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*East Tennessee State University*

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The Role of Self-Efficacy, Family Support, Family Affection, and  
Family Conflict on Adolescent Academic Performance

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A Thesis

presented to

the faculty of the Department of Psychology

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Master of Arts in Psychology

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by

Christine L. Pearson

December 2009

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Peggy Cantrell, Ph.D., Chair

Jon Ellis, Ph.D.

Stacey L. Williams, Ph.D.

Keywords: Adolescent academic performance, family conflict, family support, family affection, self-  
efficacy, parent involvement

## ABSTRACT

The Role of Self-Efficacy, Family Support, Family Affection, and

Family Conflict on Adolescent Academic Performance

by

Christine L. Pearson

The Department of Education funded this study as a part of a larger longitudinal study to examine the relationship between the role of family environment factors and academic performance among adolescents. The participants included 685 middle school adolescents from rural and semirural public schools. Family environment factors were gathered using the Family Environment Scale (Moos & Moos, 1981) and included family conflict, family support, and showing affection. Standardized test scores across 4 domains and final course grades across 4 domains were collapsed and used as measures of academic performance. The moderating relationship between support, conflict, and academic performance was examined. The mediating relationships between self-efficacy, parent involvement, family environment factors, and academic performance were examined. Results indicated that significant relationships existed and underscore the importance of bolstering resiliency in adolescents as mechanisms for ameliorating risk factors associated with academic failure.

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## ACKNOWLEDGEMENTS

*We cannot seek achievement for ourselves and forget about progress and prosperity for our community... Our ambitions must be broad enough to include the aspirations and needs of others, for their sakes and for our own. - Cesar Chavez*

I am grateful to everyone who has helped me progress this far in my career. I would not be here without all of you. A special thank you to all who helped make this happen. I am indebted to all of you who have been instrumental in fostering academic, professional, and personal development in my life. I offer my sincerest gratitude and thanks to my thesis Chair Dr. Peggy Cantrell, who has supported me not only in this project but also in every aspect of my professional development. It has been her unwavering support, patience, and expertise that has helped me succeed. I am also grateful to my committee members, Dr. Jon Ellis and Dr. Stacey Williams. Thank you for your support and advice. I am exceedingly grateful to Rachel Coykendall for without her this document would have gone nowhere. To Sean and Chandni thank you for the being beside me every step of the way, for your assistance, for keeping me focused, and for providing an empathetic ear. Most importantly, I would like to thank Michael for his encouragement, understanding, and most of all his sacrifice. His support and love have helped me stay determined. I would be a lesser person without you.

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## CHAPTER 1

### INTRODUCTION

Substantial attention has been given to how factors of family involvement, family functioning, perceptions of intra-family context, and social contexts shape adolescent academic adjustment, which has been identified as a fundamental indicator of well-being in adulthood. Separate lines of theoretical and empirical literature provide a basis for assessing the application of specific family processes, intrapersonal development, and social constructs on adolescent adjustment (e.g., Baumrind, 1966). Subsequently, attention has been paid to aspects of family context, such as parental involvement, parenting style, family conflict, and family support (e.g., Mayo & Christenfeld , 1999; Snyder et al., 2002) in an attempt to identify converging determinants of academic success with a goal of identifying how families can function to allow adolescents to flourish in various academic environments. The question then arises, which factors are most salient in determining success.

Existing literature provides multiple theories for addressing the question of which factors may be most salient in determining academic success. The Coleman report (Coleman et al., 1966), one of the most important educational studies of the 20th century and commissioned by the U.S. Department of Education, added fuel to an already unstable socio-political atmosphere because it suggested that racial segregation was detrimental to the academic well-being of underserved minorities. Although the Coleman report provided information about the nature of educational services for underserved populations as a significant risk factor, it also broadly assessed family environment within a social context in order to examine how children functioned academically. This ecological perspective of assessing academic performance by addressing multilayered systems of influence on the individual would later become a basic construct relevant to expanding developmental theories (Bandura, 1977; Bronfenbrenner, 1977).

The Coleman report (Coleman et al., 1966) resulted in three broad findings. The first finding was that academic adjustment related to family background. Secondly, student academic success was related to the neighborhood composition and tax base provided by neighborhood makeup for individual schools. Finally, performance related to the students' sense of control of their environment. Coleman identified family background as a primary function of academic success because family functioning spans ethnicity and suggests that children living in poor, unstable environments perform better if they attend school regularly and spend significantly less time in problematic family environments.

Since the Coleman report (Coleman et al., 1966), researchers have related academic adjustment to a variety of family psychosocial factors (e.g. educational background, self-concept, family income, and family structure) and the literature has demonstrated an increased interest in maladaptive family environments as related to academic performance (i.e. Ou & Reynolds, 2008). Much of adolescent academic socialization is developed in the context of family environment (Villar, Luengo, Gomez-Fraguela, & Romero, 2006), and a number of family environmental factors including low socioeconomic status (Jimerson, Egeland, Sroufe, & Carlson, 2000), low parental education (Oakland, 1992), and family process factors such as parental conflict (Villar et al.), divorce (Amato, 2001), and parental mood (Downy & Coyne, 1990) predict academic success.

Despite extensive research of markers in academic success or adolescent maladjustment, a need for coherent well-defined risk resiliency models remains. Educators and or policy makers would most likely benefit from the implications of studies that predict academic success or failure by identifying common patterns of accumulated risk or resiliency and academic adjustment. The present study was designed to provide a theoretical structure including multiple factors of risk and resiliency into the same model in order to identify risk and resiliency factors that coexist and are differentially associated with academic performance. This study is a part of a larger longitudinal study addressing

this gap in the literature. The purpose of this project is to determine the contribution of various interpersonal and intrapersonal components that affect academic success as measured by both classroom performance and standardized test scores across core areas.

### *Family Factors*

Researchers have proposed and examined models of family functioning as contextual processes in adolescent adjustment for several decades. While factors within the family serve as both protective and risk factors for adjustment, studies have indicated that conceptualizing family processes within a backdrop of societal events provides a better framework for predicting adolescent academic adjustment (Darling & Steinberg, 1993). Family conflict is associated with poor overall functioning (Boney-McCoy & Finkelhor, 1995; Shakoor & Chalmers, 1991) such that children exposed to family conflict have been shown to have increased risk for a variety of emotional and behavioral problems. In fact, family conflict may serve as the strongest indicator of psychosocial adjustment in children (Amato & Keith, 1991). In general, it has been established that exposure to conflict has negative impacts on adolescent development and these impacts in many cases extend into adulthood (Grych & Fincham, 1990). Researchers have attempted to separate experiencing violence from witnessing violence, and the findings from these studies indicated that both have negative effects on adolescent academic performance (Thompson & Massat, 2005). Turner and Barrett (1998) found that frequent exposure to conflict is associated with adjustment problems while children exposed to infrequent parental conflict that is successfully resolved are less likely to experience adjustment problems.

El-Sheikh, Buckhalt, Keller, Cummings, and Acebo (2007) related family conflict to actual and perceived predictions of adolescent academic performance and found an interesting connection between an intervening variable of sleep such that sleep was related to the insecurity in family

relationships and academic performance. Additionally, they found that among minorities and children of lower SES these effects were more pronounced.

In addition to parental conflict, divorce and parental mood may disrupt adolescent development (Campbell, Pungello, & Miller-Johnson, 2002; Forehand, Biggar, & Kotchick, 1998). Adolescents from divorced families have been shown to have lower grades and more absences than adolescents of nondivorced families (Ham, 2004; Tillman, 2007). Additionally, Furstenberg and Teitler (1994) found adolescents of nonintact families were more likely to drop out of high school and less likely to attend college than adolescents in intact families. This effect was moderated by age of child when parents first divorced. However, it is noteworthy to highlight that much of the current literature equates family conflict with divorce. When dealt with as separate constructs, it has been found that the degree of conflict mediates the effects of divorce on childhood adjustment. For example, Amato and Keith (1991) found differences between low conflict divorced families and high conflict intact families, with adolescent adjustment better for nonintact families with low conflict than with intact families with high conflict.

The relationship between family conflict and internal states of the adolescent is not as well studied but is important in predicting adolescent adjustment. The perceptions of high levels of family conflict have been associated with high levels of continuous negative emotional arousal (Monahan, Buchanan, Maccoby, & Dornbusch, 1993). In turn, high levels of negative emotional arousal have been linked indirectly to learning difficulties in adolescents (Bandura, 1977). Perspectives on emotional regulation suggest that the presence of conflict influences the relationship between performance in adolescence (Garbarino, 2002) such that the accumulation of risk (i.e. family conflict) reduces the likelihood of student success. Research examining both the direct and indirect effects of family conflict indicates that emotional insecurity about family conflict has been linked to problems in school performance (Sturge-Apple, Davies, & Cummings, 2006; Wierson, Forehand, & McCombs,

1988). Davies and Cummings (1994) posited the emotional security hypothesis, which states that children's emotional regulation plays a role in the effects of inter-parental conflict. According to the authors, when parental conflict is interpreted by a child as threatening to family stability as well as the child's well-being, the cognitive, behavioral, and emotional states within the child are negatively altered.

Although family conflict has consistently been a principle factor related to academic performance, few studies have examined it in terms of both risk and resiliency. Resilient adolescents have been characterized as having the ability to return to a positive psychological or physiological state in the face of challenges or disruptions (Rutter, 1993). In addition to being able to monitor and control their psychological and physiological states, resilient adolescents have the ability to respond positively to adversity (Waller, 2001) and to effectively manage internal stress and external stressors (Werner & Smith, 1982). In opposition, adolescents who respond with less resilience may function marginally across various domains. Researchers have suggested that adolescents who respond less resiliently may show impaired abilities to meet developmental challenges including academic performance (Finn & Rock, 1997; Tross, Harper, Osher, & Kneidiner, 2000; Zalaquett & Lopez, 2006). Although it is expected that conflict exists in many families, the presence of factors that help adolescents respond in resilient manners must be considered in order to effectively understand how conflict in the family is directly or indirectly related to academic performance. The relationship between risk and resiliency factors in the development of adolescents entails using models that address the simultaneous presence of risk factors such as conflict and factors associated with success such as parent involvement or student self-efficacy in order to understand how one factor might ameliorate possible risk.

