Risk and Protective Factors Associated with Academic Achievement Among Ghanaian Youth

Ziblim Abukari

University of Denver

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Abstract
Young people in Ghana who grow up in poverty and to families with little or no education endure limited early learning opportunities, underfunded educational systems, and more health and mental health problems compared to their peers from more privileged backgrounds. A significant body of literature addressing the relationship among risk, protection, resilience and academic achievement is based on youth populations in North America and Western Europe. Relatively little is known about the applicability of ecological and risk and resilience frameworks in non-Western countries. Consequently, educational outcomes of young people in Ghana are often characterized by similarities in low achievement, lack of teachers, school supplies, and dilapidated school buildings. Such characterizations mask internal and social resources of individuals in Ghana. In an attempt to understand the processes of students' academic achievement in Ghana, this study examined the relationship among risk, protection, and academic achievement of 276 first-year college students in Ghana. Using a mixed methods design, the study applied ecological theory and the risk and resilience framework to measure personal, family, and environmental conditions that enhanced or inhibited achievement. Bivariate analyses revealed gender and regional differences in measures of protection and risk relative to school achievement. These included parental and individual drug abuse, neighborhood safety, school mentor, neighborhood cohesion, collective efficacy, and parental educational values. Hierarchical multiple regression analyses revealed significant relationships between students' grades and sense of optimism, region of residence, presence of a school mentor, parental social support, and neighborhood safety. Results suggest that there are important gender and regional differences in Ghanaian youths' access and exposure to systems of support and risks. Implications of these findings, limitations of the study design, and directions for future research are discussed.

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First Advisor
Jeffrey M. Jenson, Ph.D.

Second Advisor
Julie A. Laser

Third Advisor
Nicole N. Nicotera

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by
Ziblim Abukari
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Advisor: Jeffrey M. Jenson, Ph.D
Abstract

Young people in Ghana who grow up in poverty and to families with little or no education endure limited early learning opportunities, underfunded educational systems, and more health and mental health problems compared to their peers from more privileged backgrounds. A significant body of literature addressing the relationship among risk, protection, resilience and academic achievement is based on youth populations in North America and Western Europe. Relatively little is known about the applicability of ecological and risk and resilience frameworks in non-Western countries. Consequently, educational outcomes of young people in Ghana are often characterized by similarities in low achievement, lack of teachers, school supplies, and dilapidated school buildings. Such characterizations mask internal and social resources of individuals in Ghana. In an attempt to understand the processes of students’ academic achievement in Ghana, this study examined the relationship among risk, protection, and academic achievement of 276 first-year college students in Ghana. Using a mixed methods design, the study applied ecological theory and the risk and resilience framework to measure personal, family, and environmental conditions that enhanced or inhibited achievement. Bivariate analyses revealed gender and regional differences in measures of protection and risk relative to school achievement. These included parental and individual drug abuse, neighborhood safety, school mentor, neighborhood cohesion, collective efficacy, and parental educational values. Hierarchical multiple regression analyses revealed
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Chapter One: Introduction

Young people in Ghana who grow up in poverty and to families with little or no education endure limited early learning opportunities, underfunded educational systems, and more health and mental health problems compared to their peers from more privileged backgrounds. This combination of factors also predisposes them to significant risk for dropping out of school and reduces their chance to attain post-secondary education. Despite recent parity in school enrollment for boys and girls in Ghana [(Ghana Statistical Service (GSS, 2008)], nationally, only 37% of all secondary school age students are enrolled in school, and only three percent of 18-21 year olds in Ghana are enrolled in tertiary education (Morley, Leach, Lugg, Opare, Forde, & Egbenya, 2010).

There are substantial regional variations in enrollment and achievement between the northern and southern regions of Ghana where the former is characterized by pervasive poverty and lower levels of school enrollment and achievement (GSS, 2008). In Ghana, students who fail to complete secondary school or go to a university are more likely to be poor and/or come from a rural area or the northern part of the country. Similar to the Western World, academic achievement in Ghana has been recognized as a consistent and significant childhood predictor of success in adulthood in the sphere of work, health, personal, and family life (Fobih, 1987; Garmezy, Masten, & Tellegen, 1984; Schoon, 2006; Werner & Smith, 1992). Without proper education and training,
individuals lack the skills and competence to participate in a number of occupations and take advantage of opportunities in society irrespective of their abilities and aptitudes (Schoon, 2006). Despite an 11% decline in national poverty between 1998 and 2006, one in 28 Ghanaians is still poor (GSS, 2008). Socioeconomic disadvantage manifested in poverty, marginalization, and deprivation, which is significant in Ghana, has been shown to have a negative influence on individual adjustment and educational outcome (Brooks-Gunn & Duncan, 1997; Cochran & Chaudry, 1997; Cooper & Crosnoe, 2007; Dearing, Berry, & Zaslow, 2006; Sacker & Schoon, 2007; Schoon, 2006).

Like many places in Africa, children and adolescents in Ghana face a significant risk of poor educational outcomes due to the convergence of poverty, low quality education, insufficient school infrastructure, inadequate school supplies, and poor health facilities. In addition, many studies suggest that children from poor and underprivileged backgrounds have a higher risk of experiencing negative or poor academic outcomes during adolescence (Brooks-Gunn, Guo, & Furstenberg, 1993; Cooper & Crosnoe, 2007). This underscores the need to understand individual and social factors affecting academic achievement among young people in Ghana who are at risk of school failure. This study examines the relationship between individual and social characteristics and academic achievement among students in selected colleges in Ghana. Risk, protection, and resilient traits of young people are examined in relation to academic achievement. To provide a background for the study, a brief review of the education system in Ghana follows.

The Structure of Ghanaian Education System

The Ghanaian education system has undergone numerous and substantial changes since independence in 1957. The present Ghanaian education system is generally guided
by the Education Strategy Plan for 2003-2015 and the Free Compulsory Universal Basic Education (FCUBE) program. FCUBE was introduced in 1996 as a demonstration of government commitment to make basic education (1st to 9th grades) free and compulsory to all school-age children by the year 2005 and improve learning outcomes (Akyeampong, 2009). Prior to 1987, pre-university education was 17 years (i.e., six years primary, four years middle school, and 7 years secondary school). The 1987 education reforms reduced pre-university education to 12 years. The new policy introduced a 6-3-3-4 structure in line with the American system. That means 6 years of primary, 3 years of junior secondary, 3 years of senior secondary, and 4 years of university education. In addition, for the first time, pre-primary education also known as kindergarten was introduced.

While these reforms have significantly improved access for school-age children in Ghana, improving instructional quality and student achievement has been slow (Etsey, Smith, Gyamera, Koka, de Boer, Havi et al., 2009). Spurred by international policies such as Education for All (EFA) and the Millennium Development Goals (MDGs), the Ghana government has made some progress in expanding educational access to deprived districts and marginalized populations resulting in increased enrollment. However, the pressure to meet the UN goal of universal primary education by 2015 coupled with inadequate resources, textbooks, desks, classroom space, qualified teachers, among others may have compromised learning outcomes. For example, recent results of the Basic Education Certificate Examination (BECE) from 2006-2008 conducted by the West African Examinations Council (WAEC) indicate that the average percentage of students who qualify for senior secondary school is about 62% (i.e., students score aggregate 6-30
in best six subjects) (Daily Graphic, 2008). Given the limited number of secondary schools and the fact that many schools have a cutoff point of 15, the percentage of qualified students who enroll in secondary school will be even lower.

