate" participants from each school, for a total N of 1300 students, with an oversample in the school from high concentrated disadvantage. Efforts were made to ensure gender balance and equal stratification of low, middle, and high mean household income communities across participants. Of the initial 1300 recruited, surveys were completed by a total of 1238 youth during the March-May 2013 data collection. Of these 1238 youth, 47% of the sample was enrolled in sixth grade, and 53% enrolled in ninth grade. Fifty-two percent of the sample was female, and 48% was male. Of great importance to note is the stratification of the sample by community risk: 32% of the sample was from low risk communities, 30% from moderate, and 39% from high risk. These classifications are further defined and described below.

Procedure. As noted above the assessment occurred from March to May of 2013, at which point participants were asked to complete a survey. This survey was developed by the research team, and consists primarily of validated scales modified to better capture the factors and areas of interest. During each data collection point, survey administration was held on a primary date arranged with the school in advance, with two alternate dates to return to the school should participants be absent on the primary data collection date. Data collection at one school was delayed by two months due to a suicide at the school; during this time period, the research team

offered crisis intervention support to students at the school in addition to the staff members already trained to provide support for students who may have adverse reactions to survey materials. The survey itself addressed basic demographics, as well as eight main areas of interest: intimate partner violence, societal influence, community context, social engagement, normative cognitions, self-control, trauma exposure, and societal desirability. Demographic information collected included: gender, age, grade, family composition, school activities and performance, and racial/ethnic identify. For the purposes of the current study, only the measures of interest will be discussed: community context, social engagement, and trauma exposure.

Measures of Interest.

Adverse Childhood Experiences. In order to measure the extent of an adolescent's exposure to abuse, neglect, violence, and other trauma, the current study used the Adverse Childhood Experiences Scale (ACE scale) developed by Felitti and colleagues (1998). This well-validated scale was developed using items from a variety of other scales, including Bernstein and colleagues' Childhood Trauma Questionnaire (1994), the Conflict Tactics Scale (Straus, 1979), Wyatt's sexual abuse study (1985), and Schoenborn's alcoholism study (1995). The ACE scale contains 18 yes or no items assessing different traumatic experiences such as physical and sexual abuse, neglect, and witnessing traumatic experiences happening to others (Felitti et al., 1998). This is by no means a comprehensive list of potential adverse experiences, but captures the most commonly occurring experiences. Sample items from this scale include "Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch his/her body in a sexual way?" and "Did a parent or other adult in the household often push, grab, or slap you or throw something at you?" (Felitti et al., 1998). The internal consistency of the ACE scale in the current

study was .88. Internal consistencies for all scales, along with means, standard deviations, and ranges, are presented in Table 1.

Hopelessness. Hopelessness was measured using the Hopelessness Scale, developed by Kazdin and colleagues (1983). This scale is intended to measure the adolescent's degree of feelings of hopelessness and negative expectations regarding the future. It contains 17 true or false items, both positive and negative, containing statements such as "All I can see ahead of me are bad things, not good things" and "I can imagine what my life will be like when I'm grown up." The scale has a reported internal consistency of .97, and is significantly correlated with other measures of depression, such as the Children's Depression Inventory and the Bellevue Index of Depression-Revised (Kazdin, Rodgers, and Colbus, 1986). In the current study, the internal consistency was .74. It was of particular interest to the current project, as it provided a way to quantify an adolescent's current feelings of hope, or lack thereof, and allowed for the determination of an adolescent's location on the hope/hopelessness continuum.

Protective factors.

School connectedness. The current study used the five-item Sense of School Membership scale to measure an adolescent's level of school connectedness (SSM; Goodenow, 1993). The SSM was used to examine an adolescent's feelings of belongingness and level of support from people in the school (Goodenow, 1993). This scale has an internal consistency of .77-.88, and includes items such as "The teachers here respect me" and "I feel very different from most other students here." (Goodenow, 1993). The Likert scale ranges from *Strongly Agree* (1) to *Strongly Disagree* (5). In the current study, this scale had an alpha of .64.

Community involvement. Community engagement was assessed using the four-item Community Involvement scale from the Chicago Youth Development Study (CIS; Tolan, Gorman-

Smith, & Henry, 2001). The CIS was designed to measure engagement within the community, with items such as "I regularly stop and talk with people in my neighborhood" (Tolan et al., 2001). Two of the four items on this scale were True/False items, and had to be transformed prior to creating the scale. Per Tolan and colleagues (2001), both items were assigned a numerical value, and then summed with the scores from the two numerical items. The two numerical items were a Likert scale, with choices ranging from *Strongly Agree* (1) to *Strongly Disagree* (5). Reported internal consistencies range from .49 to .62 (Tolan et al., 2001); however, in the current study, the internal consistency was .44.

Parental supervision. Level of parental supervision was measured in the current study using eight items from The Seattle Social Development Project Parental Supervision scale (Arthur et al., 2002). This scale was designed to measure adolescent perceptions of family management practices and amount of perceived parental supervision. Central to this scale is examining parental rules and supervision of behavior, including items such as "When I am not at home, one of my parents knows where I am and who I am with" and "The rules in my family are clear." This scale is a Likert scale, with choices ranging from *Strongly Agree* (1) to *Strongly Disagree* (5). The reported internal consistency of this scale is a .83 (Arthur et al., 2002); however, in the current study, the internal consistency of this scale was .81.

Community context. The overall SHARE study measured community context in four main ways: community violence, exposure to violence, concentrated disadvantage, and school environment. However, the current study focused specifically on concentrated disadvantage

Concentrated disadvantage. As mentioned above, concentrated disadvantage can be thought of as the neighborhood or community's proportion of socioeconomically disadvantaged persons, households, or families (Carpiano et al., 2009). It is calculated by adding a set of defined

risk factors to form a composite variable, which provides an overall estimate of disadvantage. The six school districts were categorized into low, medium, and high groups based upon mean income. Two middle schools and two high schools were included in each level of concentrated disadvantage, with the exception of the high disadvantage group that contained three high schools. This method of creating a concentrated disadvantage score is similar to methods used by Foshee and colleagues, among others (Foshee et al., 2007). Table 2 provides the means and standard deviations for study variables, divided by concentrated disadvantage group.

Demographics. Demographic variables of gender, cohort (6^{th} grade vs. 9^{th} grade), minority status, and living situation (single parent, multiple parent, grandparent, other family member) were included as covariates in all analyses.

Analytic Plan

Means, standard deviations, skew and kurtosis for each variable were examined. Data was screened for outliers, univariate, and multivariate normality. In addition, missing data values were analyzed and, depending on the percentage of data found to be missing, values were estimated accordingly.

In order to address the hypothesis that greater exposure to adverse childhood experiences predicts hopelessness in adolescents, a linear regression was conducted with adverse childhood experiences as the independent variable, and the hopelessness score as the dependent variable. Gender, cohort (6^{th} vs. 9^{th} grade), minority status, and living situation were included as covariates in this first set of analyses. It was expected that the level of adverse childhood experiences would significantly predict an adolescent's reported hopelessness, with greater exposure to adverse childhood experiences predicting higher hopelessness scores. In order to test the hypothesis that there would be a main effect of school connectedness, main effect of community involvement, and

main effect of parental supervision, school connectedness, community involvement, and parental supervision were entered into a second block of the hierarchical regression, using the previously described regression as Block 1. It was expected that there would be a significant main effect for each of the three variables, once adverse childhood experiences and the covariates are controlled for.

In order to address the hypotheses that school connectedness, community involvement, and parental supervision serve as moderators between adverse childhood experiences and hopelessness, a third step was added to the above analyses. Adverse childhood experiences, school connectedness, community involvement, and parental supervision were centered prior to conducting this analysis, in order to reduce multicollinearity between predictors and interactions terms and to facilitate the probing of significant moderator terms. Next, three interaction terms were created: adverse childhood experiences X school connectedness, adverse childhood experiences X community involvement, and adverse childhood experiences X parental supervision. After this, three separate regressions were conducted, controlling for all Block 1 and Block 2 main effects, then entering each separate interaction term into Block 3; each interaction term was entered into a separate regression. Finally, building on the above analyses, the interaction terms were entered into the regression models described above. It was expected that the higher levels of community involvement, school connectedness, and parental supervision would attenuate the expected negative association between exposure to adverse childhood experiences and hopelessness.

Next, with statistically significant interaction terms, the significant moderator terms were probed using methods described by Aiken and West (1991) and Holmbeck (2002). For each significant interaction term, two new conditional moderator variables were computed and two

more regressions, incorporating these new variables, were conducted. The new conditional moderator variables were computed by adding the standard deviation of the full sample of the moderator to the centered moderator variable for the first new conditional moderator variable, and then subtracting the standard deviation of the full sample of the moderator from the centered moderator variable for the second new conditional moderator variable (Aiken & West, 1991; Holmbeck, 2002). This created variables that are one standard deviation higher (HI) and one standard deviation lower than the original centered variable (LO). Next, new interaction terms were created: adverse childhood experiences X HI and adverse childhood experiences X LO. After this, two regressions were conducted in order to generate the slopes for the HI and LO conditions, which allowed for the generation of an equation for each condition and the calculation of the simple slope. After this, t-tests were conducted on each slope to see whether it was significant. Finally, the regression lines were plotted at HI and LO levels for each of the significant moderating variables.