### *Risk and Resiliency*

In the past 3 decades, social science research has shifted to include models where resiliency despite the presence of risk is considered and the ability to achieve successful outcomes across various domains is addressed (Sameroff & Chandler, 1975). Resilience as a concept describes the ability to resist relative to the presence of risk factors (Rutter, 1999) and has emerged as a theoretical perspective within developmental and ecosystems social science perspectives. It has also been defined as a dynamic process made up of the ability to adapt positively within the context of significant adversity (Luthar, Cicchetti, & Becker, 2000). Research suggests that regardless of the high-risk status of students some might be able to find success or gain higher attainment provided they have access to adequate protective factors (Doll & Lyons, 1998). These risk-resiliency models initially focused on an individual perspective rather than an interactional model between a person and the environment (Jessor, 1993). In general, risk models initially disregarded the reciprocity of experience or the multiple risk factors that accumulated to increase the likelihood of negative outcomes. Identified predictors of success include such factors as parental control (Fine, Voydanoff, & Donnelly, 1993; Lakshmi, & Arora, 2006), parental support (Cassidy & Lynn, 1991), and early intrinsic motivation (Gottfried, 1990). Factors that restrict academic success include decreased feelings of competence (Wigfield & Eccles, 2000), adolescent perceptions of low family support, and family conflict (Forehand, et al., 1998). Additionally, research suggests that exposure to combinations of these factors or the interconnectivity of variables increased the risk of nonsuccess. However, studies have also identified the active stance of resiliency in academic success (Bowen, 2007; Werner & Smith, 1992).

Risk and resiliency studies have shown that children in less than ideal situations can still develop into productive, well-adjusted adults provided that protective factors such as social support, family support, religious involvement, and positive school environments are present (Doll & Lyon, 1998). Parent involvement defined as parent expectations of school performance, verbal

encouragement, interactions regarding school work, academic guidance, support, and student perceptions of parental influence has been one of the most significant predictors of healthy overall adjustment (Gibson & Jefferson, 2006; Rosenblatt & Peled, 2002) as well as academic success (Forehand, Wierson, Thomas, & Armistead, 1991). Ecological, family systems, and social learning theory researchers have also found robust evidence for self-efficacy as a resiliency factor that when present allows adolescents to manage adverse events and moderates the relationship between many risk factors and outcomes measures (Deb & Arora, 2008).

### *Intrapersonal Factors*

A wide array of predictor variables have been related to academic performance adding to the complexity of predicting academic performance. Researchers have suggested that coping with stress has been effectively managed by both internal and external resources (Moos & Schaefer, 1993). For example, Werner and Smith (1982) identified intellectual ability as a protective factor among students. Intellectual ability has been repeatedly identified as a primary component of adolescent adjustment. Additionally, gender has been related to academic outcomes such that boys were found to express more emotional and behavioral problems in the presence of similar risk factors such as family conflict (Rutter, 1985). Numerous studies have established the presence of a positive self-concept, high self-esteem, and high self-efficacy and or beliefs in one's abilities are related to academic resiliency (Martin & Marsh, 2008) and increased academic performance (Coover & Murphy, 2000; McLean, 1997; Pajares, 1996; Skaalvik, Skaalvik, & Olsson, 2008) despite gender or intellectual ability. Self-concept is often linked with self-efficacy and has been related to increased adolescent academic performance (Bruner, 1996). Other intrapersonal factors including performance striving, motivation, affective reactions, aspirations, expectations of future outcomes, and locus of control (Murphy & Moriarty, 1976; Werner & Smith) related to academic success have been identified. Resiliency research and research on adolescent academic performance clearly identify multiple

characteristics that provide protection in the presence of risk. These characteristics parallel the protective factors found in the family environments of resilient adolescents (Abelev, 2009; Benzie & Mychasiuk, 2009; Prevatt, 2003; Rak, & Patterson, 1996; Richardson, 2002; Wolkow & Ferguson, 2001). The subset of factors chosen for this model integrate protective factors and known factors from concepts of social learning theory, ecological theory, and resiliency models, taking into account the persons inner strengths as well as their family environment.

### *Theory*

Identifying the complexity of risk factors associated with adolescents failing to succeed across various measurable outcomes has become a commonplace practice in psychology, with a plentitude of theories that explain variations. For example, Ainsworth and Bowlby (1991) provided an explanation of how parental care and support increase a child's attachment security, which is related to developing protective factors such as increased self-efficacy that are also associated with increased academic performance. Theories in learning suggest that adolescent behaviors are learned through parent-child modeling where problems in parent-child relationship explain academic performance variations (Sigel, 1972). Social learning theory proposes that adolescent adjustment problems result from children witnessing poor family conflict resolution (McCombs, Zins, Weissberg, Wang, & Walberg, 2004). Family systems theory proposes that family conflict affects adolescent academic performance by disrupting family functioning and lowering parent ability to attend to the child's needs effectively (Patterson, 1982). It is also important to emphasize that not all adolescents experiencing these deficiencies also experience negative outcomes. Developmental theories have provided a basic framework for identifying factors related to failure and success, but extending this framework by including risk and resiliency factors is an important step toward gaining a complete picture of why some individuals prosper and others do not, given similar circumstances. Critical to our understanding of the student academic maladjustment has been the identification of factors that

place adolescents at increased risk for poor achievement outcomes (Bempechat, Graham, & Jimenez, 1999). Additionally, through an exploration of the relationships between family support and conflict and their relationship to other associated variables, insights might be gained concerning protective and risk factors associated with adolescent academic performance.

### *Ecological Systems Theory*

Ecological Systems Theory, also known as Human Ecology Theory or Bioecological Systems Theory (Bronfenbrenner, 2005), offers a new perspective within developmental psychology providing that the child's environment and aspects within the person affect the child's development. The focus became the interactions among environmental factors and the person. The term bioecological emphasizes that the biology of an individual works as a primary environment in the individual's system; however, the system is interactive and subject to change. Bronfenbrenner (1977, 1979, 1986) suggested that an individual develops within a specific context or ecology. Bronfenbrenner posited that it was not only a child's family that influences a child's learning, but also that immediate surroundings, community networks, and cultural systems influence both the child's and the family's development. He posited that individual systems work within a larger framework that is both interactive and bidirectional.

Bronfenbrenner's theoretical model has four levels; the microsystem, the mesosystem, the exosystem, and the macrosystem. The most immediate system for the individual is the microsystem. The intermediate system is the mesosystem. The exosystem is the larger social system that the individual does not deal with directly. The most removed system is the macrosystem. These systems each influence the development of the individual and are interactive and bidirectional. The microsystem includes the earliest relationships to the individual, specifically, the family along with local neighborhood or community institutions such as the school, religious institutions, and peer groups. This is the layer closest to the child, and the structures in this system are connected directly to

the child. The microsystem encompasses the relationships a child has with the immediate surroundings and consists of activity, interpersonal relationships, and roles experienced within those immediate surroundings (Bronfenbrenner, 1977). For example, a child's parents may affect his or her beliefs and behavior. The child also affects the behavior and beliefs of the parents (e.g. Thomas, Chess, & Birch, 1968). Within the microsystem the interaction is the strongest and has the largest impact on the individual. The intermediate system influencing the individual is the mesosystem. According to Bronfenbrenner, the mesosystem reflects influences such as social institutions involved in activities such as transportation, entertainment, and news organizations. The mesosystem constituents are filtered through the microsystem institutions. Finally, the most removed system from the individual, the macrosystem, includes institutional influences as well as international, regional, or global changes or possibly more abstract aspects of culture. For example, the influences of global economy are a widespread influence on the ways societies, communities, and families operate. Macrosystem influences are filtered through the previous two systems.

Ecological systems theory posits that changes or disruptions in an individual's environment not only affect the level or system in which they occur but ripple through other layers and components in those systems. The question for research is, given this mode what kind of change and how does this change affect the individual. According to this theory, those studying an individual's development must not only look at the child and the immediate environment but must include the larger systems. Our project is designed to look at various factors across systems to identify their relationship to the individuals overall academic performance. The bidirectional interaction of the structures is the key to this theory. The question at the heart of Bronfenbrenner's theory is how does the individual's surrounding environment hinder or enhance development in conjunction with the individual's internal systems? Answering that question must be done in a systematic and quantitative way such as defining variables reflective of positive adjustment (e.g. academic performance) and

associating these variables across ecological system levels such as family environment and intrapsychic strengths. The next step is to systematically study the cumulative effects of strengths or weaknesses and how they directly and indirectly affect outcomes.

### *Self-Efficacy*

The concept of self-efficacy dates back to psychologists William James (1890) and George Herbert Mead (1913). James suggested we are confronted with the dissonance between our ambition and our performance. In his chapter titled *The Consciousness of Self*, James said about his ambitions “I, who for the time have staked my all on being a psychologist, am mortified if others know much more psychology than I” (p. 311). For Mead, self-image is developed through a combination of examining how we see ourselves and how we perceive others see us. In many ways, self-efficacy research has been a dominant conceptual approach in education, learning, and development. Research involving youth self-efficacy has been related to both internal mechanism of self-acceptance and posited as having a direct relationship to behavior due to the either positive or negative cognitions of the self. According to Schwarzer (1997, p. 2), “actions are pre-shaped in thought, and people anticipate either optimistic or pessimistic scenarios in line with their level of self-efficacy.” Albert Bandura’s social learning theory has become a cornerstone and has provided a conceptual framework for a wide array of adjustment and achievement interventions. Bandura extended the theoretical implications of Mead’s initial work and in 1993 posited how the interrelationship of an individual’s perceived self-efficacy and the learning environment contribute to cognitive development and functioning. In fact, the *International Encyclopedia of Psychology* stated that “Self-efficacy theory is now considered the principal mechanism of behavioral change; in that all successful interventions are assumed to operate by strengthening a person’s perceived self-efficacy to cope with difficulties” (Wulfert, 1996, p. 1580). Resiliency models have consistently identified self-efficacy as a key factor allowing adolescents to perform well across multiple social domains (Rutter, 1985; Werner & Smith,

1992). Behavioral change related to increasing self-efficacy has been a dominant paradigm in risk and resiliency research. Researchers attempt to identify individual aspects of selection processes as well as mechanisms of handling daily stressors and promoting effective self-management. In relation to academic performance, academic self-efficacy is the self-perception of competence to effectively complete schoolwork and an expectation that one can succeed when facing a difficult academic task (Wang & Wu, 2008). Addressing specifically the role of self-efficacy in academic settings, Schunk and Pajares (2004) remarked that self-efficacy is a highly compelling construct whose relevance has been overwhelmingly demonstrated.