In cross-national comparisons, academic achievement of Ghanaian students is significantly lower compared to other African countries. For example, in the Trends in International Math and Science Study (TIMSS) 2003, Ghana’s core was the lowest among all the countries that took part in the assessment including regional members such as South Africa, Morocco, Tunisia, Botswana, and Egypt (Etsey et al., 2009). Etsey and colleagues also noted that Ghanaian students did not perform better in the 2007 TIMSS scoring behind Algeria, Botswana, Egypt, and Tunisia and fell behind countries with similar income levels in other regions. In sum, many children in Ghana endure several adversities that have a negative influence on their educational success. Despite increased enrollment in recent years, improving educational quality and achievement for all students remains a challenge. Conceptual definitions of key constructs and terms used in the present study are described below.

**Risk, Resilience, and Academic Outcomes**

The threats to positive developmental outcomes and the processes that enhance resilient outcomes have been the focus of scientific investigation for decades. Conceptualizations of resilience are often primarily centered on a young person’s ability to regain his/her full life after going through adversities or crisis, the ability to do well in life despite having had to deal with tremendous difficulties (Masten & Gerwirtz, 2006; Masten & Powell, 2003; Rutter, 1990; Werner & Smith, 1992). Early conceptualizations of risk and resilience focused primarily on individual risk and mediating factors that were
associated with negative and positive outcomes in children and youth (e.g., Garmezy, 1987; Rutter, 1979). In recent years, the risk and resilience framework has evolved into a more sophisticated model that recognizes the influence of psychosocial forces across different social systems that impact the lives of children and adolescents (Anthony, Alter & Jenson, 2009; Jenson, 2004; Jenson & Fraser, 2006; Luthar, Chicchetti, & Becker, 2000; Luthar & Ziggler, 1991; Masten & Gewirtz, 2006; Werner, 2000).

The concepts of risk and resilience emerged primarily from public health and particularly from the investigations of psychopathology through the pioneering work of researchers such as Norman Garmezy (1973), Emmy Werner (Werner & Smith 1977), and Michael Rutter (1979). In addition, researchers discovered that adolescents growing up in poverty and disadvantage are more likely to develop negative developmental outcomes (i.e., child exhibiting high vulnerability behaviors and low coping abilities) than those not exposed to risk (Garmezy, 1983; Keyes, 2004; Rutter, 1983; Schoon, 2006). Investigators also observed that individual exposure to risk does not portend undesirable developmental outcomes (Garmezy, 1983; Rutter, 1983; Werner & Smith, 1977, 1992). The study of risk and resilience, therefore, seeks to illuminate etiologies, mechanisms, and developmental consequences of changes in behavior and functioning in the presence of adversity (Keyes, 2004).

Gender inequality remains one of the most enduring types of educational inequality in many countries including Ghana. While in richer, more developed countries there is no significant difference in enrollment at the primary or secondary levels (Hyde, 1999), inequalities in developing countries are seen in lower enrollment, higher dropout, and low achievement for girls (Dunne, Leach, Chilisa, Maundeni, Tabulaw, Kutor, et al., 2000).
While recent statistics suggest a near parity in enrollment between boys and girls in primary and junior high schools in Ghana, the problem becomes more conspicuous in secondary school and universities where male to female ratio widens. Studies show that dropout rates for girls are high at the secondary school level in Ghana which is attributed to many factors including pregnancy and early marriage (Dunne et al., 2005). Dunne and colleagues further suggest that as a result of the gendered nature of school environments in Ghana manifested in stereotypical gender behaviors, academic achievement of girls is lower than boys. Yet the benefits of education for young women are well established. Education of girls reduces child and maternal mortality, decreases vulnerability to HIV/AIDS, and increases school enrollment of the children of educated mothers (Govender, 2004). Similarly, Govender and Gruzd (2004) observed that a single year of primary education for a girl corresponds to a 10-20 percent increase in women’s wages.

**Conceptual definitions.**

In an effort to understand and improve adolescent behavior outcomes, it is important to identify those factors that contribute to risk and those that promote healthy behavior and positive outcomes. This section will present conceptual and operational definitions of key terms used in this study. Despite advancement in risk and resilience research, definitions of these concepts are by no means monolithic (Luthar et al., 2000). For example, what distinguishes a high-risk adolescent from others is not the degree to which the individual is exposed to a single risk factor, but rather the impact of multiple risk factors over a period of time (Rutter, 1979; Schoon, 2006; Wright & Masten, 2005; Yates & Masten, 2004). Also, there are considerable variations in the impact of risk on individual children and adolescents. For example, a child growing up in extreme poverty
may perform well in school but at the same time exhibit delinquent behavior (Luthar, 1991; Schoon, 2006).

In parallel fashion, defining protection and resilience is equally elusive. As demonstrated in the above example, success in one domain of adolescent behavior cannot be assumed to affect other domains in the same manner. As noted by Garmezy (1985), searching for protective factors is elusive, as coping alone is not sufficient to explain adaptive behavior. Garmezy (1985) observed that positive adaptation encompasses things such as personality traits, family factors, and conditions in the larger social system. Similarly, risk and resilience are sometimes regarded as polar opposites that tend to occur in tandem (Schoon, 2006; Wright & Masten, 2005; Yates & Masten, 2004). This suggests that identification of resilience presupposes exposure to adversity and how effectively an individual is coping in life as one person cannot be considered resilient without coping with adversity (Garmezy, 1985; Luthar et al., 2000; Masten & Gewirtz, 2006).

Some researchers argue that the term resilience must only apply to at-risk children and adolescents who have exceedingly coped with multiple adversities (e.g., Tolan, 1996). Others consider excellent coping in one domain and at least average coping in other spheres as sufficient (Luthar, 1991; Yates & Masten, 2004). Given the variations in the definition of risk, protection, resilience, and other concepts, conceptual and operational definition of key terms used in the research are presented in this section.

**Risk factors.**

Risk factors are events and characteristics that increase the likelihood of undesirable outcomes or problem behaviors in children and adolescents (Fraser, Kirby, & Smokowski, 2004; Jenson, Anthony, & Howard, 2006). Risk factors may emanate from
individual biological, cognitive, and behavioral traits and the environment in which the individual resides (Davies, 2004). In environments characterized as high risk, risk factors tend to accumulate which some researchers refer to as cumulative risk (Sameroff & Seifer, 1990; Yates & Masten, 2004). Youth in these environments are labeled high-risk-youth due to the likelihood of developing problem behaviors from the combined effects of the cumulative and chronic risk (Garmezy, 1994; Richters & Weintraub; 1990; Sameroff & Seifer, 1990). In this study, risk factors are defined as individual and socio-cultural conditions that increase the likelihood of poor academic outcomes.

**Protective factors.**

Protective factors are defined as individual and environmental characteristics that contribute to positive developmental outcomes (Jenson et al., 2006). Protective traits, like risk factors, are located in the domains of individual, family, and community and serve as a buffer against negative outcomes (Fraser et al., 2004). According to Yates and Masten (2004), “at the individual level, protective and vulnerability factors moderate the effect of adversity on developmental outcomes (p. 253) (emphasis original). Protective factors in this study are those individual, community and cultural factors that promote academic achievement.

**Resilience.**

Resilience is defined as “the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances” (Masten, Best, & Garmezy, 1990, p. 426). This suggests that the concept of resilience is predicated on the presence of risk and stress. Also, resilience is not an individual characteristic but a process of positive adaptation in the face of adversity (Luthar et al., 2000; Masten, 1999b; Wright & Masten,
In the context of the current study, resilience is defined as the ability to regain control of life and succeed in school despite adversity.