Next, in order to address the hypothesis that students with greater levels of concentrated disadvantage would report greater levels of hopelessness and more adverse childhood experiences, the overall sample was first divided into the three concentrated disadvantage groups: low, moderate, and high. These groups were determined by mean income of the schools within the six school districts, such that each concentrated disadvantage group contained two high schools and two middle schools, with the exception of the high concentrated disadvantage group that contained three high schools. Once the groups were divided, an ANCOVA was conducted including the covariates (gender, cohort, minority status, living situation, and adverse childhood experiences experienced), concentrated disadvantage as the predictor variable, and hopelessness as the outcome variable; this enabled an examination of the differences in hopelessness between the three

disadvantage groups. An ANCOVA was also conducted to investigate adverse childhood experiences across groups, with concentrated disadvantage as the predictor variable and hopelessness as the outcome variable.

In order to address the fourth aim, that protective factors would operate differently across different levels of concentrated disadvantage, three separate sets of hierarchical regressions were conducted, repeating the analyses discussed in the previous paragraphs for each of the concentrated disadvantage groups. It was expected that the protective factors would operate differently across the different levels of concentrated disadvantage, and that those experiencing high levels of concentrated disadvantage would benefit the most from these protective factors (i.e. there will be the most support for statistical moderation at high levels of concentrated disadvantage).

Finally, exploratory analyses were conducted to determine whether cohort (6^{th} vs. 9^{th} grade) or gender (male vs. female) impacted the way in which the protective factors operate. These analyses consisted of two ANCOVAs (one for grade and one for gender) in order to examine the differences in hopelessness and ACEs between the groups. Two sets of hierarchical regressions were also conducted (one set with grade, one set with gender) in order to determine whether the protective factors operate differently across groups.

CHAPTER 3: RESULTS

Preliminary Results

Means and standard deviations for the study variables can be found in Table 1. On average, participants experienced between two and three adverse childhood experiences; however, some participants reported experiencing up to 18 adverse childhood experiences. In addition, they had relatively low mean levels of reported feelings of hopelessness and low mean levels of community involvement. Finally, participants endorsed relatively high mean levels of feelings of school membership, as well as high means levels of parental supervision. Variables were also inspected for normality. While the hopelessness scale, ACE scale, and parental supervision variables were slightly positively skewed, they fell below the two-point cut-off proposed by West, Curry, and Finch (1995), above which transformation is necessary.

Additionally, bivariate correlations between the study variables were examined. Results from this analysis can be found in Table 3. Adverse childhood experiences were significantly positively correlated with hopelessness and significantly negatively correlated with the adolescent's sense of school membership, level of community involvement and parental supervision. Hopelessness was significantly negatively correlated with feelings of school membership, community involvement, and parental supervision, while feelings of school membership were significantly positively correlated with community involvement and parental supervision. Finally, community involvement was significantly positively correlated with parental supervision.

Aim #1: ACEs and Hopelessness

In order to address the hypothesis that exposure to adverse childhood experiences predicts hopelessness in adolescents a linear regression was conducted. As hypothesized, greater exposure

to adverse childhood experiences significantly predicted hopelessness, such that those experiencing a greater number of adverse childhood experiences reported higher levels of hopelessness, and those experiencing fewer adverse childhood experiences reported lower levels of hopelessness (Table 4). Before the addition of adverse childhood experiences into the model, both minority status and grade level significantly predicted hopelessness; however, with the addition of adverse childhood experiences, neither predicted hopelessness. The covariates and adverse childhood experiences predicted 7.8% of the total variance in hopelessness, with adverse childhood experiences uniquely predicting 6.7% of the variance.

Aim #2: Potential Protective Factors and Hopelessness

In order to address aim two, hierarchical regressions were first conducted to determine whether main effects of school connectedness, community involvement, and parental supervision existed. Separate hierarchical regressions were conducted for each variable of interest, with adverse childhood experiences, gender, cohort, minority status, and living situation entered in Block 1, and the variable of interest (school connectedness, community involvement, and parental supervision) entered in Block 2. As seen in Table 5, there were significant main effects for school connectedness, community involvement, and parental supervision, controlling for adverse childhood experiences and the covariates. For the hierarchical regression examining the effects of school connectedness, 13.7% of the total variance was explained by school connectedness and the covariates; school connectedness alone uniquely explained 6.0% of the variance. For the hierarchical regression examining the effects of community involvement, 9.7% of the total variance was explained by the community involvement and the covariates, while community involvement uniquely explained 1.9% of the variance. In the hierarchical regression investigating the effects of parental supervision, parental supervision and the covariates explain 10.8% of the

total variance, with parental supervision uniquely explaining 3.2% of the variance. Finally, for the overall model including all three predictors, the three predictors and covariates together explained 15.7% of the total variance. School connectedness uniquely explained 3.5% of the variance, community involvement uniquely explained 0.88% of the variance, and parental supervision uniquely explained 1.1% of the variance.

Next, interaction terms were created to explore whether any of the three predictors served as moderators between adverse childhood experiences and hopelessness. Three separate regressions were conducted in order to determine whether interaction terms were significant. For each regression, adverse childhood experiences, gender, cohort, minority status, and living situation were included in Block 1; Block 2 consisted of school connectedness, community involvement, and parental supervision, while respective interaction terms were entered in Block 3. As seen in Table 6, contrary to the hypothesis that higher levels of school connectedness, community involvement, and parental supervision would attenuate the association between adverse childhood experiences and hopelessness, no significant interactions were found.

Aim #3: Concentrated Disadvantage, ACEs, and Hopelessness

In order to address aim three which was to determine whether ACEs and the amount of hopelessness displayed varies depending on the amount of concentrated disadvantage present in a community, an ANCOVA was conducted. As seen in Table 7, no significant differences between concentrated disadvantage groups were noted, contrary to the hypothesis that students living in communities with greater concentrated disadvantage would display greater levels of hopelessness than those living in communities with low and moderate levels of concentrated disadvantage.

An additional ANCOVA was conducted to determine whether there were differences in the amount of ACEs experienced by the three concentrated disadvantage groups. As seen in Table

8, ACEs differed significantly among the different concentrated disadvantage groups, after controlling for gender, cohort, minority status, and living situation ($F(2, 1174) = 5.17$, $p = .006$). Planned contrasts revealed that attending a school in a community with a high level of concentrated disadvantage ($p < .01$, 95% CI [.34, 1.40]) was associated with experiencing a greater number of adverse childhood experiences when compared to attending a school in a community with a low level of concentrated disadvantage, and that those from both high and low concentrated disadvantage communities significantly differed in the number of adverse childhood experiences experienced ($p < .01$). However, attending a school in a community with a medium level of concentrated disadvantage was not significantly associated with experiencing a greater number of adverse childhood experiences compared to attending a school in a community with a low level of concentrated disadvantage ($p = .19$, 95% CI [-.17, .89]). There were no significant differences in the number of adverse childhood experiences experienced between the low and medium concentrated disadvantage groups ($p = .56$) or between the medium and high concentrated disadvantage groups ($p = .19$).

Next, a hierarchical regression was conducted to determine whether ACEs significantly predicted hopelessness at all three levels of concentrated disadvantage. As seen in Table 9, ACEs significantly predicted hopelessness across all three levels of concentrated disadvantage. Furthermore, ACEs with the covariates explained 8.9% of the total variance for the low concentrated disadvantage group, 12.5% of the total variance for the medium concentrated disadvantage group, and 6.2% of the total variance for the high concentrated disadvantage group.

Aim #4: Concentrated Disadvantage and Potential Protective Factors

In order to address aim four, designed to determine whether protective factors of school connectedness, community involvement, and parental supervision operated differently across

different levels of concentrated disadvantage, three separate sets of hierarchical regression analyses were conducted, one for each level of disadvantage. Covariates of gender, cohort, minority status, and living situation were included in all analyses. As seen in Table 10, sense of school membership significantly predicted hopelessness across all three levels of concentrated disadvantage, such that greater school membership was associated with lower levels of hopelessness. Sense of school membership, together with the covariates, explained 14.5% of the total variance for the low concentrated disadvantage group, 19.2% of the total variance for the medium concentrated disadvantage group, and 11.2% of the total variance for the high concentrated disadvantage group. As seen in Table 11, community involvement only significantly predicted hopelessness in low and high concentrated disadvantage groups, but did not significantly predict hopelessness in those belonging to the medium concentrated disadvantage groups. Community involvement and the covariates explained 13% of the total variance in the low concentrated disadvantage group (ΔR^2 = .042, p <. 01) and 7.6% of the variance in the high concentrated disadvantage group (ΔR^2 = .013, p < .01). While community involvement and covariates accounted for 13.4% of the total variance, community involvement did not significantly predict hopelessness in the medium disadvantage group (ΔR^2 = .009, p = .06). As seen in Table 12, parental supervision significantly predicted hopelessness in all three groups, such that higher levels of parental supervision were associated with lower levels of hopelessness. Parental supervision and the covariates accounted for 9.8% of the total variance in the low concentrated disadvantage group, 15.5% of the total variance in the medium concentrated disadvantage group, and 11.4% of the total variance in the high concentrated disadvantage group.

Next, we examined whether any of the protective factors attenuated the relationship between adverse childhood experiences and hopelessness, depending on the concentrated

disadvantage group. As shown in Table 14, sense of school membership moderated the relationship between adverse childhood experiences and hopelessness for the medium concentrated disadvantage group. The interaction term and other predictors together explained 21.2% of the total variance; however, the interaction term alone uniquely explained only 1.3% of the total variance (ΔR^2 = .013, p = .021). However, as seen in Tables 15 and 16, neither community involvement nor parental supervision attenuated the relationship between adverse childhood experiences and hopelessness for any of the concentrated disadvantage groups, as none of the interactions were significant.