Bandura specifically suggested that a triadic reciprocity occurs in that three interacting variables of behavior, personal characteristics, and external environment relate to produce specific adjustment outcomes. In this model, family and school environment interact with the behavior and personal characteristics of adolescents to produce an association of “risk” for lack of academic performance. This relationship may influence the adolescent's behavior through decreased motivation and inability to effectively pursue a desired goal, thus mediating the relation between the home environment and the child's academic performance.

#### *Familial Sources of Self-Efficacy*

Rooted in concepts of learning theory, Bandura expanded upon the idea that direct reinforcement is the only mechanism for learning (Bandura, 1977). According to his theory, previous performance, external learning or modeling, and social influences such as encouragement and support are contributing mechanisms for self-efficacy. Researchers suggest that self-efficacy regarding one's capabilities to execute actions necessary to achieve one's designated goals has a stronger relationship in academic performance than other motivational beliefs (Wang & Wu, 2008). This provides a theoretical foundation for delineating motivating factors related to academic adjustment. Bandura posited the construct of the self-system comprised of a person's attitudes, abilities, and cognitive

skills that act as internal markers of how one perceives a situation. This self-system has an essential connection to self-efficacy.

Perceived self-efficacy is defined as one's impression of one's capability to produce effects, and it helps determine feelings, thoughts, and motivations of behavior. Self-efficacy belief has been shown to produce differing effects through four major processes: cognitive, motivational, affective, and selection processes. Cognitive processes are the thinking processes that are involved in acquiring, organizing, and using information. Motivational processes are reflected in one's choice of action, the intensity, and the persistence of effort in that action. Affective processes regulate emotional states and elicit emotional reactions. Selection processes deal with people's choices of situations or activities they choose to undertake or believe they are capable of handling (Bandura, 1994). This selection process promotes expansion of events of interest and promotes relations of mutual interest, leaving some possible avenues of influence underdeveloped. Bandura (1997) posited that environment provides a relational structure to self-efficacy beliefs, such that if the environment provides supportive conditions for increased self-efficacy beliefs, then increased adaptive functioning is more readily available for the adolescent. Self-esteem reflects one's overall self-appraisal of worth.

Bandura, Caprara, Barbaranelli, Gerbino, and Pastorelli (2003) suggested that beliefs of personal efficacy influence the adoption of adolescent developmental standards. Self-efficacy is related to how adolescents decide to operate in their daily functioning. Bandura et al. posited that personal self-efficacy was related to choosing certain undertakings, perseverance in daily stressful situations, resiliency when facing adversity, as well as making critical choices along key developmental points. These interrelated mechanisms are all contributory factors (Bandura et al.) that reveal themselves as self-efficacy mechanisms. However, as posited by multiple researchers it is our contention that adolescents' self-efficacy contributes to outcomes but operates within a complex exchange of familial, socioeconomic, and personal influences. Bandura's research established

connections of personal efficacy with motivation, perseverance, vulnerability, life decisions, choices, and even stress (Pajares, 2001; Pajares, Britner, & Valiante, 2000).

### *Peer Influenced Self-Efficacy*

Bandura (1997) posited that family relationships are the primary source of the initial development of self-efficacy. He suggested that children must acquire awareness of their increasing capabilities across widening areas of function. Parents by default are the primary socializers of children, as they are models of behavior, deliver verbal reinforcements, and help children formulate the ideology of the self. As agents of socialization, parents expose children to social norms, values, and expectations. In line with selection processes, Bandura suggested parents guide activities to which children are exposed. Interactions within the family expand the child's repertoire of skills and move the child into a readiness to engage in an increasingly larger social atmosphere. Interestingly, a relationship with parents has been correlated with positive peer relationships in adolescents with increased family support, increasingly the likelihood of adolescents reporting peer acceptance (Dekovic & Meeus, 1997).

As adolescents move from family as the primary social influence to a broader array of influences such as peers and significant others, they learn that differing levels of people's competencies exist and they become aware of their own competency levels. Parents who are supportive and remain active in their children's education by helping them with homework and engaging in direct academic matters tend to have adolescents who have academic self-efficacy (Wentzel, 1994). As children become adolescents, a crucial step in social learning occurs as the adolescent moves to include peers and other institutions such as schools into their primary influence of the self. The external world becomes increasingly important to developing self-awareness of capabilities. As children move into the larger community, peer relationships expand the ability to test capabilities. A large amount of social learning is done in the context of peer relationships.

Adolescents who perceive parents as supportive and have increased opportunities for positive parent-adolescent interactions tend to seek less advice from peers (Fuligni & Eccles, 1993). Peer relationships serve as important mechanisms for performance motivation in school (Nelson & DeBacker, 2008). Peer relationships also serve as major influences in academic self-efficacy (Wentzel & Caldwell, 1997). Peers serve as a major influence in the development and validation of self-efficacy. Through peer relationships, adolescents learn to make decisions, compromise, and cooperate with others outside their family influences (Hartup, 1989).

### *Statement of the Problem*

The lack of research addressing the direct and indirect effects of family environment, parent involvement and intrapersonal resources on adolescent academic achievement lent itself to the purpose of this study. The project is based on both ecological and social learning theory, which when combined posits that development is influenced by varying and interactive effects of individual, family, community, and larger societal level systems (Bandura, 1986; Bronfenbrenner, 1986). Further, these models address the bidirectional nature of an individual's system that fosters academic success. The evolution of these models must include explanations of risk and resiliency. Determining how family environment factors, intrapersonal factors, and social factors pose potential risk or protection associated with academic outcomes is a critical step in broadening our understanding. Specifically, the present study is designed to determine the role of family conflict, family support, family affection, parent involvement, and self-efficacy in adolescent academic performance.

Examining how interrelated factors operate within a system that affects adolescent adjustment by strengthening protective factors and reducing risk factors has been a common psychological construct. Existing research indicates that family environment, intrapersonal factors, and or social stressors are not mutually exclusive (Jessor, 1993; Jessor, Van Den Bos, Vanderyn, Costa, & Turbin, 1995) and have a unique comprehensive relationship linked to academic outcomes (Deb & Arora,

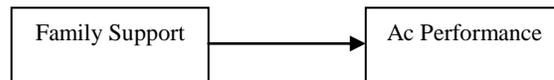
2008). Additionally, researchers have suggested that a cumulative risk model exists such that the accumulation of risk factors may exponentially increase long-term risk of negative outcomes (Forehand et al., 1998; Gerard, & Buehler, 2004; Spencer, Cole, Dupree, & Glymph, 1993).

Components of Bronfenbrenner's and Bandura's theories have significant overlap and indeed, from this point it may be more appropriate to use the terminology of self-system as it applies to both the internal and ecological risk. Ecological risk in this model is a combination of the early risk factors described in the literature (i.e. poverty) and the outcomes (i.e. academic adjustment). As such, the self-system works to mediate the role between risk factors and academic adjustment. In the context of adolescent adjustment outcomes, ecological risk may reduce self-efficacy and perception of future success by disrupting relationships that could penetrate positive evaluations. Self-perception could also be disrupted by aligning the adolescent with a devalued group. This self-system process results from interactions of the individual within the social context. Existing literature has demonstrated the deleterious effects that family conflict has on academic performance. Existing literature has also shown that family interactions such as family support and affection in the home promote increased academic adjustment. This study serves to identify the relationship that a broader spectrum of family environment that includes conflict, support, and affection might have on academic performance (e.g. coursework and standardized scores). However, family environment is only one component of an individual's possible resiliency factors. Previous research has provided strong evidence for examining the relationship self-efficacy and parent involvement provide to a model examining family environment factors and academic performance, leading to the following predictions:

### *Hypotheses*

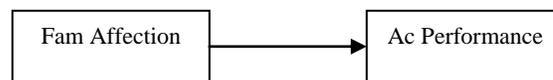
(H1) Support in the family will be associated with academic performance such that students reporting high levels of support in the family will have higher academic performance (course grades

and standardized test scores) in comparison to those reporting low support in the family (see Figure 1).



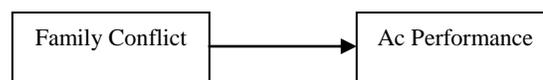
*Figure 1.* Hypothesized relationship between support in the family and academic performance.

(H2) Affection in the family will be associated with academic performance such that students reporting high levels of showing affection in the family will have higher academic performance (course grades and standardized test scores) in comparison to those reporting low family affection in the family (see Figure 2).



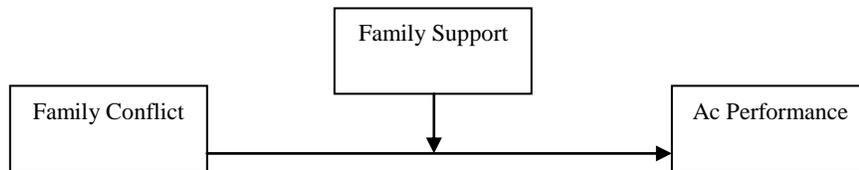
*Figure 2.* Hypothesized relationship between affection in the family and academic performance.

(H3) Conflict in the family will be associated with academic performance such that students reporting high levels of conflict in the family will have lower academic performance (course grades and standardized test scores) in comparison to students reporting low levels of conflict ( see Figure 3).



*Figure 3.* Hypothesized relationship between conflict in the family and academic performance.