**Academic achievement.**

Academic achievement is typically measured in reference to grade point average (GPA) and test scores (Choi, 2007; Rumberger, 2001). A correlate of academic achievement is educational achievement which is associated with the number of years of schooling completed and degrees or diplomas awarded (Rumberger, 2001). Low educational and academic achievement has become a concern for parents, educators, and governments because of their relationship with adolescent problem behaviors such as violence and substance abuse (Choi, 2007), and with unemployment and low psychosocial well-being (Abukari, 2007; Zimmer-Gembeck, Chipuer, Hanish, Creed, & McGregor, 2006). In this study, academic achievement is defined as the successful completion of high school or enrollment in higher education.

**Statement of the Problem**

A plethora of literature on risk and resilience has emerged in the western world over the past several decades that has increased understanding of the deleterious effects of stress and other risk factors associated with environments characterized by high incidence of poverty, crime, delinquency, and violence (e.g., Arthur, Hawkins, Pollard, Catalona, & Baglioni, 2002; Brooks-Gunn & Duncan, 1997; Brooks-Gunn et al., 1993; Cauce, Steward, Rodriguez, Cochran, & Ginzler, 2003; Corcoran & Chaudry, 1997; Cooper & Crosnoe, 2007; Dearing et al., 2006; Jenson & Howard, 1999; Jenson et al., 2006). Evidence also suggests that some children and adolescents, despite the adversities they encounter, are able to adapt successfully (Garmezy, 1983; Masten, 1999a; Masten &
Powell, 2003; Rutter, 1983; Werner, 1999; Werner & Smith, 1992). This category of children and adolescents is often described as stress-resistant (Garmezy, 1983, 1985) or resilient children develop positive relationships, cope effectively with stress and disadvantage, and succeed in school (Luthar et al., 2000; Luthar & Zigler, 1991; Masten 1999a; Masten & Powell, 2003; Rutter, 1983; Werner, 1999; Werner & Smith, 1992).

While these findings may be incontrovertible, existing evidence about risk and resilience is based mainly on North American and European literature. There is a dearth of literature in Ghana on factors that aid or inhibit young people from succeeding in school. There are young people in the country who have shown considerable academic resilience despite the presence of difficulties and inadequate external supports. It appears something else may be mediating the educational success despite adversity. In this study, I argue that resilience, a little-studied construct in Sub-Saharan Africa and Ghana in particular, is associated with the academic success of students from low-income backgrounds.

Current indigenous research in Ghana tends to focus on the deficit of school failure and structural issues such as inadequate classrooms and teachers and macro level issues such as education policy reforms, poverty, HIV/AIDS, water and sanitation, food security and malnutrition, health care, and education. While these issues are important for national development, this focus tends to obscure how the same issues may affect the development of children and adolescents. In addition, research in the country has not examined students’ internal resources or strengths, types and effects of peer relationships, the environment, and the psychosocial issues confronting them.
As noted earlier, risk, protection, and resilience are Western conceptualizations and the theoretical models that guide research in these areas are based on Western theories developed in North America, Europe, Australia, and New Zealand (Laser, 2003). The question is, to what extent is the risk and resilience framework as conceptualized in Western literature applicable in Ghanaian context? In particular, risk factors have been identified in Western literature as having negative effects on children and adolescents (Fraser et al., 2004; Fraser, Richman, & Galinsky, 1999; Garmezy, 1983; Hawkins, Catalona, & Miller, 1992; Jenson et al., 2006; Rutter, 1979). An important question is whether these factors have the same deleterious effects on Ghanaian adolescents in relation to academic achievement.

**Purpose of the Study**

A major concern of the Ghana government and educational administrators is the quality of academic performance of students. As noted earlier, the relationship between level of educational attainment and socio-economic status has been established (Brooks-Gunn & Duncan, 1997; Cochran & Chaudry, 1997; Schoon, 2006). Thus, the current study (partially inspired by my own struggles and experiences with the Ghanaian formal education system) aims to identify risk and protective factors in Ghanaian youth that are associated with positive educational outcomes despite the presence of significant adversity. Recognizing that socio-economic status is not the sole determinant of student achievement, the study examines other psychosocial factors that may be related to student achievement. An examination of these factors is intended to help explain the achievement of students from marginalized and underprivileged backgrounds and to provide information the government and education administrators may find useful. The
knowledge gained from this study may also aid high-risk youth to adjust their coping mechanisms.

This study is unique from previous investigations in Ghana in the sense that it focuses on both internal and external resources that are likely to promote achievement among disadvantaged and marginalized youth. A cross-sectional design was used to assess the personal, school, family, cultural, and community influences that contribute to academic achievement of Ghanaian youth. Bivariate and multiple regression techniques were used to examine relationships among risk, protection, and academic achievement among Ghanaian youth. The study also examined differences in risk and protective factors relative to achievement between the northern and southern regions of the country and between genders, and what factors predict achievement. A qualitative design component was used to deepen understanding of Ghanaian students’ definition of resilience and coping mechanisms. Qualitative data collection was based on focus group interviews from a sample of participants who completed the quantitative surveys.

The study aims to identify the prevalence of risk and protective factors at multiple levels in Ghanaian youth. It also seeks to identify subpopulations with high levels of risk/or low levels of specific protective factors that have low levels of academic achievement. It is hoped that governments, education planners, administrators, and nonprofit organizations working with children and adolescents will find the research useful and that it will strengthen preventive efforts in changing potential ecological factors that may have deleterious effects on academic achievement. The research will further enhance efficiency and prevention efforts by facilitating strategic prevention
planning to address specific predictors of adolescent problem behavior in schools and communities.

**Chapter Summary**

The role of education as an important determinant of a good future has been recognized worldwide. However, relatively little is known about the factors that promote student achievement in Ghana. Young people in Ghana from deprived and underprivileged backgrounds are often characterized in relation to poor infrastructure, inadequate and unqualified teachers, high dropout rates, and low achievement. Such general characterization often conceals crucial individual and locality differences and fails to recognize protective mechanisms that enable some students to succeed in the face of adversity. Understanding risk and protective factor domains in the lives of Ghanaian youth may not only provide valuable information but also help on efforts to plan and implement empirically based prevention services and programs. The next chapter presents a review of existing literature on risk, protection, and academic achievement among Ghanaian youth. The theoretical model that guides the study is also presented.
Chapter Two: Review of the Literature

This chapter is divided into three major sections. The first section begins with a discussion of an ecological perspective on risk, resilience, and academic achievement, and provides a theoretical framework for the research. The connection between ecological theory and the risk and resilience model is examined. The need for different research approaches and models, particularly for youth raised in poverty and in non-Western cultures, and gaps in knowledge in this area are discussed. The second section presents a summary of existing literature on risk, protection, and resilience to further illuminate our understanding of the relationships between these concepts and academic achievement. The final section provides a brief history of educational research and achievement trends in Ghana. The chapter ends with research questions that guide the study.

Theoretical Framework

Generally, questions about educational inequality and low academic achievement are informed by three broad theoretical perspectives: social control theory (Hirschi, 1969); social learning theory (Bandura, 1969, 1977, 1986; Ribes-Inesta & Bandura, 1976); and ecological theory (Bronfenbrenner, 1977, 1979, 1986). This study recognizes the value of these perspectives and the contribution of each to the risk and resilience framework. In this study, the risk and resilience framework is placed within the context of Bronfenbrenner’s (1979) ecological theory to demonstrate the influence of the external
environment on human development and the interdependencies between the individual and the external world. According to this theory, behavior outcomes emanate from interactions between the individual and his or her social environment. According to Bronfenbrenner, behavior outcome under the ecological theory develops out of the continuous and reciprocal interaction between the individual and societal systems including those he or she does not have contact with such as parents’ employers, city government, and the state or federal constitution.