Given that the interaction term was significant, graphs of the interaction and a test of simple slopes was conducted following procedures suggested by Aiken and West (1991) and Holmbeck (2002). The test of simple slopes demonstrated that higher sense of school membership attenuated the link between hopelessness and adverse childhood experiences in the medium concentrated disadvantage group. As seen in Figure 1, the test of simple slopes indicated that adverse childhood experiences were significantly associated with hopelessness when sense of school membership was 1 *SD* below the mean, β = .29, p < .01, but not when sense of school membership was 1 *SD* above the mean, β = .08, p = .34.

Aim #5: Exploratory Analyses

In order to address aim five, exploratory analyses designed to determine whether protective factors of school connectedness, community involvement, and parental supervision would operate differently across gender and across age, ANCOVAs were first conducted to determine any potential differences in hopelessness between genders and/or age. As seen in Tables 17 and 20, no significant differences in hopelessness between genders or ages were noted. Next, a set of hierarchical regressions was conducted to determine whether ACE scores predicted differently

based upon gender and/or age; as seen in Tables 18, 19, 21, and 22, ACE scores significantly predicted hopelessness in both males and females, as well as in both sixth and ninth graders. ACE scores uniquely accounted for 8.8% of the total variance in hopelessness in females and 4.5% of the total variance in males, as well as 11.0% of the total variance in middle school and 4.2% of the total variance in high school.

Next, sets of hierarchical regressions were conducted to examine any differences in the way protective factors operate across gender or across age. As seen in Tables 18, 19, 21, and 22, all three potential protective factors (school connectedness, community involvement, and parental supervision) significantly predicted hopelessness in both males and females, as well as in both sixth and ninth graders. The relationships were in the direction expected, such that higher levels of the protective factors predicted lower levels of hopelessness. School connectedness uniquely accounted for 4.2% of the variance in females and 7.8% of the variance in males, as well as 5.0% of the variance in middle school and 6.6% total variance in high school. Community involvement uniquely accounted for 3.3% of the variance in females and 0.9% of the variance in males. For cohort, community involvement uniquely accounted for 1.6% of the variance in middle school and 2.2% of the variance in high school. Finally, parental supervision uniquely accounted for 4.4% of the variance in females and 2.3% of the variance in males, as well as 2.9% of the variance in middle school and 3.5% of the variance in high school.

Next, regression analyses were conducted to determine whether any protective factor served as a moderator for the relationship between ACEs and hopelessness. Three separate regression analyses were conducted for gender, with adverse childhood experiences, cohort, minority status, and living situation included in Block 1. Block 2 consisted of school connectedness, community involvement, and parental supervision, while respective interaction

terms (adverse childhood experiences X school connectedness, adverse childhood experiences X community involvement, and adverse childhood experiences X parental supervision) were entered in Block 3. As seen in Tables 18 and 19, there were no significant interactions found for community involvement or parental supervision. However, sense of school membership moderated the relationship between adverse childhood experiences and hopelessness for females. This interaction term and other predictors together explained 19.5% of the total variance; however, the interaction term alone uniquely explained 1.0% of the total variance ($\Delta R^2 = .010$, $p = .008$).

Given that these interaction terms were significant, the interaction was graphed and a test of simple slopes was conducted following procedures suggested by Aiken and West (1991) and Holmbeck (2002). The test of simple slopes demonstrated that higher sense of school membership attenuated the link between hopelessness and adverse childhood experiences for females. As seen in Figure 2, the test of simple slopes indicated that adverse childhood experiences were significantly associated with hopelessness when sense of school membership was 1 *SD* below the mean, $\beta = .27$, $p < .01$, but not when sense of school membership was 1 *SD* above the mean, $\beta = .08$, $p = .21$.

Finally, three separate regression analyses were conducted for cohort, with adverse childhood experiences, cohort, minority status, and living situation included in Block 1. Block 2 consisted of school connectedness, community involvement, and parental supervision, while respective interaction terms were entered in Block 3. No significant interactions were found for community involvement or parental supervision, as seen in Tables 21 and 22. However, sense of school membership moderated the relationship between adverse childhood experiences and hopelessness for the middle school group. This interaction term and other predictors together

explained 19.6% of the total variance; however, the interaction term uniquely predicted only 1.5% of the total variance ($\Delta R^2 = .015$, $p = .001$).

Given that the interaction term was significant, the interaction was graphed and a test of simple slopes was conducted following procedures suggested by Aiken and West (1991) and Holmbeck (2002). The test of simple slopes demonstrated that higher sense of school membership attenuated the link between hopelessness and adverse childhood experiences for middle schoolers. As seen in Figure 3, the test of simple slopes indicated that adverse childhood experiences were significantly associated with hopelessness when sense of school membership was 1 *SD* below the mean, $\beta = .34$, $p < .01$, but not when sense of school membership was 1 *SD* above the mean, $\beta = .08$, $p = .19$.

CHAPTER 4: DISCUSSION

The current study examined the relationship between self-reported adverse childhood experiences and self-reported feelings of hopelessness, as well as potential modifiable protective factors that may mitigate the relationship between experiences of adverse childhood experiences and the development of feelings of hopelessness. Furthermore, the current study investigated whether youth from different levels of concentrated disadvantage experienced different levels of hopelessness, and whether the proposed protective factors of school connectedness, community involvement, and parental supervision operated differently across the different levels of disadvantage. Finally, exploratory analyses were conducted to determine whether age/cohort (sixth vs. ninth grade) or gender (male vs. female) impacted the amount of hopelessness experienced or the manner in which the protective factors operated. Findings were mixed, as some hypotheses were supported, while others failed to gain support.

Adverse Childhood Experiences and Hopelessness

The current study explored whether adverse childhood experiences predicted hopelessness, with the hypothesis that a greater number of reported adverse childhood experiences would predict higher levels of hopelessness. Consistent with previous research findings (Esteves et al., 2013; Yarcheski et al., 2011), adverse childhood experiences significantly predicted hopelessness, such that those adolescents who reported a greater number of adverse childhood experiences (e.g., physical abuse, sexual abuse, parental drug use, parental incarceration) also reported higher levels of hopelessness as measured by Kazdin's Hopelessness scale. This suggests that adverse childhood experiences can have a profound effect on a developing adolescent's mood and psychological well-being, as well as outlook towards the future.

School Connectedness, Community Involvement, and Parental Supervision and Hopelessness

We also investigated whether the proposed protective factors of school connectedness, community involvement, and parental supervision predicted hopelessness in adolescents, specifically hypothesizing that higher levels of these protective factors would predict lower levels of reported hopelessness. Results for these analyses confirmed the hypotheses and supported previous research. There were significant main effects for school connectedness, community involvement, and parental supervision as predictors of hopelessness, such that those who reported greater levels of these protective factors reported significantly less hopelessness.

Together with the covariates, these three protective factors explained a significant amount of total variance; however, individually and uniquely, they explained only a small portion of the total variance. This may indicate that while the protective factors of school connectedness, community involvement, and parental supervision may predict hopelessness, there are other variables that may better predict an adolescent's level of hopelessness. This is consistent with previous research suggesting that while an individual protective factor alone may not be enough to counteract the effects of adverse experiences; several factors together may predict more positive outcomes (Bradley et al., 1994; Luthar & Zigler, 1992; Vanderbilt-Adriance & Shaw, 2008). Therefore, while the current study supports past research findings regarding the role school connectedness, community involvement, and parental supervision play in protecting against the development of hopelessness and suggests that these factors can be modified to encourage better outcomes, future research should continue to focus on identifying other potential protective factors and investigating the combinations of protective factors that best predict positive outcomes.

Another explanation for these findings may be due in part to the way in which these three protective factors were measured, that is, self-report with a limited number of items. Furthermore, these self-report items may not have completely captured all aspects of school connectedness, community involvement, and parental supervision, thus leading participants to underreport or misrepresent the actual extent to which the protective factors affect them. Additionally, several of the measures demonstrated low reliability, especially the measure of community involvement, likely in part due to the low number of items included. Future research should seek to clarify the items on these self-report scales, and to add items that may have been missed, but which represent important aspects of the protective factors. Longer, more complete measures of school connectedness, community involvement, and parental supervision would likely better capture the nuances of these different protective factors, and would allow for a more in-depth investigation as to the mechanisms behind the associations observed between these factors, adverse childhood experiences, and hopelessness. To my knowledge, no research has previously examined all three of these protective factors in one model.

School Connectedness, Community Involvement, and Adult Supervision: Protective Factors?

The current study also examined whether the protective factors of school connectedness, community involvement, and parental supervision would attenuate the link between adverse childhood experiences and the development of hopelessness. Previous research has indicated that school connectedness, community involvement, and parental supervision may ameliorate the effects of experiencing a high number of adverse childhood experiences and consequently developing hopelessness (Frojd et al., 2007; Li & Lerner, 2011; Wickrama et al., 2003). Results from analyses failed to confirm these hypotheses with no evidence of moderation found in the full

sample, indicating that, contrary to expected findings; higher levels of the proposed protective factors did not attenuate the relationship between adverse childhood experiences and hopelessness. This finding suggests that the relationship between exposure to adverse childhood experiences and reported levels of hopelessness remains the same regardless of the levels of school connectedness, community involvement, and parental supervision. Furthermore, this demonstrates that adverse childhood experiences and the proposed protective factors operate largely independently of one another as predictors of hopelessness, and that their relationships with hopelessness are not contingent upon one another.