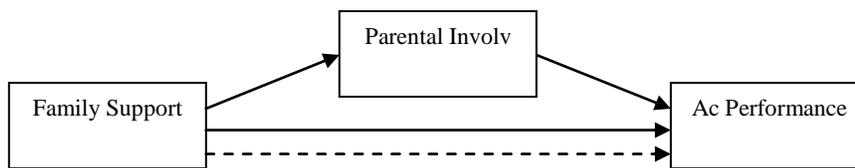
(H4) Support in the family will moderate the relationship between conflict in the family and academic performance such that students who report high levels of support and low levels of conflict will also have the highest academic performance. Students with high levels of conflict in the family and low levels of support in the family will have the lowest academic performance (see Figure 4).



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*Figure 4.* Hypothesized relationship between conflict in the family, support in the family, and academic performance.

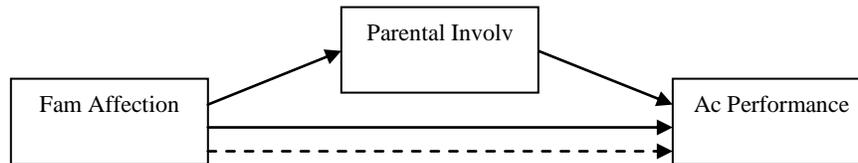
(H5) Parent involvement will mediate the relationship between support in the family and academic performance (see Figure 5).



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*Figure 5.* Hypothesized relationship between support in the family, parent involvement, and academic performance.

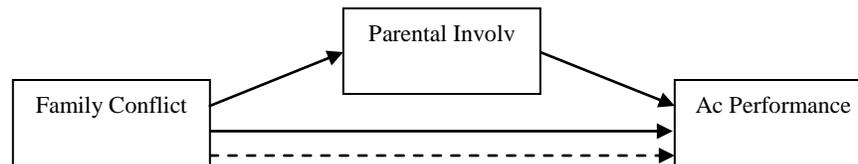
(H6) Parent involvement will mediate the relationship between affection in the family and academic performance (see Figure 6).



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*Figure 6.* Hypothesized relationship between affection in the family, parent involvement, and academic performance.

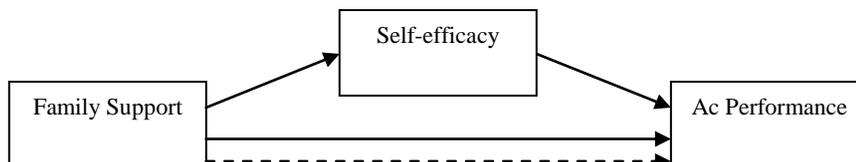
(H7) Parent involvement will mediate the relationship between conflict in the family and academic performance (see Figure 7).



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*Figure 7.* Hypothesized relationship between conflict in the family, parent involvement, and academic performance.

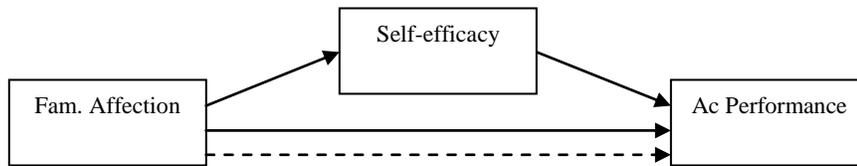
(H8) Self-efficacy will mediate the relationship between support in the family and academic performance (see Figure 8).



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*Figure 8.* Hypothesized relationship between support in the family, self-efficacy, and academic performance.

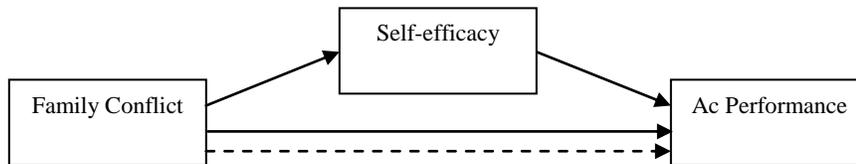
(H9) Self-efficacy will mediate the relationship between affection in the family and academic performance (see Figure 9).



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*Figure 9.* Hypothesized relationship between affection in the family, self-efficacy, and academic performance.

(H10) Self-efficacy will mediate the relationship between conflict in the family and academic performance (see Figure 10).



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*Figure 10.* Hypothesized relationship between conflict in the family, self-efficacy, and academic performance.

## CHAPTER 2

### METHOD

The Department of Education funded this study as part of a larger longitudinal study to examine the relationship between the role of family environment factors and academic performance among adolescents. This project was a part of the Gaining Early Awareness and Readiness Program (GEAR UP). GEAR UP was authorized by Congress as part of the Higher Education Amendments of 1998. A long-term goal of the program was to significantly increase the number of students from lower socioeconomic backgrounds who matriculate and succeed in postsecondary education (U.S. Department of Education, 2002). Additional goals included improving high school students' grades and test scores and decreasing problem behaviors and absenteeism. The current study was conducted as a part of the GEAR UP research project attempting to identify factors related to student attrition. The study was conducted across four rural and semirural public middle schools feeding into one semirural high school experiencing high dropout rates.

#### *Participants*

Data for the proposed study was drawn from a large, existing database. The participants in this study database were 686 sixth (335) and seventh (351) graders (340 boys, 346 girls) recruited from the student population of four middle schools in rural Southeastern region of the United States as part of a larger research project designed to understand the mechanisms of student success in public schools. Students participating from the four schools make up a particularly homogeneous ethnic group, which is primarily Caucasian (97%). The students represent a lower socioeconomic group as a whole, with the majority, 57.7% to 70.3%, of students receiving free or reduced lunches this study's definition of low income. The mean rate in nonparticipating same-county schools for free or reduced lunches is 36.5%

## *Independent Variables*

### *Demographics.*

Demographics included age, gender, grade level, ethnicity, and family make-up. Information was gathered from school records for absences, tardiness, and socioeconomic status.

### *The Family Environment Scale.*

The Family Environment Scale (FES) (Moos & Moos, 1994) is composed of 90 true-false items with 10 subscales. Response to the items was provided with a dichotomous scoring technique. The FES is designed to assess the interpersonal relationships and the overall social environment within the family. The FES purports to capture the perception of the family's functioning from the perspective of the family members. The FES specifically seeks to quantify three dimensions of the family environment: interpersonal relationships, directions of personal growth, and basic organization and structure. In addition to acting as a self-report measuring the family environment, the FES has also been used as an instrument to observe the effect of the family environment on the individual family members. The FES also includes the subscales of Conflict, Cohesion, Expressiveness, Control, Organization, Independence, Achievement Orientation, Intellectual-Cultural Orientation, and Moral-Religious Emphasis, which have been used to further evaluate the functioning of the family.

Three subscales load on the relationship dimension. They are: Cohesion, Expressiveness, and Conflict. Cohesion is the degree of commitment and support family members provide for one another, expressiveness is the extent to which family members are encouraged to express their feelings directly, and conflict is the amount of openly expressed anger and conflict among family members. Participants completed items of the FES that reflect conflict and support as part of this study. The FES assessed how students perceived their family as getting along and providing affection and support. Items used to reflect support included, "*My family helps and supports one another; and, People in my family show affection to each other.*" Items used to reflect conflict included, "*We fight*

*in our family; People in my family get angry; People in my family lose their temper; Family members get so angry they throw and/or hit things; and People in my family criticize each other.*” Participants marked the degree to which they agreed with each statement on a 5-point Likert scale ranging from 1 “*very frequently*” to 5 “*never*”. Subscales of the family environment scale was used to measure support, affection, and conflict in the family.

#### *Family Support and Family Affection.*

Family support was measured using items from the Family Environment Scale (FES). Items included: “*My family helps and supports one another and “People in my family show affection to each other.*” ( $\alpha = .30$ ). Because the entire subscale was not used, and because preliminary analysis revealed low alphas, the two items were analyzed as separate variables.

#### *Family Conflict.*

Family conflict was measured using a subscale of the FES. Items included: “*We fight in our family; People in my family get angry; People in my family lose their temper; Family members get so angry they throw and/or hit things; People in my family criticize each other.*” Items in the conflict subscale showed good internal consistency ( $\alpha = .81$ ). Items were calculated with higher scores indicating higher levels of family conflict.

#### *Self-Efficacy*

Self-efficacy is a central concept in Social Learning Theory, capturing the processes by which learning becomes internalized as part of the individual’s mechanisms for anticipating and evaluating ones expected performance. Self-efficacy questionnaires have commonly been self-report measures where researchers ask participants to rate their perceptions of their abilities to successfully perform tasks (Lee & Bobko, 1994). The self-efficacy items in this study were adapted from the Schwartzer and Jerusalem’s (1993) General Perceived Self-Efficacy Scale. Participants marked the degree to which they agreed with each statement on a 5-point Likert scale ranging from 1 “*never true*”

to 5 “*always true*”. Self-efficacy items included: “*I can solve problems if I try hard enough; It is easy for me to stick to my aims and accomplish my goals; I can solve most problems if I invest the necessary effort; If I am in trouble, I can think of a solution; I can handle whatever comes my way.*” Self-efficacy items showed good internal consistency ( $\alpha = .73$ ) and were summed with higher scores indicating higher levels of self-efficacy.

#### *Parent Involvement.*

Parent involvement has been defined and measured in many ways across several domains including parent to school communication, parent to student communication, parent provisions, parent activity level in academic settings. Fan (2001) found support for this multidimensional conceptualization of parent involvement. Evaluation of extant literature in this area identifies three broad constructs of importance in parent involvement and academic success. These constructs are: parent student communication about school in the home, monitoring as well as regulating student time, and direct communication with the school (Stone, 2006). As research has indicated that parent involvement across multiple domains of student life is important to academic success, we measured parent involvement across different areas. First, student participants completed a measure of parent involvement. Second parents completed and returned a similar survey including questions about their involvement. Students and parents marked the degree to which they agreed with each statement on a 5-point Likert scale ranging from 1 “*very frequently*” to 5 “*never*”. Items used to measure parent involvement were: “*My parents ask me how things are going in school, My parents want to see my homework assignments and papers that I bring home from school, and My parents offer to help me with homework and other school assignments.*” Students’ report of parent involvement items showed good internal consistency ( $\alpha = .70$ ) and were summed with higher scores indicating higher levels of parent involvement.