**Bronfenbrenner’s ecological theory of human development.**

The ecological perspective is based on the premise that human development is an on-going interaction between an individual and his or her environment (Bronfenbrenner, 1977, 1979). At the center of Brofenbrenner’s ecological model is a continuous interaction between the developing person and the multiple levels of his or her environment (Garbarino & Ganzel, 2000). In the view of Bronfenbrenner, development in the context of the environment creates “a lasting change in the way a person perceives and deals with his environment” (Bronfenbrenner, 1979, p. 3). This is particularly significant because of its emphasis on the influence of social context on behavior. Moreover, adolescents grow up in a complicated developmental system with multiple individual genetic features such as cognition, emotion, personality, and the multiple levels of his or her social ecology including family, peers, school, public policy, and legal systems (Lerner & Ohannessian, 1999).

According to Bronfenbrenner (1977), the ecological model is “conceived topologically as a nested arrangement of structures, each contained within the next” (p. 3).
514) (emphasis original). The ecological framework consists of four sub-systems namely microsystem, mesosystem, esosystem, and macrosystem. The components of the ecological model and their relationship are illustrated in Figure 1.

Figure 1. Bronfenbrenner’s Ecological Model of Human Development

*a Adapted from Muuss (1996).

*Microsystem.*

The microsystem is the closest setting in which individuals develop and contains the structures in which individuals have direct contact (Bronfenbrenner, 1977, 1979; Garbarino & Ganzel, 2000). As shown in Figure 1, this encompasses the relationships and interactions an adolescent has with his or her immediate surroundings such as family, school, church/mosque, and peers. At this level, relationships tend to be reciprocal – individuals influence their microsystems and these microsystems influence them in turn.
For example, a child’s parents may affect his or her beliefs in obtaining a good education and avoid problem behavior such as alcohol or drug abuse; through this the child also affects the behavior and beliefs of the parents toward supporting his or her education. This results in increased parental involvement at his or her school. Bronfenbrenner (1979) refers to these processes as bi-directional influences.

**Mesosystem.**

Mesosystems are interactions or relationships among microsystems (Bronfenbrenner, 1977, 1979; Garbarino & Ganzel, 2000; Muuss, 1996). For adolescents, the mesosystem is made up of interactions among the school, peer group, family, and involvement in other activities as illustrated in Figure 1. Mesosystems are particularly important for the study of adolescent behavior since adolescence is a stage characterized by the development of new, complex social roles and relationships that involve adding new microsystems such as peers and teachers. An important mesosystem for an adolescent is the relationship between parents and friends or between parents and teachers. Consequently, a strong and positive relationship among various microsystems positively contributes to child development and academic achievement while weak relationships place adolescents at risk of developing delinquent behaviors (Muuss, 1996; Richman, Bowen, & Woolley, 2004).

**Exosystem.**

Unlike the two systems described above, a developing young person does not participate in this system. Exosystems are settings that impact the developing person, but
he or she does not directly participate (Bronfenbrenner, 1977, 1979; Garbarino & Ganzel, 2000; Muuss, 1996; Richman, et al., 2004). It is defined as “one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person” (Bronfenbrenner, 1979, p. 25). In Figure 1, exosystems include parents’ work place (e.g., long working hours), school boards such as the Ghana Education Service (e.g., changes in testing standards), state and local councils (e.g., curfew), just to name a few. Developments in the exosystems are significant because they can impoverish or enrich adolescent learning experiences (Muuss, 1996). For example, good income from work, flexible work hours, and child care support will enhance development and learning through good parenting practices and good nutrition. In contrast, unemployment, low pay, stress, inflexible hours, and frequent traveling could compromise healthy development and learning outcomes through less contact with parents leading to poor attachment, and inability to meet child’s basic needs (Garbarino & Ganzel, 2000).

**Macrosystem.**

This system is the most distal setting from a developing young person and reflects the broad ideological and institutional patterns of a particular culture or subculture (Bronfenbrenner, 1979; Garbarino & Ganzel, 2000; Richman, et al., 2004). In other words, the macrosystem represents societal “blue prints” codified into laws, regulations, rules, customs and norms of a particular society (Bronfenbrenner, 1977, 1979). These are represented by the national and state constitutions, conventional belief systems, core societal values, and the mass media as shown in Figure 1. For example, societal norms
and values that encourage large families, early marriage, or discrimination against certain racial or ethnic groups, and failure to provide educational facilities in all communities or enforce compulsory school attendance laws for school-age children will negatively affect learning outcomes and future adaptation.

**Summary of ecological theory.**

The ecological system as described above is consistent with the risk and resilience framework, as risk and protective factors reside in individuals, family, peers, and the larger social context. In recent years, Bronfenbrenner’s ecological model has been adapted to study risk and resilience in social work. For example, Fraser (2004), Jenson and colleagues (2006), and Anthony et al. (2009) adapted Bronfenbrenner’s ecological model to the study of risk and resilience by replacing the micro, meso, exo- and macrosystems with a multisystems perspective that combines biological and psychosocial factors including individual, family, school, and neighborhood characteristics.

However, one significant element not adequately covered by Bronfenbrenner’s ecological model is cultural diversity. Thus, it is less clear whether children and adolescents from different racial and ethnic, and even international backgrounds exhibit similar developmental trajectories. In supporting cross-cultural diversity in child development research, Arrington and Wilson (2000) contend that unhealthy and poor behavioral outcomes for youth are not due only to the behavior they engage in but also to socioeconomic and cultural differences and experiences that directly affect their development. The researchers also suggest that socioeconomic status and culture appear to exert considerable influence on both the outcome and context of developmental
trajectories of many young people and thereby play important roles in the way resilience is expressed by them.

Similarly, Garcia Coll, Lamberty, Jenkins, McAdoo, Crnic, and Wasik (1996) observe that socioeconomic status, culture, ethnicity, and race and other stratification processes such as racism and discrimination are essential factors affecting youth development. Garcia Coll and colleagues also argue that these cultural processes can either promote or inhibit developmental processes. Other researchers (e.g., Cooper, 1999; Garcia Coll & Magnuson, 1999, 2000) argue that culture does not affect every child the same way as age and gender. As such, treating all children this way assumes homogeneity in culture and neglects significant variations in cultural experiences.

Perhaps the greatest contribution of Bronfenbrenner’s ecological theory to risk and resilience research is that “it offers a framework for studying the myriad manifestations of resilience across the lifespan and across multiple, progressively larger social contexts” (Harney, 2007, p. 83). An ecological model gives us a framework from which we can understand the complex ways that macro- and micro-level contexts such as cultural, national, social, and relational processes shape the psychological processes that enhance or impede resilience. From this perspective, different interventions can be adopted to promote resilience and academic achievement among adolescents living in adversity. A discussion of the risk and resilience model follows.

**The Risk and Resilience Framework**

The risk and resilience framework emerged from a broader theory of developmental psychopathology in response to a growing realization that some
individuals considered vulnerable or at risk of adversity surprisingly achieved positive developmental outcomes (Masten, 2001; Rutter, 1983; Wright & Masten, 2005). The lives of these individuals reflect patterns of resilience as “the process of, capacity for, or outcome of successful adaptation despite challenges or threatening circumstances” (Masten et al., 1990, p. 426; see also, Yates & Masten, 2004, p. 522). The concept of resilience has also been used to refer to (a) a positive developmental outcome despite the experience of adversity, (b) persistent effective functioning in the presence of adversity, and (c) ability to bounce back after a significant life event such as trauma (Masten & Gerwitz, 2006; Schoon, 2006). Similarly, Luthar and colleagues (2000) define resilience as a dynamic process that includes positive adaptation in the presence of significant adversity.