Next, we investigated whether hopelessness and adverse childhood experiences experienced differed by concentrated disadvantage groups, and what effect concentrated disadvantage had on the development of hopelessness after undergoing adverse childhood experiences. Analyses revealed significant differences in number of adverse childhood experiences experienced across disadvantage groups, such that those in the high concentrated disadvantage group reported experiencing significantly more adverse childhood experiences than those in the low concentrated disadvantage group. On the other hand, there were no significant differences in number of adverse childhood experiences experienced between those in the medium and high concentrated disadvantage groups or between those in the low and medium concentrated disadvantage groups. Furthermore, it was hypothesized that adolescents living in communities with high concentrated disadvantage would display greater levels of hopelessness than those living in communities with low and moderate levels of concentrated disadvantage. This hypothesis was not supported, as analyses did not find significant differences in hopelessness between concentrated disadvantage groups. This finding is inconsistent with previous research, which demonstrated higher levels of hopelessness in youth from communities with high concentrated

disadvantage, examining this at both the individual and community level (Bolland, 2003; Dupere, Leventhal, & Lacourse, 2009).

One potential explanation for the lack of differences in hopelessness between concentrated disadvantage groups centers around how these groups were divided. Participants were divided into concentrated disadvantage groups based on the school's characteristics, rather than on their own demographics. Therefore, there is the distinct possibility of overlap between the groups (i.e., students from schools in the high concentrated disadvantage group who might actually better fit into the low or medium concentrated disadvantage group). The finding of no significant differences in adverse childhood experiences between the low and medium concentrated disadvantage groups or between the medium and high disadvantage groups lends additional validity to the argument that many participants may not have been assigned to the group that best captures their individual situation.

However, another potential argument for this finding exists, namely that these effects are "real" and that adolescents from communities with high concentrated disadvantage are, on average, not significantly more hopeless than their peers from communities with medium and low concentrated disadvantage. In other words, youth from high disadvantaged communities can remain hopeful, even in the face of adversity and disadvantaged context. Why might this be the case? One potential explanation for this finding is that there are other processes, distinct from the three factors included in the current study, which may serve as protective factors for this particular group. These factors, as discussed by Masten (2001) and numerous others, include cognitive processes, personality processes, and parenting processes, different from the external, environment processes investigated in the current study. Therefore, future studies should continue to investigate other potential protective factors and processes. However, it is important to note that current

findings lend support to Chen and Miller's (2012) "shift and persist" theory. As youth from high concentrated disadvantage in the current sample have equal amounts of hopelessness to those from low and medium concentrated disadvantage, this may indicate that high concentrated disadvantage youth have found positive support (from school, community, and parents), enabling them to better regulate their emotions and feel hopeful about their future (Chen & Miller, 2012).

In a similar way, the next aim of the current study was to examine whether the protective factors of school connectedness, community involvement, and parental supervision operated differently across different levels of concentrated disadvantage. While it was expected that the protective factors would operate differently across the different levels of concentrated disadvantage and that those from the high concentrated disadvantage group would benefit the most from exposure to the proposed protective factors, results did not support this hypothesis. No differences were noted in the way in which the protective factors operated between concentrated disadvantage groups, and those experiencing high levels of concentrated disadvantage did not benefit more from the protective factors than those experiencing low or medium levels of concentrated disadvantage. This leads to the question of whether the factors of school connectedness, community involvement, and parental supervision should be considered protective factors, as they do not meet Rutter's definition (1979) of protective factors (a variable more strongly associated with positive outcomes when exposed to higher levels of the risk, i.e., interactive). Rather, given that these factors predicted similar outcomes regardless of the level of adverse childhood experiences experienced, they may better be classified as compensatory processes (Fergusson & Harwood, 2003; Rutter, 1979; Vanderbilt-Adriance & Shaw, 2008). Compensatory processes, by definition, are processes that operate in a similar manner regardless of the risk exposure (i.e., main effects), an accurate description of how school connectedness,

community involvement, and parental supervision operated in the current study (Fergusson & Harwood, 2003). These factors work similarly across all categories of exposure to risk and disadvantage, and are beneficial whenever they exist, as seen in results from the current study. The current findings shed important light onto the nature of school connectedness, community involvement, and parental supervision, and point to the need for future research to continue to investigate the exact nature of these factors.

School Connectedness as a Protective Factor

The protective factor of school connectedness (sense of school membership) attenuated the association between adverse childhood experiences and hopelessness, but only for the medium concentrated disadvantage group, females, and middle school students. Therefore, per Rutter's definition (1979), school connectedness acts as a protective factor for these groups.

Concentrated Disadvantage Differences in School Connectedness

In the current study, school connectedness served as a protective factor for the medium concentrated disadvantage group. One potential explanation is that students from this group may be overlooked when it comes to encouraging or promoting school involvement, as they do not have the same pressing needs as the high concentrated disadvantage group. Schools from low concentrated disadvantage likely have students who are more involved and have multiple avenues of support, including parental and social support. Parents in lower concentrated disadvantage communities generally promote engagement in extra-curricular and other activities, which provides these students with a feeling of connectedness to others. Schools in the high concentrated disadvantage group may receive extra funding and additional resources to encourage engagement, and students in these schools may be identified as at-risk with more resources being dedicated to ensuring their school participation and inclusion. However, those schools in the medium

concentrated disadvantage group may in essence, "slip through the cracks," as they do not meet the threshold for additional funding, meaning a loss of extra resources targeting struggling students. Furthermore, these same schools do not have the abundant resources of schools from areas of low concentrated disadvantage, meaning that students again are missing out on valuable resources. Therefore, the students at these schools in particular may feel more disconnected and uninvolved, and at these low levels of involvement, those who also have experienced a high number of adverse childhood experiences are particularly vulnerable to the development of hopelessness.

On the other hand, when students in schools with moderate levels of concentrated disadvantage experience a high sense of belonging and connectedness at school, they appear to be protected from developing hopelessness, even if they have experienced adverse childhood experiences. No previous studies have examined this medium disadvantaged group, especially as it relates to these youths' connection to school and symptoms of hopelessness and depression; therefore, future research should continue to focus on this medium concentrated disadvantage group in order to better understand how school connectedness works as a protective factor.

An additional explanation for this pattern of findings potentially involves the normative cognitions related to exposure to varying levels of concentrated disadvantage, and how these cognitions affect the way in which students in the three different concentrated disadvantage groups perceive the potential protective factors and resources offered to them. Those in the low concentrated disadvantage group who are more affluent, have the normative cognitions that they will get what they need from others outside the school and the necessary connections (parents, sports, churches, etc.), so that the connections made within school do not matter as much, and thus expectations of the school fulfilling this role are not as great. Furthermore, those in the low concentrated disadvantage group who have experienced a high number of adverse childhood

experiences are more likely to have the resources to help process and recover from trauma and may be less likely to turn to the school to fulfill these needs. Those in the high concentrated disadvantage group, where the sense of lack of involvement and care is the norm, there is the expectation that little will be provided and that connections will not be made. Therefore, for those in this group with high levels of adverse childhood experiences, this expectation persists, and they may not reach out to connect to the school for help (Cutrona, Wallace, & Wesner, 2006). However, those in the middle concentrated disadvantage group are in a sense "stuck in the middle," as they neither believe that their needs will be met nor believe that people will fail them; consequently, they are striving to make these connections and to feel a sense of belongingness. Therefore, this group is most affected by school connectedness or lack thereof, partially explaining the observed findings.

Gender Differences in School Connectedness

Why does school connectedness moderate the relationship between adverse childhood experiences and hopelessness for females, but not for their male counterparts? Or, in other words, why is school connectedness a protective factor for females, but a compensatory process for males? As the literature shows, this time in the developmental trajectory is particularly challenging for girls, given the number of physiological, social, and psychological changes that occur during the middle and high school years. Research examining the lives of middle and high school girls suggest that females are generally more social during these age groups and have a stronger need to form connections within school than do males, as well as a greater sensitivity to social evaluation (Calvete & Cardinoso, 2005). Consequently, girls may benefit more from the relationships formed at school and the feelings of connectedness within the school. This may also be explained by socialization processes and differential expectations that parents and teachers hold for girls, as girls

are often expected to be more emotionally invested in school and to become more involved in school as a way of ensuring their continued success (Bembenutty, 2007). Therefore, it may be more socially acceptable for girls who have experienced a high number of adverse experiences to seek help and comfort from the school, as a safe place to retreat and belong.

On the other hand, while boys benefit from school involvement and connectedness as well (as demonstrated in the findings from the current study), boys who have experienced a high level of adverse childhood experiences might not experience unique benefits of a sense of school connectedness. This is a much more linear result, where school connectedness predicts the outcomes of boys' development of hopelessness, but fails to buffer against exposure to high levels of adverse childhood experiences. However it is important to note that though school connectedness does not moderate hopefulness for boys, there is evidence that it moderates other outcomes, including sexual risk taking and conduct problems (Langille et al., 2014; Loukas, Roalson, & Herrera, 2010). Future research should continue to work to identify gender differences in the way in which protective factors and compensatory processes operate.

Age Differences in School Connectedness

The current study also demonstrated that school connectedness serves as a protective factor for middle school youth, but acts as a compensatory process for high school youth. Research has shown that while most elementary students feel connected to their schools, by middle school these feelings of connectedness begin to decline so that by high school, 40-60% of youth reported being disconnected from their school (Eccles et al., 1993; Klem & Connell, 2004). This may partially explain the findings of why school connectedness matters more for middle school youth experiencing high levels of adverse experiences- that they still value and pursue connections within that school, while high school students may value these connections to a lesser extent. This is not

to say that high school students do not benefit from these connections; rather, these connections are less uniquely beneficial to high school students who have experienced high numbers of adverse experiences. Therefore, while school connectedness may benefit high school students and serve as a compensatory process, it is not a protective factor when using the more narrow definition of this term. Furthermore, given the differences in maturity between students in middle and high school, it is also possible that middle school students are not yet sophisticated enough to handle the consequences of exposure to adverse experiences and thus, those exposed to these experiences benefit more when they turn to an external institution for support to learn to cope. Nevertheless, as demonstrated above, questions as to the exact mechanisms behind these differences in concentrated disadvantage level, gender, and age remain, and future research is needed to continue to explore school connectedness as a moderator between adverse childhood experiences and hopelessness.