### *Academic Aspiration.*

Research on aspirations and academic success have consistently shown that aspirations are related to academic outcomes. It has been suggested that aspirations serve as a mechanism to construct purpose for involvement in activities related to academic performance (e.g. McGregor & Elliot, 2002). Participants were asked about their college aspirations and plans for the future. Specifically, participants were asked whether they wanted and planned to pursue future educations and about their understanding and perceptions of their future educations. Participants were first asked “*How far to you want to go in school?*” Responses were coded using a 5-point Likert scale as follows: *1= Do not want to finish high school; 2= Finish high school; 3= Go to community college for a two year degree or vocational training; 4=Go to college or university for a four year (Bachelor’s) degree; and 5= Go beyond a four-year degree for a graduate or professional degree.*” Participants were then asked about their realistic plans as follows: “*Realistically, how far do you think you will go in school?*” Responses were coded on a 5-point Likert scale as follows: *1 = Not finish high school; 2=Finish high school; 3= Go to community college for a two-year degree or vocational training; 4= Go to college or university for a four year (Bachelor’s) degree; and 5= Go beyond a four-year degree for a graduate or professional degree.*” Additionally, perceptions about education were assessed as follows: “*I plan to graduate from high school; When I become an adult, having a college degree will help me be successful; It is important that I earn a college degree; I can get a good job without going to college; and I already know what kind of courses to take in high school so I will be ready to go to college*” Participants marked the degree to which they agreed with each statement on a 5-point Likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”.

### *Socioeconomic Status.*

A dichotomous SES indicator was created based on information from school records. Information indicated whether the adolescent was or was not eligible to receive free meals at school.

Participation in the free lunch program is based on family income and size. Adolescents were categorized as lower-SES if they received free or reduced lunches during the year prior to completing this survey. Adolescents who did not receive free or reduced lunches were categorized as higher-SES. This method of determining SES has been previously used (Entwisle & Alexander, 1992; Reynolds, 1992).

#### *Absences.*

The number of days the adolescent was absent from school during the year was gathered from school records.

#### *Dependent Variables*

The current study measures multiple dependent variables. The dependent variables of interest are generally accepted markers of a student's academic performance and include:

#### *Grades.*

End-of-the-year grades for math, English, science, social studies, and reading measured academic performance and recorded as follows:  $F = 0$ ;  $D = 1$ ;  $C = 2$ ;  $B = 3$ ; and  $A = 4$ . math ( $M = 2.78$ ,  $SD = 1.20$ ), English ( $M = 2.98$ ,  $SD = 1.08$ ), science ( $M = 2.97$ ,  $SD = 1.02$ ), social studies ( $M = 3.07$ ,  $SD = 1.15$ ), and reading ( $M = 2.99$ ,  $SD = 1.02$ ). A mean score for grades was calculated by collapsing across subjects. Grades across the different subject areas of math, English, science, and social studies were found to be highly interrelated thus were merged into one outcome measure ( $\alpha = .91$ ).

#### *Achievement Scores (Standardized Test Scores).*

State comprehensive assessment tests were used as a measure of academic performance. Raw scores (with sample mean and standard deviations) were used for reading ( $M = 58.91$ ,  $SD = 18.34$ ), mathematical computation ( $M = 59.32$ ,  $SD = 17.74$ ), social studies ( $M = 58.09$ ,  $SD = 18.19$ ), and science ( $M = 57.04$ ,  $SD = 19.08$ ). The standardized test scores across the different subjects areas of

reading, mathematical computation, social studies, and science were found to be highly interrelated so were merged into one outcome measure ( $\alpha = .92$ ).

### *Procedure*

Although for the purposes of this project data were acquired from an existing dataset, the procedures for gathering the original data were as follows: Researchers recruited participants from middle schools by sending letters home to all families in middle schools connected to one rural high school in East Tennessee. Those who returned written consent forms were included in the study. Parents were given a \$25 gift certificate for completing a parent portion of the study. Parents and students were provided information regarding the purpose of the information being gathered prior to participation. Approximately 16% (N=108) of the parents completed and returned the parent survey. Administration of the parent surveys occurred in the family homes, while student surveys were administered in classroom settings. Students were administered surveys by school personnel during school hours and asked to complete questionnaires including demographic information, measures of family conflict, support, self-efficacy, parent involvement, attitudes toward education, and perceptions of peer attitudes toward education. The middle schools provided information on participants' grade point average and scores from standard achievement tests. Middle schools also provided information on participants' involvement in federal free or reduced lunch program. Participation in the federal lunch program served as a measure in determining approximate socioeconomic status of students.

## CHAPTER 3

### RESULTS

#### *Statistical Analyses*

The purpose of this study is to determine if family conflict, family support, parent involvement, academic aspirations, and self-efficacy have effects on the academic outcomes defined by course grades and standardized test scores. Descriptive analyses were conducted to examine normative distributions of the sample. Univariate analyses of the relationship between SES and academic outcomes and student attendance was also assessed using a regression analysis and determined that SES was to be used as a control variable after initial mediation models were examined. In order to conclude that family support, family affection, and family conflict were mediated by the self-efficacy and parent involvement data were analyzed in line with paths to mediation by Baron and Kenny (1986). Significant relationships were further tested to identify the roles of SES, attendance, and college aspirations as statistical control variables in the models.

Initially, models were examined to identify predicted relationships between the independent variables and the dependent variables. Significant models then were further analyzed controlling for college aspiration, attendance, and SES. These separate analyses were conducted because of the expected contribution that SES and other covariates to the main study variables. Previous research suggests that SES provides an overwhelming contribution to adolescent academic performance outcomes. As the covariates presumably account for variance in the outcome previously attributable to the predictor variables, the relationship between the original variables are accounted for in the model.

A power analysis for the present thesis proposal indicated that a minimum of 92 participants were required to meet adequate power (.80). This power analysis was based on an alpha of .05 and an expected medium effect size. The power analysis was based using 5 predictor variables in a given

analysis. The data set in use contains 686 participants, thus the minimum number of participants was met.

### *Findings*

Hypothesis (1). We hypothesized that support in the family would be associated with academic performance such that students reporting high levels of support in the family would have higher academic performance in comparison to those reporting low family support. To test this hypothesis, we regressed each measure of academic performance on support in the family. This hypothesis was partially supported such that support in the family was significantly and positively related to academic performance as measured for grades ( $p = .000$ ) and accounted for 2% of the variance for grades. Students who reported more support in the family were more likely to have higher grades across academic areas. Support in the family was not significantly related to academic performance as measured by standardized test scores ( $p = .208$ , n.s.). The main effects for support in the family are included in Table 1.

Hypothesis (2). We hypothesized that affection in the family would be associated with academic performance such that students reporting high levels of affection being shown in the family would have higher academic performance in comparison to those reporting low levels of affection in the family. This hypothesis was supported such that affection in the family was significantly and positively related to academic performance as measured by grades ( $p = .003$ ) and accounted for 2% of the variance in grades. Affection in the family was significantly related to academic performance as measured by standardized test scores ( $p = .000$ ) and accounted for 4% of the variance in test scores. The main effects for affection in the family are included in Table 1.

Hypothesis (3). We hypothesized that conflict in the family would be associated with academic performance such that students reporting high levels of conflict in the family would also have decreased success in academic performance in comparison to students reporting low levels of

conflict. This hypothesis was partially supported such that conflict in the family was significantly and negatively related to academic performance measured by grades ( $p = .001$ ) and accounted for 2% of the overall variance. Conflict in the family was not significantly related to academic performance as measured by standardized test grades ( $p = .148$ , n.s.). The main effects for conflict in the family are included in Table 1.

Table 1

*Regression Analysis of Academic Performance for Support, Affection, and Conflict in the Family*

Variable	B	SEB	$\beta$	$R^2$
<b>Support</b>				
Grades	.153	.043	.143	.021***
Standardized Test Scores	.887	.704	.049	.002
<b>Affection</b>				
Grades	.110	.037	.123	.015**
Standardized Test Scores	3.11	.557	.208	.043***
<b>Conflict</b>				
Grades	-.153	.047	-.130	.017**
Standardized Test Scores	-1.18	.771	-.056	.003

\*\*  $p < .01$ , \*\*\* $p < .001$ , (N = 599)

To test mediation, the data were analyzed in line with the paths to mediation outlined by Baron and Kenny (1986). We used a series of three multiple regression analysis to test each mediation hypothesis. In the first equation we regressed the proposed mediating variable (e.g. self-efficacy or parent involvement) on the independent variable (e.g. support in the family, affection in the family, or conflict in the family). In the second equation we regressed the dependent variable on the independent variable. In the final equation we regressed the dependent variable on both the independent variable and the proposed mediating variable.

Hypothesis (4). The fourth research question hypothesized that conflict in the family would be moderated by support in the family. To test the possible moderating relationship between conflict in

the family, support in the family, and academic performance, the independent variables and proposed moderators were centered and the interaction term was created. Academic performance was regressed on conflict in the family and support in the family, and the interaction term was entered into the model. This interaction was significant beyond the main effects of support in the family and conflict in the family ( $\Delta R^2 = .0126$   $F [1,595] = 7.147, p = .008$ ). Given that the interaction was significant, a follow-up analysis was conducted in order to determine the direction of the interaction. Correlations are included in Table 2. See Table 3 for the results from the moderated multiple regression analyses for conflict in the family and support in the family. As predicted, support in the family moderated the effects of conflict in the family, such that having more support in the family predicted higher grades while reporting both low support and low conflict predicted the lowest grades (see Figure 11).