The identification of resilience is predicated on two fundamental judgments. The first is about whether the person is “doing ok” and the second suggests that there is, or has been a significant adversity to overcome (Luthar et al., 2000; Masten & Gerwitz, 2006; Masten & Powell, 2003; Schoon, 2006; Yates & Masten, 2004). Resilience and vulnerability or risks are viewed as two opposite poles as illustrated in Figure 2 because a person cannot be described as being resilient without experiencing or overcoming some form of adversity (Masten & Gerwitz, 2006; Wright & Masten, 2005).

**Risk factors.**

A central assumption in risk and resilience studies is that some individuals are functioning well despite their exposure to risk and adversity, while others adapt poorly
under similar situations (Schoon, 2006). This definition of resilience suggests some expectation of successful or maladaptive adjustment in adverse circumstances.

Figure 2. The Risk and Resilience Model and Positive Adaptation

Laser’s Resilience Model (Laser & Nicotera, in press)

As Figure 2 illustrates, individual development is assumed to be influenced by stressful life events which are either exacerbated by risk factors within the environment or moderated by protective factors in the environment. This results in two possible outcomes: resilience or vulnerability, depending on the degree of exposure to risk or protective factors (Laser & Nicotera, in press). However, there has been a considerable
debate over the past three decades about the precise definition, meaning, and measurement of resilience (Luthar et al., 2000). This has led to a growing consensus on the need for operational and working definitions of resilience (Wright & Masten, 2005). This suggests that identifying resilient patterns of adaptation requires operationalization of several related constructs (Yates & Masten, 2004), including risk and protection.

The term “risk factor” generally refers to the conditions and influences that increase the probability of an undesirable outcome either by exacerbating the problem or maintaining the condition (Coie, Watt, West, Hawkins, Asarnow, & Markman, 1993). Risk factors generally predict negative outcomes for at-risk youth and tend to “pile up” over time leading to the notion of cumulative risk (Sameroff, Gutman, & Peck, 2003; Yates & Masten, 2004). Increase in levels of cumulative risks or adversity results in reduction in positive behavior outcomes (Yates & Masten, 2004). Table 1 shows common risk factors among children and adolescents. Based on the ecological model, risk factors are classified by system level of influence.

**Community and environmental risk factors.**

Community and environmental factors play an important role in creating conditions that contribute to a culture of poor academic achievement among a particular group of people or in a given community. Some of the factors at this level that have been linked to poor school performance and other poor behavior outcomes are poverty, unsafe neighborhoods, availability of drugs and laws favorable to drug use, low commitment to education, and lack of competent, caring adult role models (Brooks-Gunn & Duncan,
1997; Corcoran & Chaudry, 1997; Dearing et al., 2006; Garbarino, Dubrow, Kosteln, & Pardo, 1992; Jenson & Fraser, 2006; McLoyd, 1998; Owens & Shaw, 2003).

Table 1

**Risk Factors that influence Academic Achievement and Resilience in Children and Adolescents**

<table>
<thead>
<tr>
<th>Community and Environmental Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe neighborhood</td>
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<tr>
<td>High level of community violence</td>
</tr>
<tr>
<td>Drug abuse and alcohol use</td>
</tr>
<tr>
<td>Economic deprivation/poverty/residence in a disadvantaged locality</td>
</tr>
<tr>
<td>Lack of competent, caring, and pro-social adult models (e.g., mentors)</td>
</tr>
<tr>
<td>Low commitment to education</td>
</tr>
<tr>
<td>Unemployment</td>
</tr>
<tr>
<td>Laws tolerant of oppression and political violence</td>
</tr>
<tr>
<td>Interpersonal and School Factors</td>
</tr>
<tr>
<td>Rejection by conforming peer group</td>
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<tr>
<td>Association with antisocial peer group</td>
</tr>
<tr>
<td>School failure</td>
</tr>
<tr>
<td>Being bullied by peers</td>
</tr>
<tr>
<td>Scape-goating by teacher</td>
</tr>
<tr>
<td>Low bonding with teachers</td>
</tr>
<tr>
<td>Family Factors</td>
</tr>
<tr>
<td>Family conflict</td>
</tr>
<tr>
<td>Poverty</td>
</tr>
<tr>
<td>Low parental education</td>
</tr>
<tr>
<td>Lack of involvement in child’s education</td>
</tr>
<tr>
<td>Poor parenting practices</td>
</tr>
<tr>
<td>Teenage parenthood</td>
</tr>
<tr>
<td>Maltreatment</td>
</tr>
<tr>
<td>Large family size</td>
</tr>
<tr>
<td>Parental drug and alcohol abuse</td>
</tr>
<tr>
<td>Individual Factors</td>
</tr>
<tr>
<td>Difficult temperament</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Poor peer relationship</td>
</tr>
<tr>
<td>Poor problem-solving skills</td>
</tr>
<tr>
<td>Low school attachment</td>
</tr>
<tr>
<td>Poor academic success</td>
</tr>
<tr>
<td>Antisocial behavior</td>
</tr>
<tr>
<td>Low intelligence</td>
</tr>
<tr>
<td>Negative self-concept (e.g., low-self esteem, low self-confidence, hopelessness)</td>
</tr>
</tbody>
</table>

*a. Adapted from Jenson & Fraser, 2006; Wright and Masten, 2005; and Laser & Nicotera, in press*
Poverty has been consistently found to be a pervasive, non-specific risk factor associated with adverse behavior outcomes including poor academic performance. For example, in comparing the relationship between poverty and child outcomes using several longitudinal studies, Brooks-Gunn and Duncan (1997) found that many poorer children were between 6 and 13 points lower on different standardized tests including IQ, verbal ability, and achievement. These differences, the researchers observed, are large when considered from an educational perspective and are present even after controlling for maternal age, marital status, education, and ethnicity.

Environmental risks have also been found to permeate several systems in a child’s ecological system (Dearing et al., 2006; Garbarino et al., 1992). For example, Dearing and colleagues observe that children who are poor live in contexts that are considerably less likely to have resources that stimulate or support development compared to children who are not poor. Dearing and colleagues also suggest that compared to their peers who are not poor, young children living in poverty are less likely to visit learning environments outside the homes such as museums and community libraries. This may be particularly significant for Ghanaian youth because many adolescents living in poor rural communities have lower completion rates and low reading and math abilities (Glewwe & Illias, 1996).

The relationship between unsafe neighborhood, violence, and poor educational attainment has also been established. For example, Cauce and colleagues (2003) found that students exposed to violence were more likely to exhibit poor cognitive functioning, have lower academic achievement and school attendance, and have higher rates of school
dropout. Similarly, Nettles and Pleck (1994) observed that young people who live in inner cities and poor neighborhoods are more likely to commit or be victims of crime, have children out of wedlock, be victims of racial discrimination, have problems with substance abuse, and have lower academic achievement and earnings than adolescents who live in affluent or White neighborhoods. Evidence further suggests that exposure to violence is associated with internalizing and externalizing behavior and school underachievement (Cauce et al., 2003). Many parts of northern Ghana are very volatile due to intransigent ethnic and chieftaincy conflicts (Abukari, 2005). These expose children and youth to significant risks including school failure and family disruptions resulting from death. Schools in conflict areas are often closed for several weeks as teachers and other professionals flee and may never return (Abukari, in press).