Limitations

While the current study provided valuable information regarding the impact of adverse childhood experiences on the development of hopelessness, as well as the association between proposed protective factors and the development of hopelessness, it is not without limitations. One major limitation of the current study is that the data used were cross-sectional in nature. Though the information was collected from the same cohorts at multiple time points, due to time constraints, only the first wave of data collection was used. Therefore, the information obtained is a snapshot in time, and may not be representative of the students' longer experiences. This limits the ability to make longitudinal observations and to observe trajectories of development, and future studies should focus on examining the information at multiple time points, in an effort to track changes

over time. This will enable a closer examination of developmental trajectories, as well as the various factors that contribute to these trajectories.

A second limitation of the current study is that all information obtained regarding adverse childhood experiences, hopelessness, and potential protective factors was based on self-report. Information obtained through self-report measures can be influenced by a number of different variables, including social desirability, transient mood states, motivation, and even the way in which questions are worded (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Therefore, it is often recommended to obtain information from an additional rater, or in an additional form (e.g., observation, laboratory tasks). However, given the large size of the sample, as well as the limited time and resources and the lack of feasibility and practicality in assessing the variables of interest in other ways, the current study focused on self-report as the most efficient way to gather a large amount of information. Nevertheless, future research in this area should focus on involving other raters, including obtaining parent ratings and perspectives on parental supervision, as well as teacher/school official involvement on perception of student's connectedness with the school. Furthermore, it would be interesting to compare other informant and student informant to see if reports were consistent, and whether one was a stronger predictor of hopelessness than the other.

A third limitation, as discussed above, is the potential overlap in different concentrated disadvantage groups, given that students were classified by school disadvantage, and may not actually fit the profile of that disadvantage group. Therefore, in the future, it will be important to gather information about an individual's risk level, as well as the concentrated disadvantage level of the school. This would mitigate some of the concerns surrounding whether a student actually belongs in a particular concentrated disadvantage group, and whether looking at their individual risk may be more predictive of outcomes such as hopelessness and depression.

Conclusions and Future Directions

Despite these limitations, the current study contributes to the current literature, demonstrating the link between adverse childhood experiences and the development of hopelessness, as well as showing which potential protective factors may be most important for mitigating this link. Furthermore, the large sample size and diverse participant population make the findings generalizable to the larger population, and provides insight into the mechanisms behind the development of hopelessness in the face of adverse childhood experiences and those factors which may protect against this negative outcome. These findings demonstrate that for youth to have positive outcomes, despite risk, they need adult supervision, as well as engagement in prosocial behaviors in the school and community. This supports research by Eccles and colleagues (1993) indicating that development is driven both at the individual and social environmental level. Additionally, given the finding of the importance of school connectedness in mitigating the relationship between adverse childhood experiences and the development of hopelessness, it speaks to the importance of interventions promoting school connectedness, especially in middle school females from medium risk communities. Interventions should focus on promoting belonging and community within the school, in order to provide a place that students can feel connected to, regardless of home or family situation. These findings can inform policy, as well, helping those in charge decide where money can be most efficiently invested. By promoting a better understanding of the influences of school connectedness, community involvement, and parental supervision, these findings will have implications for researchers, educators, clinicians, practitioners, and policy-makers.

APPENDIX A

Table 1

Descriptives

	N	Mean	SD	Range	Alpha
ACE scale score	1196	2.95	3.67	0 - 18	0.88
Hopelessness scale score	1216	3.62	2.96	0 - 17	0.74
SSM scale score	1230	14.26	2.77	5 - 20	0.64
CI scale score	1227	1.35	0.46	.5 - 3	0.44
PS scale score	1218	26.7	4.12	8 - 32	0.81

Table 2

Descriptives by Concentrated Disadvantage: Stratified Sample

Variable	Low CD	Medium CD	High CD
N	389	360	487
Sex			
% Male	50.4	52.5	53.6
% Female	49.6	47.2	46.4
% Missing	--	0.3	--
Ethnicity			
% White or Caucasian	79.9	71.9	36.3
% Non-White or Minority	19.0	25.8	62.2
% Missing	1.0	2.2	1.4
Cohort			
% Middle School	51.4	74.7	42.5
% High School	48.6	25.3	57.5
Living Situation			
% One Parent/Adult	18.5	30.3	42.3
% Two Parents/Adults	81.5	69.7	57.7
ACE Score (SD)	2.32 (3.03)	2.58 (3.20)	3.76 (4.30)
Hopelessness Score (SD)	3.46 (2.71)	3.29 (2.76)	3.99 (3.25)
SSM Score (SD)	14.46 (2.73)	14.76 (2.64)	13.73 (2.82)
CI Score (SD)	1.37 (.46)	1.36 (.44)	1.31 (.47)
PS Score (SD)	26.77 (4.01)	27.30 (3.77)	26.18 (4.40)

Table 3

Correlations

Variable	1	2	3	4	5	6
1. CD	--					
2. ACE scale	.17**	--				
3. Hopelessness scale	.08**	.27**	--			
4. SSM scale	-.12**	-.27**	-.31**	--		
5. CI scale	-.07	-.06*	-.15**	.18**	--	
6. PS scale	-.05	-.27*	-.26**	.38**	.09**	--

*$p < 0.05$; **$p < 0.01$

Table 4

Adverse Childhood Events Predicting Hopelessness

Predictor	B	SEB	β
Sex	0.16	0.17	0.03
Ethnicity	0.33	0.18	0.05
Cohort	0.01	0.17	0.02
Living Situation	0.20	0.19	0.03
Adverse Childhood Events	0.22	0.02	0.27*
R^2		0.08	
F for R^2 change		19.62**	

*$p < .01$

Table 5

Main Effects of Protective Factors

	Model 1			Model 2			Model 3			Model 4		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.09	0.16	0.02	0.16	0.17	0.03	0.05	0.17	0.01	0.05	0.17	0.01
Ethnicity	0.27	0.17	0.05	0.31	0.18	0.05	0.30	0.17	0.05	0.25	0.17	0.04
Cohort	-0.17	0.17	-0.03	0.01	0.17	<.01	-0.13	0.17	-0.02	-0.33	0.17	-0.06
Living Situation	0.24	0.18	0.04	0.18	0.19	0.03	0.25	0.19	0.04	0.25	0.18	0.04
ACE	0.17	0.02	0.21*	-0.91	0.02	0.26*	0.18	0.02	0.22*	0.15	0.02	0.18*
Community Involvement	-0.28	0.03	-0.26*	--	--	--	--	--	--	-0.63	0.18	-0.09*
School Membership	--	--	--	0.71	0.19	-0.14*	--	--	--	-0.22	0.03	-0.21*
Parental Supervision	--	--	--	--	--	--	-0.14	0.02	-0.19*	-0.09	0.02	-0.12*
R^2		0.14			0.10			0.11			0.11	
F for R^2 change		30.75**			20.64**			23.29**			23.29**	

*$p < .01$

Table 6

Interaction Analyses: Protective Factors

	Model 1			Model 2			Model 3		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.06	0.17	0.01	0.05	0.16	0.01	0.05	0.16	0.01
Ethnicity	0.25	0.17	0.04	0.24	0.17	0.04	0.24	0.17	0.04
Cohort	-0.32	0.17	-0.05	-0.33	0.17	-0.06	-0.33	0.17	-0.06
Living Situation	0.24	0.18	0.04	0.25	0.18	0.04	0.25	0.18	0.04
ACE	0.14	0.02	0.17*	0.15	0.02	0.18*	0.14	0.02	0.18*
SSM	-0.22	0.03	-0.21*	-0.22	0.03	-0.21*	-0.23	0.03	-0.21*
Community Involvement	-0.63	0.18	-0.10*	-0.64	0.18	-0.10*	-0.63	0.18	-0.10*
Parental Supervision	-0.09	0.02	-0.12*	-0.09	0.02	-0.12*	-0.08	0.02	-0.11*
ACE*SSM	-0.01	0.01	-0.05	--	--	--	--	--	--
ACE*CI	--	--	--	0.02	0.05	0.01	--	--	--
ACE*PS	--	--	--	--	--	--	<-0.01	<0.01	-0.02
R^2		0.16			0.16			0.16	
F for R^2 change		23.84**			23.50**			23.52**	

*$p < .01$

Table 7

ANCOVA: Differences in Hopelessness by Risk Level

Predictor	S.O.S.	F	*p* value
Intercept	495.94	61.04	0.00
Sex	6.86	0.84	0.36
Ethnicity	16.47	2.03	0.16
Cohort	0.23	0.03	0.87
Living Situation	9.28	1.14	0.29
ACE	679.47	83.63	0.00
Risk Level	14.60	0.90	0.41

*$p < .01$

Table 8

ANCOVA: Differences in ACEs by Risk Level

Predictor	S.O.S.	F	*p* value
Intercept	418.61	33.43	0.00
Sex	27.08	2.16	0.14
Ethnicity	28.39	2.27	0.00
Cohort	292.32	23.34	0.13
Living Situation	418.22	33.40	0.00
Risk Level	129.59	5.17	0.00