Table 2

*Correlations Among Study Measures*

Measure	1	2	3
University students (n = 599)			
1. Family Support		-.350***	.146**
2. Family Conflict			-.144***
3. Academic Performance (Grades)			

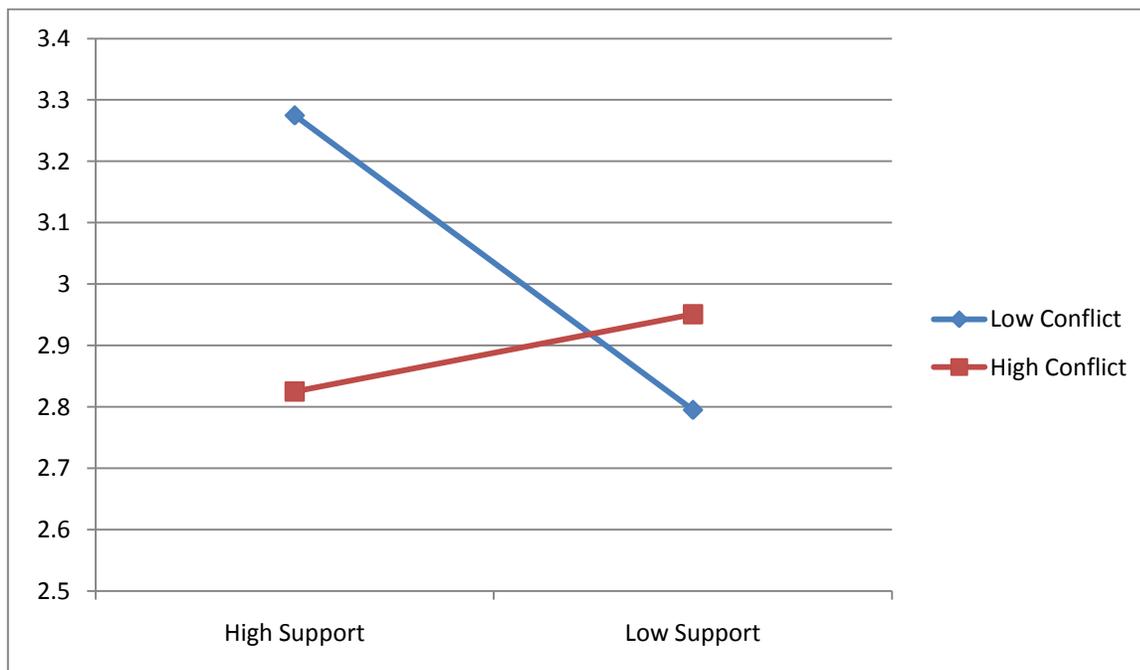
Note \*\*\* $p < .001$ , (N = 599)

Table 3

*Regression of Family Conflict and Family Support on Academic Performance*

Predictor	B	SEB	$\beta$	$\Delta R^2$
Family Conflict	-.137	.052	-.133***	.030**
Family Support	.171	.050	.155**	.030**
Conflict x Support	-.131	.049	1.118**	.012**
Total R <sup>2</sup>				.042**

Note \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , (N = 599)



*Figure 11. Regression of Grades on Conflict (High Conflict 1 SD above Low Conflict 1 SD below) and Support in the Family (High Support 1 SD above Low Support 1 SD below) for the total sample (N = 599).*

Hypothesis (5). We hypothesized that parent involvement would mediate the relationship between support in the family and academic performance. The relationship between support in the family and academic performance measured by grades was not mediated by parent involvement. Support in the family was a significant indicator of academic performance measured by grades ( $b =$

.153, se = .043,  $p < .001$ ). Parent involvement was not related to grades ( $b = -.023$ , se = .049, n.s) (see Table 4). Because parent involvement was not significantly related to grades and did not meet criteria in line with paths of mediation, it was determined that parent involvement did not mediate this relationship. The relationship between support in the family and standardized test scores did not meet criteria in line with the paths of mediation, thus further analyses were not conducted.

Table 4

*Parent Involvement as Mediator of Support in the Family and Academic Performance (Grades)*

	Support in the Family Parent Involvement	Parent Involvement Academic Performance	Support in the Family Academic Performance (w/o Parent Involvement)	Support in the Family Academic Performance (w Parent Involvement)
<i>b</i> ( <i>se</i> )	.373 (.034)***	-.023(.049)	.153(.043)***	.162(.047)**
$R^2$			$R^2 = .021$	$\Delta R^2 = .000$

Note . \*\*  $p < .01$ , \*\*\*  $p < .001$ , (N= 597)

Hypothesis (6). We hypothesized that parent involvement would mediate the relationship between affection in the family and academic performance. To test the mediating role of parent involvement and its relationship between affection in the family and academic performance we first reviewed the relationship between affection in the family and academic performance. Affection in the family was related to both academic performance measures of grades ( $b = .110$ , se = .037,  $p = .003$ ) and standardized test scores ( $b = 3.11$ , se = .557,  $p = .000$ ). Regressing parent involvement on affection in the family revealed a significant relationship ( $b = .195$ , se = .030,  $p = .000$ ) (see Table 5). However, the relationship between parent involvement and grades was not significant. Because this relationship was not significant and did not meet criteria in line with paths of mediation it was determined that parent involvement did not mediate the relationship between affection in the family and academic performance.

Table 5

*Parent Involvement as Mediator of Affection in the Family and Academic Performance (Grades)*

	Affection in the Family Parent Involvement	Parent Involvement Academic Performance	Affection in the Family Academic Performance (w/o Parent Involvement)	Affection in the Family Academic Performance (w Parent Involvement)
<i>b</i> ( <i>se</i> )	.195 (.030)***	.013(.047)	.110(.037)***	.108 (.038)**
$R^2$			$R^2 = .015$	$\Delta R^2 = .000$

Note . \*\* p .01, \*\*\* p <.001 (N = 598)

Additional analyses were conducted to examine the relationship between academic performance as measured by standardized test scores, parent involvement, and affection in the family. This relationship was not mediated by parent involvement. The results did indicate a significant model; however, the results revealed that parent involvement accounted for unique variance above and beyond showing affection in the family ( $b = -1.837$ ,  $se = .743$ ,  $p = .014$ ). The overall model accounted for 5% of the variance and the  $\Delta R^2 = .009$  (see Table 6). The relationship between affection in the family and academic performance increased in strength when parent involvement was added to the model.

Table 6

*Parent Involvement as Mediator of Affection in the Family and Academic Performance (Standardized Test Scores)*

	Affection in the Family Parent Involvement	Parent Involvement Academic Performance	Affection in the Family Academic Performance (w/o Parent Involvement)	Affection in the Family Academic Performance (w Parent Involvement)
<i>b</i> ( <i>se</i> )	.195 (.030)***	-1.837(.743)*	3.11(.577)***	3.47(.593)***
$R^2$			$R^2 = .052$	$\Delta R^2 = .009$

Note . \* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$ , (N= 598)

Hypothesis (7). We hypothesized that parent involvement would mediate the relationship between conflict in the family and academic performance. To test the mediating role of parent involvement and its relationship between conflict in the family and academic performance we reviewed the relationship between conflict in the family and academic performance. Results showed that after regressing parent involvement on conflict in the family a significant relationship existed ( $b = -.350$ ,  $se = .039$ ,  $p = .000$ ). Conflict in the family was related to the academic performance measure of grades ( $b = -.153$ ,  $se = .047$ ,  $p = .001$ ). However the relationship between parent involvement and academic performance was not significant ( $b = .001$ ,  $se = .047$ ,  $p = .976$ ) (see Table 7). Because this relationship did not meet criteria in line with paths of mediation, it was determined that parent involvement did not mediate the relationship between conflict in the family and academic performance.

Table 7.

*Parent Involvement as Mediator of Conflict in the Family and Academic Performance (Grades)*

	Conflict in the Family Parent Involvement	Parent Involvement Academic Performance	Conflict in the Family Academic Performance (w/o Parent Involvement)	Conflict in the Family Academic Performance (w Parent Involvement)
<i>b</i> ( <i>se</i> )	-.350 (.039)***	.001(.047)	-.153(.047)***	-.152 (.050)
<i>R</i> <sup>2</sup>			<i>R</i> <sup>2</sup> = .130	$\Delta R^2 = .000$

Note . \*\* p .01, \*\*\* p <.001, (N= 597)

Conflict in the family was not significantly related to the academic performance measure of standardized test scores ( $b = 1.18$ ,  $se = .771$ ,  $p = .148$ ). Because the relationship between conflict in the family and standardized test scores did not meet criteria in line with the paths to mediation, further analyses were not conducted (see Table 15).

Hypothesis (8). We hypothesized that self-efficacy would mediate the relationship between family support and academic performance. The data were analyzed the data in line with the paths to mediation to test this model. Results showed that after regressing self-efficacy on support in the family, a significant relationship existed ( $b = .217$ ,  $se = .028$ ,  $p = .000$ ). In the second equation we regressed academic performance on support in the family. Family support was significantly related to academic performance as measured by grades ( $b = .153$ ,  $se = .043$ ,  $p = .000$ ) but not standardized scores ( $b = .887$ ,  $se = .704$ ,  $p = .208$ ). Because the relationship between support in the family and standardized test scores did not meet criteria in line with the paths to mediation further analyses was not conducted in this model (see Table 16).

Academic performance as measured by grades was regressed on both self-efficacy and support in the family and results indicated that self-efficacy mediated the relationship between support in the family and academic performance after controlling for support in the family. In line

with mediation, we found that the initial significant relationship between support in the family and academic performance ( $b = .153$ ,  $se = .043$ ,  $p < .001$ ) was reduced and no longer significant ( $b = .067$ ,  $se = .043$ ,  $p = .120$ ) when self-efficacy was introduced as the mediating variable (see Table 8).

Table 8.

*Self-efficacy as Mediator of Support in the Family and Academic Performance (Grades)*

	Support in the Family Self-Efficacy	Self-efficacy Academic Performance	Support in the Family Academic Performance (w/o Self Efficacy)	Support in the Family Academic Performance (w Self Efficacy)
$b(se)$	.217 (.028)***	.421(.056)***	.153(.043)***	.067 (.043)
$R^2$			$R^2 = .107$	$\Delta R^2 = .086$

Note . \*\* p .01, \*\*\* p <.001, (N = 597)

Hypothesis (9). We hypothesized that self-efficacy would mediate the relationship between affection in the family and academic performance. As stated earlier, affection in the family was a significant indicator of academic performance as measured by grades ( $b = .110$ ,  $se = .037$ ,  $p = .003$ ) and standardized test scores ( $b = 3.11$ ,  $se = .557$ ,  $p = .000$ ). The data were analyzed in line with paths to mediation whereby we first regressed self-efficacy on affection in the family and found that a significant relationship existed ( $b = .122$ ,  $se = .024$ ,  $p = .000$ ). In the final equation, we regressed academic performance on both self-efficacy and affection in the family. Results provided support for the hypothesis that self-efficacy mediated this relationship after controlling for affection in the family. In line with mediation, we found that the initial significant relationship between affection in the family and academic performance ( $b = .110$ ,  $se = .037$ ,  $p = .003$ ) was reduced and no longer significant ( $b = .059$ ,  $se = .036$ ,  $p = .098$ ) when self-efficacy was introduced as the mediating variable (see Table 9).