**Interpersonal and school risk factors.**

Peer influences of child delinquency and poor behavior outcomes usually appear developmentally later than do individual and family influences (Wasserman, Keenan, Tremblay, Coie, Herrenkohl, Loeber, et al., 2003). Numerous studies indicate that adolescent problem behavior is associated with participation in delinquent peer groups (Cauce et al., 2003; Hawkins et al., 1992; Jenson, 2004; Jenson et al., 2006). Researchers have identified two major peer mechanisms that influence deviant behavior and poor behavior outcomes. First, research suggests that association with antisocial peer group may represent the primary source through which neighborhood socialization adversely affects child outcomes (Arthur et al., 2002; Cauce et al., 2003; Hawkins et al., 1992). Specifically, Cauce and colleagues suggest that peer culture in low-income
neighborhoods and schools often reflects violence in the larger community. Consequently, adolescents growing up in these neighborhoods are often exposed to more delinquent peer groups than other youth. Similarly, characteristics and values of peers on inner city streets and poor neighborhoods are incongruent with success in the larger social system. For example, Cauce et al. (2003) assert that there is a weak relationship between peer popularity and academic success when compared with peer group pressure and externalizing behaviors.

Second, peer rejection in childhood is a risk factor for antisocial behavior. Wasserman et al. (2003) found that young aggressive children who are rejected by peers are at significantly higher risk of later persistent antisocial behavior than children who are not rejected, whether or not they were aggressive early on. Other researchers (e.g., Coie, Terry, Lenox, Lochman, & Hyman, 1995) found that peer rejection in third grade was a predictor of greater aggression and antisocial behavior in later grades, even after controlling for boys’ earlier aggressiveness. Further, Coie and colleagues point out that in early school years peer rejection exacerbates the association between early attention and hyperactivity problems and conduct problems. Peer pressure and its impact on adolescent behavior outcomes is understudied in Ghana. Thus, the impact of peer influence on academic achievement is not known. Further studies are needed to understand how this adolescent behavior process affects academic outcomes in Ghana.

Another interpersonal and school risk factor that affects academic resilience is poor achievement and low bonding with teachers. Evidence suggests that low commitment to school as a result of low bonding during childhood can lead to
delinquency (Wasserman et al., 2003). Specifically, the researchers identified poor academic performance as a specific school risk factor for delinquency. A meta-analysis of over 100 studies conducted to examine the relationship between academic performance and poor behavior outcomes found that poor academic achievement is associated with the prevalence, onset, and frequency of various maladaptive behaviors (Wasserman et al., 2003). In addition, children with low bonding (low commitment) to school, low educational aspirations, poor motivation, and expectation for poor performance by school staff are also at risk for antisocial behavior (Haggerty, Sherrod, Garmezy, & Rutter, 1994). Consistent with Hirschi’s (1969) theory of commitment, low achieving students have no commitment to school because they have little to lose compared to those who have invested more time studying and achieving higher academic grades.

**Family risk factors.**

Numerous studies demonstrate that family and parental or caregiver involvement is significantly associated with an individual’s propensity to engage in antisocial behavior. For example, poor and inconsistent family management practices, family discord and conflict, substance abuse, parental criminality, and low bonding to family, increase the risk of delinquency (Garbarino et al., 1992; Haggerty et al., 1994) and poor academic achievement (Bolger & Patterson, 2003). A lack of parental interaction and involvement increases the risk for violence, particularly among males (National Youth Violence Prevention Resource Center, 2001).
Similarly, failure to set clear expectations, inadequate youth supervision and monitoring, and severe or inconsistent family discipline practices can also contribute to antisocial behavior (Cauce et al., 2003; National Youth Violence Prevention Resource Center, 2001). Another family risk factor for children and adolescents that increases vulnerability and poor developmental outcome is maltreatment (Bolger & Patterson, 2003; Fraser et al., 2004; Thomlison, 2004). Child maltreatment is an umbrella term that is used to describe various types of abuse in children including physical abuse, neglect, sexual abuse, and psychological abuse (Fraser et al., 2004; Thomlison, 2004). Evidence suggests that by late adolescence, a large number of maltreated children who previously exhibited resilient characteristics in elementary school begin to show problems related to academic achievement, aggressive behavior, intimacy and interpersonal relationships (Bolger & Patterson, 2003).

Teen parenting and large family size are other risk factors that increase the vulnerability of children and adolescents and increase their risk for academic failure. Children born to teen mothers have been found to have a high likelihood of engaging in delinquent behavior (Wasserman et al., 2003). The potential delinquency of children of teen mothers may be associated with their mothers’ history of antisocial involvement and educational achievement and circumscribed career options (Franklin, Corcoran, & Harris, 2004). Similarly, research suggests that the more children a family has, the greater the risk of poor developmental outcomes (Wasserman et al., 2003). For example, drawing from a longitudinal study, Wasserman and colleagues assert that boys who have fewer siblings were less likely to engage in delinquent behavior by age 10 compared to boys
who had four or more siblings irrespective of parents’ socioeconomic status. As a country in transition from traditional to modern, many families in Ghana are generally large and range from a household size of 5.1 in 2000 to 4 in 2006 and as high as 6.5 in some regions (GSS, 2008). While this study assesses family factors as part of the ecological system, further research is needed to determine long term impact of large family size on educational outcomes in Ghana.

Another family risk factor that negatively affects students’ academic outcome is parental education. Evidence suggests that parents who have higher education tend to have higher expectations for their children than lower or non-educated parents (Nicholas-Omoregbe, 2010). The author further notes that non-educated and lowly educated parents also suffer economic stress, depression and marital conflicts that lead to harsh parenting practices for their children and poor grades. Many rural students in Ghana and those from the northern regions come from communities with concentrated poverty that are also besieged by unemployment and underemployment, violence, illiteracy, and low levels of education (Abukari, 2005). According to Adamu-Issah, Elden, Forson, and Schrofer (2007), the adult literacy rate in Ghana is 65%, which is consistent with Ghana Statistical Service findings where in 2003 73% of fathers and 61% of mothers had middle school education or lower. Only nine percent and three percent of fathers and mothers respectively had a university education (GSS, 2003)

**Individual risk factors.**

Children’s behavior is influenced by a number of internal factors including genetic and external factors such as social and environmental factors (Davies, 2004;
Wasserman et al., 2003). In relation to resilience and academic achievement, researchers identify risk as an individual’s genetic, emotional, cognitive, physical, and social characteristics (e.g., Brooks, 1994; Davies, 2004; Fraser, et al., 2004; Rew & Horner, 2003; Rutter, 1983). Temperament is an individual emotional factor that affects resilience. Temperament refers to responses to behavioral patterns or a predisposition to respond in certain ways to life situations (Davies, 2004; Rew & Horner, 2003). Compared to youth with happy temperament, youth with difficult temperament are easily upset, inflexible, and respond poorly to unexpected situations (Rew & Horner, 2003). Also, children with difficult temperament tend to be reactive and persistently oversensitive and emotional and have more problems at home and school (Davies, 2004; Rew & Horner, 2003; Rutter, 1983).

Research also suggests a link between difficult temperament in childhood and academic achievement scores in adolescence. For example, McCowry (1992, 1995) asserts that young children’s temperament ratings were associated with their reading and math scores in adolescence and concluded that temperament is associated with academic performance. Similarly, individual academic resilience is influenced by poor school performance. Academic failure, low degree of commitment to school, and low expectations for performance by teachers increase the individual vulnerability to poor academic achievement and resilience (Haggerty et al., 1994). The researchers further note that school performance has been identified as a significant source of stress for school-aged children and early adolescents. Similarly, Rew and Horner (2003) observe that
children who fail to perform well in school settings, either academically or socially, are more likely than other youth to drop out of school or engage in delinquent behaviors.