*$p < .01$

Table 9

ACEs Predicting Hopelessness by Risk Level

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.19	0.28	0.03	0.18	0.28	0.03	0.16	0.30	0.03
Ethnicity	1.33	0.36	0.19*	-0.40	0.32	-0.06	0.16	0.31	0.03
Cohort	0.46	0.28	0.09	-0.15	0.32	-0.02	-0.11	0.31	-0.02
Living Situation	-0.19	0.37	-0.03	0.41	0.31	0.07	0.20	0.31	0.03
ACE	0.18	0.05	.20*	0.31	0.04	.36*	0.20	0.04	.25*
R^2		0.09			0.13			0.06	
F for R^2 change		7.01*			9.81*			6.00*	

*$p < .01$

Table 10

SSM Predicting Hopelessness by Risk Level

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.17	0.27	0.03	-0.02	0.27	<-0.01	0.14	0.30	0.02
Ethnicity	1.91	0.35	0.17*	-0.37	0.30	-0.06	0.18	0.30	0.03
Cohort	0.17	0.28	0.03	-0.32	0.31	-0.05	-0.39	0.31	-0.06
Living Situation	-0.16	0.36	-0.02	-0.40	0.29	0.07	0.26	0.30	0.04
ACE	0.13	0.05	0.15*	0.22	0.04	0.26*	0.16	0.04	0.21*
SSM	-0.25	0.05	-0.25*	-0.29	0.05	-0.28*	-0.27	0.05	-0.23*
R^2		0.15			0.20			0.11	
F for R^2 change		10.18*			13.50*			9.36*	

*$p < .01$

Table 11

CI Predicting Hopelessness by Risk Level

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.17	0.27	0.03	0.16	0.28	0.03	0.20	0.30	0.03
Ethnicity	1.3	0.35	0.19	-0.46	0.32	-0.07	0.20	0.31	0.03
Cohort	0.3	0.28	0.06	-0.21	0.32	-0.03	-0.19	0.31	-0.03
Living Situation	-0.22	0.37	-0.03	0.44	0.31	0.07	0.12	0.31	0.02
ACE	0.17	0.05	0.19**	0.29	0.05	0.33**	0.19	0.04	0.26**
Community Involvement	-1.26	0.30	-0.21**	-0.64	0.33	-0.10	-0.82	0.32	-0.12*
R^2		0.13			0.13			0.08	
F for R^2 change		8.94**			8.75**			6.13**	

*$p < .05$; **$p < .01$

Table 12

PS Predicting Hopelessness by Risk Level

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.09	0.28	0.02	-0.04	0.29	-0.01	0.14	0.29	0.02
Ethnicity	1.28	0.36	0.18	-0.51	0.32	-0.08	0.20	0.30	0.03
Cohort	0.29	0.29	0.05	-0.29	0.32	-0.05	-0.41	0.31	-0.06
Living Situation	-0.09	0.38	-0.01	0.41	0.31	0.07	0.25	0.30	0.04
ACE	0.17	0.05	0.19**	0.26	0.05	0.30**	0.13	0.04	0.17**
Parental Supervision	-0.08	0.04	-0.12*	-0.14	0.04	-0.19**	-0.19	0.04	-0.25**
R^2		0.10			0.16			0.11	
F for R^2 change		6.42**			10.40**			9.46**	

*$p < .05$; **$p < .01$

Table 13

Adverse Childhood Events, School Membership, Community Involvement, and Parental Supervision Predicting Hopelessness

	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.09	0.27	0.02	-0.12	0.27	-0.02	0.18	0.29	0.03
Ethnicity	1.16	0.35	0.17*	-0.45	0.31	-0.07	0.24	0.30	0.04
Cohort	-0.03	0.29	-0.01	-0.39	0.31	-0.06	-0.62	0.31	-0.09
Living Situation	-0.15	0.37	-0.02	0.40	0.29	0.07	0.23	0.30	0.04
ACE	0.13	0.05	0.14*	0.20	-0.05	0.24*	0.12	0.04	0.17*
Community Involvement	-1.05	0.30	-0.17*	-0.23	0.32	-0.04	-0.63	0.32	-0.09
SSM	-0.22	0.06	-0.21*	-0.25	0.06	-0.25*	-0.19	0.06	-0.17*
Parental Supervision	-0.03	0.04	-0.05	-0.07	0.04	-0.09	-0.14	0.04	-0.19*
R^2		0.17			0.20			0.15	
F for R^2 change		9.25*			10.45*			9.33*	

*$p < .01$

Table 14

*Interaction ACE*SSM Predicting Hopelessness: Risk Level*

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.09	0.27	0.02	-0.12	0.27	-0.02	0.19	0.29	0.03
Ethnicity	1.14	0.35	0.16	-0.47	0.30	-0.08	0.25	0.30	0.04
Cohort	-0.02	0.29	<-0.01	-0.40	0.31	-0.07	-0.61	0.31	-0.09
Living Situation	-0.16	0.37	-0.02	0.37	0.29	0.06	0.23	0.30	0.04
ACE	0.12	0.05	0.13*	0.16	0.05	0.19**	0.12	0.04	0.16**
SSM	-0.23	0.06	-0.23**	-0.25	0.06	-0.24**	-0.19	0.06	-0.17**
Community Involvement	-1.04	0.30	-0.17**	-0.29	0.32	-0.05	-0.63	0.32	-0.09
Parental Supervision	-0.03	0.04	-0.05	-0.07	0.04	-0.10	-0.14	0.04	-0.19**
ACE*SSM	-0.20	0.02	-0.05	-0.03	0.01	-0.12*	<-0.01	0.01	-0.01
R^2		0.18			0.21			0.15	
F for R^2 change		8.36**			10.00**			8.29**	

*$p < .05$; **$p < .01$

Table 15

*Interaction ACE*CI Predicting Hopelessness: Risk Level*

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.09	0.27	0.02	-0.12	0.27	-0.02	0.16	0.29	0.03
Ethnicity	1.16	0.35	0.17**	-0.45	0.31	-0.07	0.22	0.30	0.03
Cohort	-0.03	0.29	-0.01	-0.40	0.31	-0.06	-0.61	0.31	-0.09
Living Situation	-0.15	0.37	-0.02	0.39	0.30	0.07	0.21	0.30	0.03
ACE	0.13	0.05	0.14**	0.19	0.05	0.22**	0.12	0.04	0.16**
SSM	-0.22	0.06	-0.21**	-0.26	0.06	-0.25**	-0.19	0.06	-0.17**
Community Involvement	-1.05	0.30	-0.17**	-0.22	0.32	-0.04	-0.65	0.32	-0.09*
Parental Supervision	-0.03	0.04	-0.05	-0.07	0.04	-0.10	-0.14	0.04	-0.19**
ACE*CI	-0.02	0.09	-0.01	-0.07	0.09	-0.04	0.08	0.07	0.05
R^2			0.17		0.20			0.15	
F for R^2 change			8.21**		9.34**			8.44**	

*$p < .05$; **$p < .01$

Table 16

*Interaction ACE*PS Predicting Hopelessness: Risk Level*

	Risk Level								
	Low			Medium			High		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.09	0.27	0.02	-0.14	0.27	-0.03	0.18	0.29	0.03
Ethnicity	1.14	0.35	0.16	-0.47	0.31	-0.08	0.25	0.30	0.04
Cohort	-0.03	0.29	-0.01	-0.37	0.31	-0.06	-0.62	0.31	-0.09
Living Situation	-0.13	0.37	-0.02	0.37	0.30	0.06	0.22	0.30	0.03
ACE	0.13	0.05	0.14**	0.18	0.05	0.22**	0.13	0.04	0.17**
SSM	-0.22	0.06	-0.22**	-0.26	0.06	-0.25**	-0.19	0.06	-0.17**
Community Involvement	-1.05	0.30	-0.17**	-0.25	0.32	-0.04	-0.63	0.32	-0.09*
Parental Supervision	-0.03	0.04	-0.04	-0.06	0.04	-0.08	-0.15	0.04	-0.19**
ACE*PS	-0.01	0.01	-0.03	-0.01	0.01	-0.06	<0.01	0.01	0.02
R^2		0.18			0.20			0.15	
F for R^2 change		8.25**			9.45**			8.30**	

*$p < .05$; **$p < .01$

Table 17

ANCOVA: Differences in Hopelessness by Gender

Predictor	S.O.S.	F	*p* value
Intercept	561.11	69.08	0.00
Cohort	2.80	0.35	0.56
Ethnicity	28.22	3.47	0.06
Living Situation	9.21	1.13	0.29
ACE	690.80	85.04	0.00
Sex	7.21	0.89	0.35