Table 9.

*Self-efficacy as Mediator of Affection in the Family and Academic Performance (Grades)*

	Affection in the Family Self- Efficacy	Self-efficacy Academic Performance	Affection in the Family Academic Performance (w/o Self Efficacy)	Affection in the Family Academic Performance (w Self Efficacy)
<i>b</i> ( <i>se</i> )	.122 (.024)***	.449(.055)***	.110(.037)**	.059 (.036)
$R^2$			$R^2 = .115$	$\Delta R^2 = .100$

Note . \*\* p .01, \*\*\* p <.001, (N = 598)

Analyses were also conducted to examine the relationship between affection in the family, self-efficacy, and academic performance as measured by standardized test scores. The data were analyzed in line with paths to mediation whereby we first regressed self-efficacy on affection in the family and found that a significant relationship existed ( $b = .122$ ,  $se = .024$ ,  $p = .000$ ). In the second equation we regressed academic performance (standardized test scores) on affection in the family and found a significant relationship ( $b = 3.11$ ,  $se = .557$ ,  $p = .000$ ). In the final equation we regressed academic performance on both self-efficacy and affection in the family. Results in this series of multiple regression analyses indicated self-efficacy did not mediate the relationship between affection in the family and this measure of academic performance. Self-efficacy accounted for unique variance above and beyond the relationship between affection in the family and standardized test scores ( $b = 6.471$ ,  $se = .903$ ,  $p = .000$ ). The overall model accounted for 11% of the variance and the  $\Delta R^2 = .071$  (see Table 10).

Table 10

*Self-efficacy as Mediator of Affection in the Family and Academic Performance (Standardized Test Scores)*

	Affection in the Family Self-Efficacy	Self-efficacy Academic Performance	Affection in the Family Academic Performance (w/o Self Efficacy)	Affection in the Family Academic Performance (w Self Efficacy)
<i>b</i> ( <i>se</i> )	.122 (.024)***	6.471(.903)***	3.11(.577)***	2.212 (.572)***
$R^2$			$R^2 = .110$	$\Delta R^2 = .071$

Note . \*\* p .01, \*\*\* p <.001, (N = 597)

Hypothesis (10). We hypothesized that self-efficacy would mediate the relationship between conflict in the family and academic performance. Conflict in the family was related to academic performance measured using grades ( $b = -.153$ ,  $se = .047$ ,  $p = .001$ ). The data were analyzed in line with paths to mediation whereby we first regressed self-efficacy on conflict in the family and found a significant relationship as well ( $b = -.228$ ,  $se = .032$ ,  $p = .000$ ). In the final equation academic performance was regressed on both self-efficacy and conflict in the family. Results provided evidence to support the hypothesis that self-efficacy mediated the relationship between conflict in the family and academic performance after controlling for conflict in the family. In line with mediation, we found that the initial significant relationship between conflict in the family and academic performance ( $b = -.153$ ,  $se = .047$ ,  $p = .001$ ) was reduced and no longer significant ( $b = -.051$ ,  $se = .047$ ,  $p = .279$ ) (see Table 11) when self-efficacy was introduced as the mediating variable. The relationship between academic performance and conflict in the family was not related to standardized test scores ( $b = 1.18$ ,  $se = .771$ ,  $p = .148$ ). The relationship between conflict in the family and academic performance measured by standardized test scores did not meet criteria in line with the paths of mediation, thus further analyses were not conducted (see Table 17).

Table 11.

*Self-efficacy as Mediator of Conflict in the Family and Academic Performance (Grades)*

	Conflict in the Family Self- Efficacy	Self-efficacy Academic Performance	Conflict in the Family Academic Performance (w/o Self Efficacy)	Conflict in the Family Academic Performance (w Self Efficacy)
<i>b</i> ( <i>se</i> )	-.228 (.032)***	.442(.055)***	-.153(.047)**	-.051 (.047)
$R^2$			$R^2=.112$	$\Delta R^2=.096$

Note . \*\* p .01, \*\*\* p <.001, (N = 598)

The premise of this study was to identify factors that would provide protective qualities in the presence of known risk factors. Thus, models were identified prior to including factors that research suggests provide overwhelming risk to individuals. Models that revealed significant relationships were analyzed further using a series of multiple regressions whereby we controlled for attendance, college aspiration, and SES.

Initially, self-efficacy mediated the relationship between support in the family and academic performance measured by grades. In line with mediation, we found that the initial significant relationship between support on in the family and academic performance ( $b = .153$ ,  $se = .043$ ,  $p <.001$ ) was reduced and no longer significant ( $b = .067$ ,  $se = .043$ ,  $p = .120$ ) when self-efficacy was introduced as the mediating variable. This model was reanalyzed in stages first controlling for academic aspiration, then attendance, and finally SES. At each stage the model remained significant with the relationship between support in the family and academic performance reducing to nonsignificance when self-efficacy was added to the model (see Table 12).

Initially, self-efficacy mediated the relationship between affection in the family and academic performance measured by grades. In line with mediation, we found that the initial significant relationship between affection in the family and academic performance ( $b = .110$ ,  $se = .037$ ,  $p = .003$ ) was reduced and no longer significant ( $b = .059$ ,  $se = .036$ ,  $p = .098$ ) when self-efficacy was

introduced as the mediating variable. This model was reanalyzed in stages first controlling for academic aspiration, then attendance, and finally SES. At each stage, the relationship between support in the family and academic performance remained significant reducing to nonsignificance when self-efficacy was added to the model (see Table 12).

Initially, self-efficacy mediated the relationship between conflict in the family and academic performance measured by grades. In line with mediation, we found that the initial significant relationship between conflict in the family and academic performance ( $b = -.153$ ,  $se = .047$ ,  $p = .001$ ) was reduced and no longer significant ( $b = -.051$ ,  $se = .047$ ,  $p = .279$ ) when self-efficacy was introduced as the mediating variable. This model was reanalyzed in stages first controlling for academic aspiration, then attendance, and finally SES. At each stage, the model remained significant with the relationship between support in the family and academic performance reducing to nonsignificance when self-efficacy was added to the model (see Table 12).

Initially, significant nonmediated relationships existed between affection in the family, parent involvement, and academic performance measured using standardized test scores. The results indicated a significant model; however, the results revealed that parent involvement accounted for unique variance above and beyond showing affection in the family ( $b = -1.837$ ,  $se = .743$ ,  $p = .014$ ). The overall model accounted for 5% of the variance and the  $\Delta R^2 = .009$ . After controlling for academic aspiration, attendance and SES, analyses indicated a significant model existed and that both parent involvement ( $b = -1.837$ ,  $se = .743$ ,  $p = .014$ ) and showing affection in the family significantly predicted this measure of academic performance (see Table 13).

Initially, a significant non-mediated relationship existed between self-efficacy, affection in the family and academic performance measured using standardized test scores. Self-efficacy accounted for unique variance above and beyond the relationship between affection in the family and standardized test scores ( $b = 6.471$ ,  $se = .903$ ,  $p = .000$ ). The overall model accounted for 11% of the

variance and the  $\Delta R^2 = .071$ . After controlling for academic aspiration, attendance, and SES, analyses indicated a significant model existed with self-efficacy and affection in the family significantly predicting academic performance (see Table 13).

Table 12.

*Results Predicting Academic Performance for Grades Controlling for Familial, Behavioral, and Intrapersonal Factors*

Variable	Academic Aspiration						Academic Aspiration, Attendance			Academic Aspiration, Attendance, SES		
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	<i>B</i>
Family Conflict	-.051	.047	-.043	-.009	.044	-.008	-.017	.044	-.015	-.009	.044	-.008
Self-efficacy	.442	.055	.321***	.357	.054	.250***	.373	.055	.272***	.357	.054	.260***
$R^2$	.112 .096								.231 .057			
$\Delta R^2$												
<i>F</i> for change in $R^2$	64.625***								43.743***			
Family Affection	.059	.036	.066	.047	.036	.052	.048	.034	.053	.049	.034	.055
Self-efficacy	.449	.055	.321***	.409	.058	.293***	.371	.055	.266***	.352	.054	.252***
$R^2$	.115 .100								.217 .062		.238 .055	
$\Delta R^2$												
<i>F</i> for change in $R^2$	65.480***								45.605***		41.655***	
Family Support	.067	.043	.063	.052	.043	.049	.037	.041	.035	.027	.041	.026
Self-efficacy	.421	.056	.305***	.385	.058	.279***	.354	.055	.257***	.340	.054	.247***
$R^2$	.107 .086								.206 .056		.227 .052	
$\Delta R^2$												
<i>F</i> for change in $R^2$	56.669***								54.514***		38.943***	

Note: \* $p < .05$ . \*\* $p < .01$ ., \*\*\* $p < .0001$ , (N = 597)

Table 13.