In addition, gender has been identified as a biological characteristic that affects the risk chain. In response to adversity such as family conflict and divorce, boys often exhibit greater stress and emotional disturbance than girls (Fraser et al., 2004; Luthar & Zigler, 1991). Also, boys are more likely than girls to engage in antisocial and aggressive behavior while girls are more likely than boys to have struggles in school and to experience mental health problems including depression and eating disorders (Werner & Smith, 1992). These findings point to the contextual nature of risk both by gender and culture. While antisocial behavior and aggression may be universal for adolescents worldwide, girls in Sub-Saharan Africa and Ghana in particular suffer gender discrimination in education and are at risk of dropping out of school for early marriage (Dunne, 2007; Shabaya & Konadu-Agyemang, 2004).

Finally, low self-esteem, defined as lack of appreciation for self-worth and the importance of being accountable to self and others, is an emotional risk that affects individual resilience (Brooks, 1994). Low self-esteem is persistent in some children and adolescents and is manifested in all situations (Brooks, 1994). According to Brooks, children with high self-esteem compared to children with low self-esteem show behaviors that enhance growth and learning such as asking help from others and spend more time learning. By contrast, low self-esteem children erroneously always rely on their own coping abilities, which are not effective and hinder learning. Brooks believes that all children sometimes display self-defeating behaviors but a recurrent display of such
behaviors is an indication of low self-esteem. This finding is consistent with Bandura’s (1977, 1986) theory of self-efficacy. Protective traits associated with academic achievement are reviewed next.

**Protective factors.**

Protective factors, like risk factors, are situated within the developing person’s ecological system and operate to moderate or modify the deleterious effects of risk factors (Garmezy, 1985; Rutter, 1983). In a review of literature on resilient children, Garmezy (1983, 1985, 2003) identified three broad categories of resources that protect children against adversity: (1) individual attributes such as academic competence, easy temperament, and intelligence, (2) a supportive family environment such as good child parent relationship, good parenting practices, and (3) external environmental system that supports and reinforces the child’s inner strengths such as a supportive teacher and a caring school environment. Also, protective factors serve as a buffer against adversity (Fraser, Richman, & Galinsky, 1999; Werner & Smith, 1992), and include personal assets such as competence (Garmezy, 2003; Luthar, 1991; Rutter, 1983), positive coping (Rutter, 1983), easy temperament, self-efficacy, and above average intelligence (Brooks, 1994; Davies, 2004; Fraser et al., 2004; Garmezy, 2003; Jenson et al., 2006; Rutter, 1983). Table 2 shows common protective factors among children and adolescents. Again, based on the ecological model, protective factors are classified by system level of influence.
Table 2

**Common Protective Factors that influence Academic Achievement and Resilience in Children and Adolescents**¹

<table>
<thead>
<tr>
<th>Community and Environmental Factors</th>
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</thead>
<tbody>
<tr>
<td>Opportunities for education, employment, and other pro-social activities</td>
</tr>
<tr>
<td>Supportive adults outside family who serve as role models or mentors</td>
</tr>
<tr>
<td>Safe neighborhood</td>
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<tr>
<td>Low level of community violence</td>
</tr>
<tr>
<td>Consistent parental employment</td>
</tr>
<tr>
<td>Affordable and adequate housing</td>
</tr>
<tr>
<td>Value and resources directed at education</td>
</tr>
<tr>
<td>Well-trained and well-compensated teachers</td>
</tr>
<tr>
<td>Collective efficacy</td>
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<tr>
<td>Social capital</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Interpersonal and School Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good peer relationship</td>
</tr>
<tr>
<td>Connection to pro-social peers</td>
</tr>
<tr>
<td>Sense of belonging to school</td>
</tr>
<tr>
<td>Positive relationship with teachers</td>
</tr>
<tr>
<td>School mentor for youth</td>
</tr>
<tr>
<td>Classroom size and school size</td>
</tr>
<tr>
<td>Involvement in school recreational activities (e.g., sports, music, art)</td>
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<table>
<thead>
<tr>
<th>Family Factors</th>
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<tbody>
<tr>
<td>Good relationship with parents/bonding</td>
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<tr>
<td>Stable and organized home environment</td>
</tr>
<tr>
<td>Positive sibling relationship</td>
</tr>
<tr>
<td>Supportive kinship networks or extended family support</td>
</tr>
<tr>
<td>Household rules and structure; parental monitoring</td>
</tr>
<tr>
<td>Low parental conflict</td>
</tr>
<tr>
<td>Family economic stability</td>
</tr>
<tr>
<td>Maternal education level</td>
</tr>
<tr>
<td>Sense of family belonging</td>
</tr>
<tr>
<td>Required helpful/chores</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Individual Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality factors: easy temperament, self-esteem, hopefulness, physical beauty, self-efficacy,</td>
</tr>
<tr>
<td>optimism, emotional intelligence, spirituality/ autonomy,</td>
</tr>
<tr>
<td>Moral development</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Perceived social support</td>
</tr>
<tr>
<td>Creation of a personal myth</td>
</tr>
<tr>
<td>High intelligence</td>
</tr>
<tr>
<td>Low childhood stress</td>
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<tr>
<td>Good peer relationship</td>
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</tbody>
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¹ Adapted from Davies, 2004; Jenson and Fraser, 2006; Laser & Nicotera (in press)
Community and environmental factors.

Several community and neighborhood factors and characteristics are associated with youth assets and positive development. Communities that offer opportunities for education, employment, growth, and achievement reduce the chance that youth will engage in antisocial behavior (Fraser et al., 2004). Similarly, other researchers (e.g., Kegler, Oman, Vesely, McLeroy, Aspy, Rodine, et al., 2005), have found that safety of the neighborhood and services such as schools, shopping places, police protection, and sanitation are related to positive behavior. According to Kegler and colleagues, neighborhoods and communities that offer these qualities foster development of positive youth development. Consequently, adolescents growing up in these communities are more likely to report a relationship with adult role models. Presently, police protection and other social amenities in Ghana are concentrated in urban areas, leaving youth in rural communities with limited opportunities and protection. This is another impetus for the current study to identify policy recommendations aimed at promoting academic achievement of youth.

In addition, studies suggest that organized and community structured activities such as mentoring provide important sources of supportive relationships for adolescents and school-aged children (Davies, 2004; Werner, 2000). Evidence from mentoring and other structured programs have demonstrated positive impact on children’s academic achievement, pro-social behavior, and school attachment (Eccles & Barber, 1999; Huebner & Betts, 2002). At the broader community level, employment of parents in higher positions such as management level or higher is a predictor of academic
achievement for at risk youth, particularly girls (Luthar & Cushing, 1999). Similarly, continuous parental employment, stable housing, and high quality child care provide a strong buffer against adversity for children and adolescents (Davies, 2004). These findings mirror Stallmann and Johnson (1996; South, Baumer, & Lutz, 2003) who contend that academic achievement of youth is influenced by economic and employment opportunities in the community and the parental attitudes and values placed on students’ achievement and education in general.

The evidence above is based on adolescents’ experience in the United States and presupposes availability of blue and white collar jobs. But how do adolescents in agrarian economies such as Ghana fare when the majority of parents are self-employed as subsistent farmers and petty traders? This study seeks to fill this knowledge gap by investigating the coping and protective mechanisms of children and adolescents whose parents may be illiterate and do not have stable employment.