Table 18: *Multiple Regression Analyses for Females*

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7			Model 8		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β
Ethnicity	0.16	0.23	0.03	0.09	0.22	0.02	0.12	0.23	0.02	0.04	0.22	0.01	-0.04	0.22	-0.01	-0.04	0.22	-0.01	-0.02	0.22	<-0.01	-0.04	0.22	-0.01
Cohort	0.10	0.23	0.02	-0.14	0.23	-0.03	-0.02	0.22	<-0.01	-0.20	0.23	-0.04	-0.41	0.23	-0.07	-0.40	0.23	-0.07	-0.41	0.23	-0.07	-0.41	0.23	-0.07
Living Situation	0.4	0.25	0.06	0.43	0.25	0.07	0.39	0.25	0.06	0.43	0.24	0.07	0.42	0.24	0.07	0.41	0.24	0.07	0.42	0.24	0.07	0.42	0.24	0.07
ACE	0.25	0.03	0.31*	0.19	0.03	0.25*	0.23	0.03	0.29**	0.20	0.03	0.25**	0.16	0.03	0.21**	0.14	0.03	0.18**	0.16	0.03	0.20**	0.16	0.03	0.21**
SSM	--	--	--	-0.23	0.04	-0.22*	--	–	--	--	--	--	-1.01	0.24	-0.16**	-0.14	0.04	-0.14**	-0.16	0.04	-0.14**	-0.15	0.04	-0.14**
Community Involvement	--	--	--	--	--	--	-1.17	0.24	-0.18**	--	--	--	-0.15	0.04	-0.14**	-1.00	0.24	-0.16**	-0.99	0.24	-0.16**	-1.01	0.24	-0.16**
Parental Supervision	--	--	--	--	--	--	--	–	--	-0.17	0.03	-0.23**	-0.13	0.03	-0.18**	-0.13	0.03	-0.18**	-0.13	0.03	-0.18**	-0.13	0.03	-0.18**
ACE* SSM	--	--	--	--	--	--	--	–	--	--	--	--	--	--	--	-0.03	0.01	-0.10**	--	--	--	--	--	--
ACE*CI	--	--	--	--	--	--	--	–	--	--	--	--	--	--	--	--	--	--	-0.07	0.06	-0.04	--	--	--
ACE*PS	--	--	--	--	--	--	--	–	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.01	0.01	<0.01
R^2		0.10			0.14			0.13			0.13			0.18			0.20			0.19			0.19	
F for R^2 change		16.281**			19.484**			18.07**			19.50**			19.51**			18.13**			17.26**			17.04**	

*$p < .05$; **$p < .01$

Table 19: *Multiple Regression Analyses for Males*

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7			Model 8		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β
Ethnicity	0.57	0.28	0.09	0.52	0.26	0.08	0.56	0.28	0.09	0.62	0.27	0.10*	0.58	0.27	0.09	0.58	0.27	0.09	0.55	0.27	0.09	0.57	0.27	0.09
Cohort	0.09	0.26	0.01	-0.18	0.25	-0.03	0.03	0.26	0.01	-0.08	0.26	-0.01	-0.27	0.25	-0.04	-0.27	0.25	-0.05	-0.26	0.25	-0.04	-0.27	0.25	-0.05
Living Situation	-0.01	0.28	<-0.01	0.05	0.27	0.01	-0.04	0.28	-0.01	0.07	0.28	0.01	0.07	0.27	0.01	0.07	0.27	0.01	0.07	0.27	0.01	0.08	0.27	0.01
ACE	0.18	0.04	0.22*	0.14	0.03	0.17*	0.18	0.04	0.22**	0.15	0.04	0.18**	0.12	0.04	0.15**	0.13	0.04	0.16**	0.12	0.04	0.15**	0.11	0.04	0.14**
SSM	–	--	--	-0.32	0.05	-0.29*	--	--	–	–	--	--	-0.26	0.28	-0.04	-0.30	0.05	-0.27**	-0.29	0.05	-0.27**	-0.30	0.05	-0.28**
Community Involvement	–	--	--	--	–	--	-0.64	0.28	-0.09*	–	--	--	-0.3	0.05	-0.27**	-0.26	0.28	-0.04	-0.31	0.28	-0.05	-0.27	0.28	-0.04
Parental Supervision	–	--	--	--	–	--	--	--	–	-0.12	0.03	-0.16**	-0.05	0.03	-0.06	-0.05	0.03	-0.06	-0.05	0.03	-0.07	-0.04	0.03	-0.06
ACE* SSM	–	--	--	--	–	--	--	--	–	–	--	--	--	–	--	<0.01	0.01	0.01	–	--	--	--	–	–
ACE*CI	–	--	--	--	–	--	--	--	–	–	--	--	--	–	--	--	--	–	0.14	0.07	0.08	--	–	–
ACE*PS	–	--	--	--	–	--	--	--	–	–	--	--	--	–	--	--	--	–	–	--	--	-0.01	0.01	-0.04
R^2		0.07			0.15			0.07			0.09			0.15			0.15			0.16			0.15	
F for R^2 change		9.653**			9.845**			8.718**			10.498**			13.580**			11.88**			12.39**			12.00**	

*$p < .05$; **$p < .01$

Table 20

ANCOVA: Differences in Hopelessness by Cohort

Predictor	S.O.S.	F	*p* value
Intercept	1202.47	148.03	0.00
Sex	7.21	0.89	0.35
Ethnicity	28.22	3.47	0.06
Living Situation	9.21	1.13	0.29
ACE	690.80	85.04	0.00
Cohort	2.80	0.35	0.56

Table 21: *Multiple Regression Analyses for Middle School*

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7			Model 8		
Predictor	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.20	0.21	0.04	0.10	0.20	0.02	0.19	0.21	0.04	0.08	0.21	0.01	0.06	0.2	0.01	0.04	0.20	0.01	0.05	0.20	0.01	0.05	0.20	0.01
Ethnicity	0.53	0.21	0.09*	0.43	0.20	0.08*	0.50	0.21	0.09*	0.41	0.21	0.07	0.36	0.21	0.07	0.33	0.20	0.06	0.36	0.21	0.07	0.35	0.21	0.06
Living Situation	0.37	0.23	0.06	0.39	0.22	0.07	0.35	0.23	0.06	0.44	0.23	0.08*	0.4	0.22	0.07	0.38	0.22	0.07	0.40	0.22	0.07	0.39	0.22	0.07
ACE	0.29	0.03	0.33**	0.23	0.03	0.27**	0.28	0.03	0.33**	0.24	0.03	0.29**	0.21	0.03	0.25**	0.17	0.03	0.21**	0.21	0.03	0.25**	0.20	0.03	0.24**
SSM	--	--	--	-0.23	0.04	-0.23**	--	--	--	--	--	--	-0.52	0.22	-0.09*	-0.19	0.04	-0.19**	-0.19	0.04	-0.19**	-0.19	0.04	-0.20**
Community Involvement	--	--	--	--	--	--	-0.77	0.23	-0.13**	--	--	--	-0.19	0.04	-0.19**	-0.58	0.22	-0.10**	-0.52	0.22	-0.09*	-0.52	0.22	-0.09*
Parental Supervision	--	--	--	--	--	--	--	--	--	-0.13	0.03	-0.18**	-0.07	0.03	-0.10*	-0.08	0.03	-0.11*	-0.07	0.03	-0.10*	-0.07	0.03	-0.09*
ACE* SSM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-0.04	0.01	-0.13**	--	--	--	--	--	--
ACE*CI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.07	<0.01	--	--	--
ACE*PS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-0.01	0.01	-0.06
R^2		0.12			0.17			0.14			0.14			0.18			0.20			0.18			0.18	
F for R^2 change		21.58**			25.33**			19.66**			20.44**			18.84**			18.16**			16.46**			16.78**	

*p < .05; **p < .01

Table 22: *Multiple Regression Analyses for High School*

Predictor	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7			Model 8		
	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β	B	SEB	β
Sex	0.06	0.27	0.01	0.06	0.26	0.01	0.09	0.27	0.01	-0.02	0.27	-0.01	0.04	0.26	0.01	0.04	0.26	0.01	0.03	0.26	0.01	0.03	0.26	0.01
Ethnicity	0.10	0.29	0.02	0.12	0.28	0.02	0.09	0.29	0.01	0.16	0.29	0.02	0.15	0.28	0.02	0.15	0.28	0.02	0.13	0.28	0.02	0.14	0.28	0.02
Living Situation	-0.04	0.31	-0.01	0.05	0.30	0.01	-0.07	0.30	-0.01	<0.01	0.30	<0.01	0.05	0.29	0.01	0.05	0.30	0.01	0.05	0.30	0.01	0.05	0.30	0.01
ACE	0.17	0.03	0.21**	0.13	0.03	0.18**	0.16	0.03	0.23**	0.13	0.04	0.16**	0.1	0.04	0.13**	0.10	0.04	0.13**	0.10	0.04	0.13**	0.10	0.04	0.12**
SSM	--	--	--	--	--	-0.26**	--	--	-0.15**	--	--	--	-0.76	0.30	-0.11*	-0.25	0.05	-0.21**	-0.25	0.05	-0.21**	-0.25	0.05	-0.21**
Community Involvement	--	--	--	--	--	--	-1.07	0.30	--	--	--	--	-0.25	0.05	-0.13**	-0.76	0.30	-0.11**	-0.78	0.30	-0.11**	-0.76	0.30	-0.11**
Parent Supervision	--	--	--	--	--	--	--	--	--	-0.15	0.03	-0.20**	-0.1	0.05	-0.13*	-0.10	0.05	-0.13**	-0.10	0.05	-0.13**	-0.10	0.05	-0.13*
ACE* SSM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.01	0.01	--	--	--	--	--
ACE* CI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.04	0.07	0.02	--	--	--
ACE* PS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<-0.01	0.01	-0.20
R^2		0.05			0.11			0.07			0.08			0.14			0.14			0.14			0.14	
F for R^2 change		6.78**			13.83**			8.12**			9.87**			12.53**			10.94**			10.98**			10.96**	