*Results Predicting Academic Performance for Standardized Scores, Controlling for Familial, Behavioral, and Intrapersonal Factors (Standardized Test Scores)*

Variable	Academic Aspiration			Academic Aspiration, Attendance			Academic Aspiration, Attendance, SES					
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	<i>B</i>
Family Affection	3.471	.593	.232***	2.956	.596	.197***	2.968	.592	.198***	3.007	.579	.201***
Parent Involvement	-1.837	.743	-.098	-2.392	.743	-.128**	-2.515	.737	-.134**	-2.817	.724	-.151***
$R^2$	.228 .009											
$^4R^2$												
$F$ for change in $R^2$	6.112*		.082 .086			.094 .016			.134 .021			
	6.112*		20.190***			11.637***			15.159***			
Family Affection	2.212	.572	.147***	2.106	.579	.134**	2.009	.576	.134**	2.050	.567	.137***
Self-efficacy	6.471	.903	.273***	5.931	.941	.250***	5.816	.936	.246***	5.386	.925	.228***
$R^2$	.113 .071											
$^4R^2$												
$F$ for change in $R^2$	51.326***		.118 .055			.128 .053			.157 .045			
	51.326***		39.707***			38.640***			33.900***			

Note: \* $p < .05$ . \*\* $p < .01$ ., \*\*\* $p < .0001$ , (N =597)

## CHAPTER 4

### DISCUSSION

This study examined the relationship between the perceived role of family environment and academic performance among adolescents. Family environment factors used in this study were conflict in the family, support in the family, and affection in the family. We hypothesized that support and affection in the family would be significantly related to increased academic performance while conflict in the family would be significantly related to decreased academic performance. Additionally, we suggested that support in the family would act as a moderating variable between conflict in the family and academic performance, suggesting the presence of support in the family as a protective factor would ameliorate the effects conflict in the family as a risk factor. The results revealed an interesting pattern. While as predicted high support and low conflict in the family predicted the highest levels of academic performance, low support and high conflict did not predict the lowest levels of academic performance. Although high conflict/low support predicted slightly higher levels of academic performance than low conflict/low support, it remains to be seen if low support combined with low conflict is significantly different from having low support and high conflict. A couple of interpretations can be drawn from this pattern. First, support in the family is an important family environment component. This factor promoted resiliency and moderated the relationship between conflict and academic performance. Second, having low conflict in the family and low support in the family may be reflective of family involvement and may include definitions of deleterious family functioning and that without the presence of positive family factors negative family factors operate in interesting and sometimes unusual ways.

In part, results from this study support previous literature that found that resiliency factors, such as self-efficacy, parental involvement, support, and affection in the family provide avenues for successful academic performance despite ecological risks such as conflict in the family and economic hardships. However, the results also indicated that academic performance is related to but not determined by dynamics from one's family environment.

The mediating roles of self-efficacy and parent involvement on the relationships between conflict in the family, support in the family, and affection the family and academic performance were examined. In order to identify a nuanced view of successful academic performance and gain insight into how the combined presence of risk and resiliency factors might alter adolescents' ability to succeed academically, predictor variables were assessed. Overall, the study revealed that support in the family, affection in family, conflict in the family, self-efficacy, and parent involvement independently predicted measures of academic performance. Questions remain why these variables did not consistently predict academic performance as measured by either grades or standardized test scores.

#### *Support in the Family*

The hypothesis that family support and academic performance were related was supported, with increased support in the family predicting increased academic performance. However, results revealed that support in the family predicted grades and not standardized test scores. It is possible that support in the family is more important to the adolescent's functioning rather than to distinct periods of academic testing. Additionally, it is possible that schools place high importance on standardized testing, suggesting that school factors directly relate and augment various outcomes.

### *Affection in the Family*

The hypothesis that affection in the family and academic performance were related was supported, with increased affection in the family predicting increased academic performance. Additionally, affection in the family predicted both measures of academic performance. Affection in the family predicting both measures of academic performance suggests that adolescents respond differently to the presence of affection and that this factor is important across performance domains.

### *Conflict in the Family*

The hypothesis that conflict in the family and academic performance were related was supported, with increased conflict in the family predicting decreased academic performance. However, results revealed that conflict in the family predicted grades and not standardized test scores. Like support in the family, conflict in the family is behaviorally defined and includes the adolescent's self-report of family members fighting, family members throwing or hitting each other, family members losing temper, family members criticizing one another, and family members being angry. It is possible that conflict in the family is more important to the adolescent's daily functioning rather than to distinct periods of academic testing. Additionally, it is possible that schools place high importance on standardized testing, suggesting that school factors directly relate and augment various outcomes.

### *Parent Involvement*

Inconsistent with previous research, parent involvement had less influence on the relationship between family environment factors and academic performance than expected. Hypotheses regarding the mediating relationship were only partially supported. Parent involvement was directly related to only one measure academic performance from hypothesis 6.

Hypothesis 6 stated that parent involvement would mediate the relationship between affection in the family and standardized test scores. Parent involvement accounted for unique variance above and beyond the relationship between affection in the family and academic performance. The strength of the relationship increased between affection in the family and standardized test scores when parent involvement was included suggesting that this relationship might be suppressed by parent involvement. The inconsistent relationship between parent involvement, family environment factors, and academic performance may be due more to a limitation in this study than the involvement of parents in the lives of adolescents. The parent involvements questions were restricted to one context. Increasing the breadth of parent involvement questions is recommended for future studies.

#### *Self-Efficacy*

Self-efficacy mediated the relationships between support and conflict in the family and academic performance even after controlling for attendance, aspiration, and SES. Self-efficacy also mediated that relationship between affection in the family and academic performance measured using grades and remained significant even after controlling for attendance, aspiration, and SES. Self-efficacy did not mediate the relationship between affection in the family and academic performance measured by standardized test scores but rather accounted for variance above and beyond affection in the family. This model remained significant after controlling for attendance, academic aspirations, and SES.

Previous studies have been conducted and found that students from lower SES backgrounds perform more poorly than students from higher SES backgrounds. This study also found a significant relationship for SES and academic performance. However, the premise of this study was to be able to identify resiliency factors that bolster a student's ability to perform well

despite the presence of risk factors. One interesting finding was that despite the presence of conflict in the family and having a low SES, affection in the family predicted higher academic performance. Additionally, the one variable that remained constant even after controlling for SES, was self-efficacy. The robust nature of self-efficacy as a predictor of academic performance despite the presence of risk factors was somewhat surprising. Self-efficacy has been shown to be important to academic performance in previous research. However, it was expected that the SES as a powerful predictor related to performance would provide a deleterious relationship between self-efficacy and academic performance.

#### *Limitations and Future Research*

A number of limitations should be considered when evaluating this study. The generalizability of this study was limited due to the demographically homogenous sample. The majority of participants were Caucasian (97%). The use of a preexisting dataset limited the degree to which specific questions could be included. The instruments in the present dataset could be improved. For example, the complete FES would have provided increased breadth of information rather than the altered subscales in the current study. Additionally, SES was measured by gathering data from school records on families who qualified for free or reduced lunches. Although previously used, this method is not an ideal measure of SES and is unable to distinguish subtle income differences. Future research should consider using alternate methods of gathering SES. Research has also indicated that the most profound impact on a child's academic performance is parental income (Tarnowski, Brown, & Simonian, 1999), with effects occurring early in a child's academic career (Coleman et al., 1966; Jimerson, Egeland, & Teo, 1999). Where economic disadvantage is concerned, future research should focus on early mechanisms of resiliency that can bolster a child's success. Self-efficacy was found to be a resilient factor in

the presence of risk but this may not hold true with younger children. Additionally, future research should indicate the intensity and degree that conflict is present. Future research should also better define the nature of parent involvement as either supportive or conflictual.

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APPENDIX

Tables for Nonsignificant Models

Table 14.

*Parent Involvement as Mediator of Support in the Family and Academic Performance  
(Standardized Test Scores)*

	Support in the Family Parent Involvement	Parent Involvement Academic Performance	Support in the Family Academic Performance (w/o Parent Involvement)	Support in the Family Academic Performance (w Parent Involvement)
<i>b</i> ( <i>se</i> )	.373 (.034)***	-.710(.724)	.887(.208)	
$R^2$				

Note . \*\* p .01, \*\*\* p <.001, (N = 598)

Table 15.

*Parent Involvement as Mediator of Conflict in the Family and Academic Performance  
(Standardized Test Scores)*

	Conflict in the Family Parent Involvement	Parent Involvement Academic Performance	Conflict in the Family Academic Performance (w/o Parent Involvement)	Conflict in the Family Academic Performance (w Parent Involvement)
<i>b</i> ( <i>se</i> )	-.350 (.039)***	.047(.045)	-1.18(.771)	
$R^2$			$R^2 = .003$	

Note . \*\* p .01, \*\*\* p <.001, (N = 597)

Table 16.

*Self-efficacy as Mediator of Support in the Family and Academic Performance (Standardized Test Scores)*

	Support in the Family Self-Efficacy	Self-efficacy Academic Performance	Support in the Family Academic Performance (w/o Self Efficacy)	Support in the Family Academic Performance (w Self Efficacy)
<i>b(se)</i>	.217 (.028)***	7.03(.926)***	.887 (.704)	
<i>R</i> <sup>2</sup>			<i>R</i> <sup>2</sup> = .002	

Note . \*\* p .01, \*\*\* p <.001, (N = 597)

Table 17.

*Self-efficacy as Mediator of Conflict in the Family and Academic Performance (Standardized Test Scores)*

	Conflict in the Family Self-Efficacy	Self-efficacy Academic Performance	Conflict in the Family Academic Performance (w/o Self Efficacy)	Conflict in the Family Academic Performance (w Self Efficacy)
<i>b(se)</i>	-.314 (.044)***	7.04(.872)***	-1.18(.771)	
<i>R</i> <sup>2</sup>			<i>R</i> <sup>2</sup> = .088	

Note . \*\* p .01, \*\*\* p <.001, (N = 597)

VITA

CHRISTINE L. PEARSON

- Personal Data: Date of Birth: March 18, 1969  
Place of Birth: Oklahoma City, Oklahoma
- Education: B.S. Psychology Boise State University, Boise, Idaho (2006)  
Minors (Gender Studies and Multiethnic studies)  
M.A. Psychology, East Tennessee State University  
Johnson City, Tennessee (2009)
- Honors and Awards: Research Fellowship at the Summer Research Opportunity  
Program (SRPOP), University of Utah received Summer  
2006, funded by the University of Utah and the  
National Institute of Mental Health.  
Founders/Leadership Award (Spring 2006). Boise State University  
“Top Ten Scholar” (Spring 2006). Boise State University  
Center for Multicultural and Educational Opportunities  
Student Achievement Award (Fall 2005/Spring 2006).  
Boise State University
- Publications: Doumas, D. M., Pearson, C. L., Elgin, J. E., & McKinley, L. L.  
(2008). Adult attachment as a risk factor for intimate  
partner violence: The “mispairing” of attachment anxiety  
and attachment avoidance. *Journal of Interpersonal  
Violence, 23*, 616-634.