*$p < .05$, **$p < .01$

APPENDIX B

Figure 1
SSM moderating relationship between ACEs and hopelessness: Medium CD

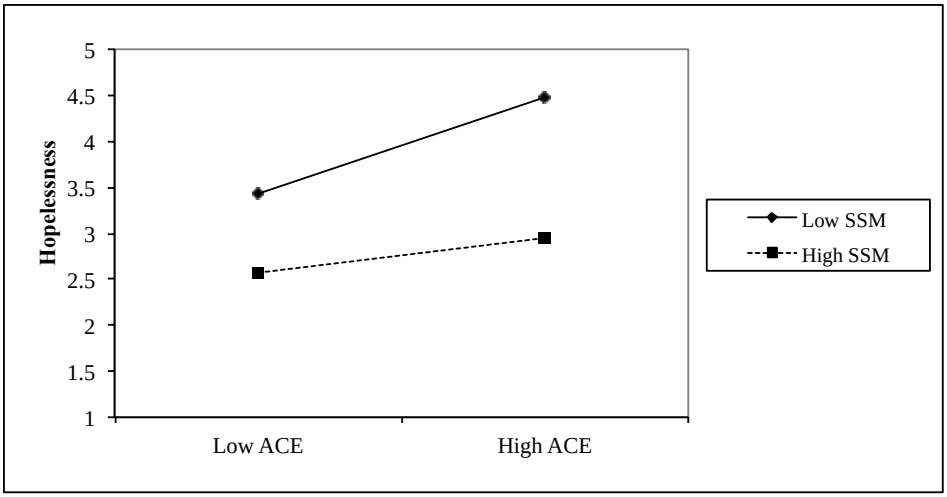


Figure 2
SSM moderating relationship between ACEs and hopelessness: Females

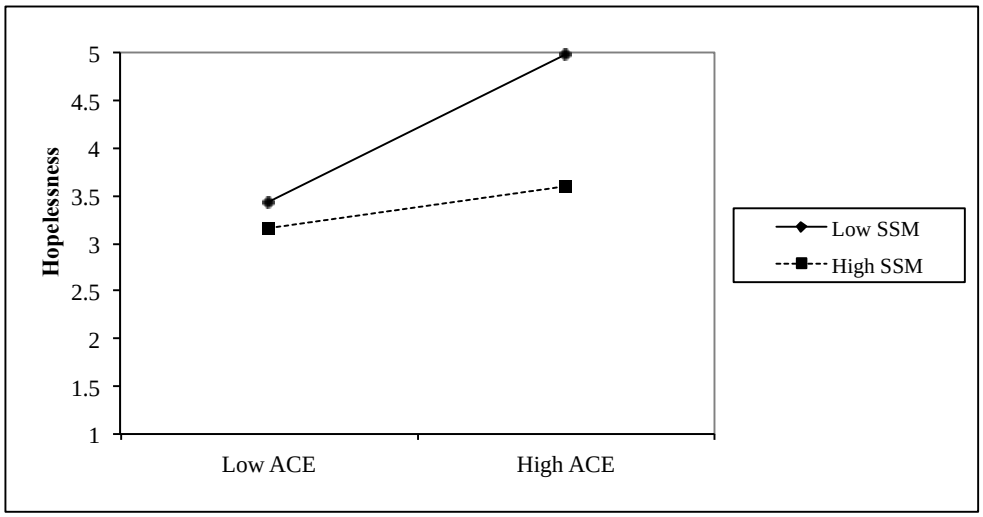
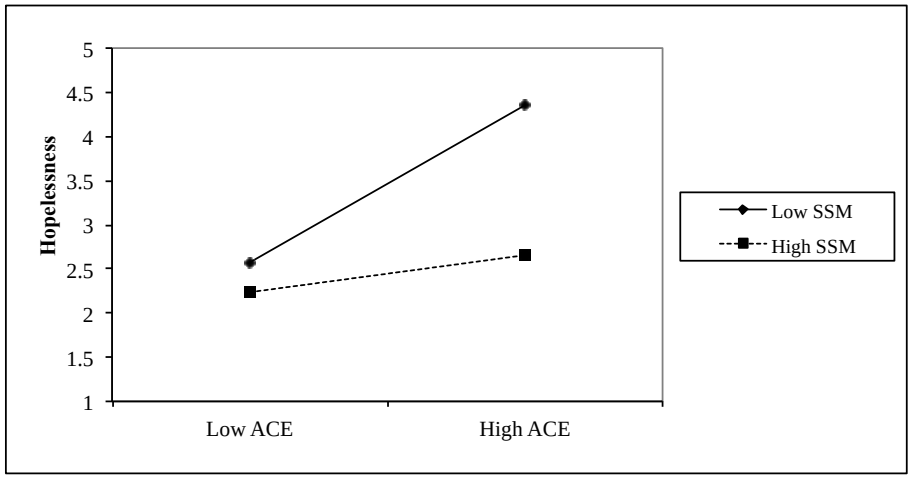


Figure 3
SSM moderating relationship between ACEs and hopelessness: Middle School



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ABSTRACT

ADOLESCENT HOPELESSNESS: SCHOOL CONNECTEDNESS, COMMUNITY INVOLVEMENT, AND ADULT SUPERVISION AS PROTECTIVE FACTORS IN THE CONTEXT OF ADVERSE CHILDHOOD EXPERIENCES

by

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Research has found that adverse childhood experiences (ACEs) such as physical abuse, sexual abuse, emotional abuse, absent parent, and parental drug use are linked to a number of negative outcomes, including a sense of hopelessness (Flouri & Panourgia, 2012). However, not every child or adolescent exposed to ACEs will experience negative outcomes or develop a sense of hopelessness, due to potential protective factors which may act as buffers to exposure to trauma. The current study investigated the relationship between ACEs reported by adolescents and self-reported feelings of hopelessness, and examined the potential modifiable external protective factors of school connectedness, community involvement, and parental supervision, which may mitigate the relationship between ACEs and the development of hopelessness. It also uniquely investigated concentrated disadvantage as a novel way to study the effect neighborhood level traits have on the development of hopelessness after experiencing ACEs. It was expected that higher levels of ACEs would predict greater levels of hopelessness, and that the factors of school connectedness, community involvement, and parental supervision would attenuate the link between ACEs and hopelessness. Furthermore, it was expected that those from higher levels of

concentrated disadvantage would experience more ACEs and greater levels of hopelessness than those at lower levels, and that the factors of school connectedness, community involvement, and parental supervision would operate differently across different levels of disadvantage. Finally, exploratory analyses were conducted to determine if cohort (middle vs. high school) or sex (male vs. female) impacted the way in which the factors operated across the sample.

Participants (N = 1238) completed a survey addressing demographics and multiple domains of functioning. Exposure to trauma was measured using the ACE scale (Felitti et al., 1998), while hopelessness was measured using Kazdin's Hopelessness Scale (1983). School connectedness was measured using the Sense of School Membership Scale (Goodenow, 1993), community involvement was measured using the Community Involvement Scale (Tolan, Gorman-Smith, & Henry, 2001), and parental supervision was measured using the Parental Supervision scale from the Seattle Social Development Project (Arthur et al., 2002). Multiple regressions, ANCOVAs, and hierarchical linear regressions were used to conduct analyses. ACEs significantly predicted hopelessness, as did the factors of school connectedness, community involvement, and parental supervision. However, these three factors did not moderate the relationship between ACEs and hopelessness in the overall sample. Those from high concentrated disadvantage experienced significantly more ACEs than those from low concentrated disadvantage; no significant differences in hopelessness between groups were observed. ACEs predicted hopelessness at the concentrated disadvantage level, as well as in analyses of the separate cohorts and sexes, as did the three factors (exception: community involvement failed to predict hopelessness for the medium concentrated disadvantage group). Group level moderation analyses revealed that school connectedness attenuated the relationship between ACEs and hopelessness in medium concentrated disadvantage, middle school females. The current study contributed to the literature,

demonstrating the link between ACEs and hopelessness, as well as showing which protective factors are most important for mitigating this link. Findings demonstrate that for youth to have positive outcomes, they need engagement in prosocial behaviors in the community and school, as well as adult or parental supervision. Furthermore, these findings speak to the importance of promoting a connection to the school, especially in the case of highly trauma exposed female, middle-school adolescents from medium concentrated disadvantage, and have implications for educators, clinicians, parents, and policy-makers.

AUTOBIOGRAPHICAL STATEMENT

Caitlin McLear was raised in Greenville, South Carolina, where she attended Furman University. In her senior year of college, she worked in Dr. Erin Hahn's Baby Learning Lab at Furman University, where she studied the effects of autism-inclusive education on neurotypical children. A seminar on counseling and clinical psychology senior year cemented Caitlin's love for the field, and she applied to clinical psychology programs, with a focus on child clinical psychology. She graduated Cum Laude from Furman in May of 2010, with a Bachelor of Science in Psychology, and was fortunate to be accepted to Wayne State University (WSU) working with Dr. Christopher Trentacosta in the Family Emotion Lab.

As a graduate student, Caitlin continued to develop her interests in research and clinical work. She continued to participate in research in the Family Emotion Lab, but also expanded her interests, working for over two years with Dr. Richard Slatcher and Dr. Deborah Ellis on a project investigating life stress and diabetes management in adolescents and young adults, with the goal of identifying social and environmental stressors contributing to poor diabetes management. Clinically, Caitlin worked for two years as a practicum student at The Children's Center, where she learned to negotiate the community mental health system, and provided services to children and their families. Caitlin also worked as a practicum student at the Children's Hospital of Michigan in the General Pediatrics and Adolescent Medicine Clinic. Most recently, Caitlin completed her pre-doctoral internship at the Virginia Treatment Center for Children (Richmond, VA) in June 2016. She accepted a post-doctoral position at the Lowdergroup in Greenville, South Carolina and is excited to continue working with children, adolescents, and families (and to be home!).