**Interpersonal and school factors.**

The peer group is one of the most significant socializing forces in the lives of adolescents, exerting a big influence on the socialization process (Cobb, 2007). Adolescents’ perception of autonomy and involvement within their student-teacher and peer relationships also plays significant roles in their academic performance (Zimmer-Gembeck et al., 2006). In their examination of the relationship between positive teacher-student relationship and academic success, Zimmer-Gembeck and colleagues found that student-teacher engagement plays a mediating role and greatly increased academic success. Unfortunately, evidence suggests that African teachers tend to be authoritarian
and consider girls as less competent than boys; girls also suffer sexual harassment from
teachers for favors of higher grades (Govender & Gruzd, 2004; Gregson, Waddell, &
Chandiwana, 2001; Herz & Spelling, 2004). Positive student teacher engagement is
unlikely to thrive under these circumstances. There is a paucity of research on the impact
of student-teacher relationship on academic achievement in Ghana and further studies are
needed to assess how the current relationships impact students’ performance.

Similarly, Kenney, Gallagher, Alverez-Salvat, & Silsby (2002) found that high
school seniors reported stable peer relationships as an important source of support for
good performance. This is consistent with the description of resilient youth in earlier
research as well-liked by classmates, and having one or more stable and close friendships
that serves as a source of emotional support (Werner, 2000; Werner & Smith, 1992).
In addition, schools contribute to positive development when they provide a safe and
supportive environment for learning (Cobb, 2007). In other words, adolescents’
perceptions of their school as safe and their teachers as supportive enhance their
performance. Teachers, like parents, provide emotional as well as information support to
adolescents, and this sort of support has been found to be significantly associated with
their achievement (Cobb, 2007; Tietjen, 1989). Other studies indicate that emotional and
supportive experiences from school in the form of constructive feedback can offset stress
in the family milieu (Werner, 2000). Of particular benefit to at-risk children are
classrooms that offer clear and consistent rules, structure, and a predictable direction, in
addition to high expectations and teachers’ encouragement (Davies, 2004; Werner, 2000).
Research constantly underscores the important role that individual teachers can have on
their students (Crosnoe & Needham, 2004). Supportive teachers have high expectations, interact more with their students, reward them more, and have friendlier classrooms where students feel safe to express themselves and receive positive feedback (Cobb, 2007; Crosnoe & Needham, 2004; Gutman & Midgley, 2000). This suggests that students’ ability to express themselves will be severely suppressed in authoritarians classrooms like those in Ghana and Sub-Saharan Africa.

Family factors.

Several family protective factors promote resilience and academic achievement. Among the most important sources of support in adolescents’ lives are their relationships within the family (Cobb, 2007). Cobb also contends that family practices such as parental involvement are pivotal in the academic performance of children and adolescents. In addition, Cobb observes that adolescents whose parents are involved in their education either in the form of volunteering in the classroom or other school activities develop more positive attitude toward school, have higher achievement scores, and higher educational aspirations.

Parental warmth, caring relationship, modeling of appropriate behavior and coping skills, age-appropriate expectations of the child, organized and structured household rules, and parental monitoring of children’s behavior have been found to reduce stress in children and adolescents and protect them from many family and environmental adversities (Davies, 2004; Fraser, et al., 2004; Masten et al., 1990). In their longitudinal study, Werner and Smith (1992) found that resilient girls lived in home environments that combined emphasis on independence, emotional support, and less
overprotection. Resilient boys on the other hand, experienced household structured rules, parental supervision, and adults who served as role models including members of the extended family.

Werner (1993; 2000) also found that parental expectations of pro-social behavior such as caring for siblings, or assisting family members and neighbors, which she described as “required helpfulness” was associated with resilience. Werner (1993) further underscores the positive impact of parental monitoring and supervision in high-risk neighborhoods when she observed that parental supervision is critical in protecting children from harm and promoting positive behavior outcomes. Together, these findings suggest that boys and girls have different developmental resource needs and that interventions should be targeted at enhancing family resources to enhance gender-specific developmental needs.

In parallel fashion, good parenting practices, involvement with kin and neighbors, and family religious faith and practices are associated with positive behavior outcomes (Davies, 2004). Specifically, adolescents’ internalization of parental religious faith offers a sense of security and stability in the face of adversity, and provides a sense of meaning to their lives and optimism for the future (Werner, 2000). Relevant to good parenting practices are stable maternal employment and level of education (Cobb, 2007). According to Cobb, while it is normative for most adolescents to grow up in the United States in a two-parent family who are both working, the primary focus is on maternal employment and education. Cobb (2007) further argued that maternal education and employment is a significant predictor of a mother’s self-esteem and well-being, which in
turn is related to the adolescent’s well-being and behavior outcomes. Similarly, in her study of Japanese youth Laser, Luster and Oshio (2007a) found that maternal economic stability and strong maternal relationship were protective factors against adversity.

*Individual factors.*

The personal qualities that adolescents possess also serve as protective mechanisms against stress and other forms of adversity. Individual characteristics that have been found to mediate risk and promote resilience in children and adolescents are easy temperament (Fraser et al., 2004; Garmezy, 1985; Rutter, 1983), high intelligence (Garmezy, 1983, 1985, 2003), competence (Garmezy, 1985; Luthar & Zigler, 1991; Masten, Pellegrini, & Tellegen, 1990; Rutter, 1983, 1990), self-efficacy (Bandura, 1977, 1986), and self-regulation (Zimmerman, 1989; Zimmerman & Schunk, 2004).

Adolescents who have easy temperaments, that is, those who react positively to new situations and are sociable are able to deal with stress and engage in socially approved behaviors (Cobb, 2007; Fraser et al., 2004; Rutter, 1983). Similarly, adolescents who possess above average intelligence are able to communicate effectively and believe in their ability to take control of situations (Davies, 2004; Garmezy, 1985, 2003; Masten et al., 1990). In other words, such adolescents are said to have internal locus of control which is identified as a protective factor (Cobb, 2007; Werner, 1993, 2000). Similarly, high self-esteem, positive view of self, and the ability to ask for help from parents and adults when necessary are associated with adolescent resilience (Davies, 2004; Laser et al., 2007a; Masten et al., 1990).
In their longitudinal study of at-risk children in Hawaii, Werner and Smith (1977, 1992) observe that the personal qualities of children through adulthood that characterized resilience at each developmental stage ranged from easy temperament as toddlers and preschoolers, positive peer relationships and above average cognitive skills in middle childhood, to ability to seek help and elicit emotional support from role models as adults. In addition, Werner and Smith (1992) noted that resilient children from infancy to middle adulthood who had healthy development also had strong religious faith.

Finally, self-efficacy, as defined by Bandura (1986), refers to people’s beliefs and self-judgment about their capability to organize and successfully execute a set of goals (see also, Pajares, 1996; Zimmerman, 2000; Zimmerman, Bandura, & Martinez-Pons, 1992). The important role of self-efficacy in enhancing academic achievement is clearly documented. For example, in their assessment of self-efficacy beliefs on academic achievement among Italian adolescents, Bandura, Barbaranelli, Caprara, and Pastorelli (1996) found that children’s beliefs in academic efficacy were linked to pro-social behavior, peer acceptance, low level of behavior problems, and high academic achievement. Also, they reported that children’s perceived self-efficacy to resist peer pressure for dangerous behavior was related to high scholastic achievement.

**Summary of risk and resilience framework.**

Research on the lives and experiences of young people who are growing up in adverse environmental conditions has increased our understanding about the influence of risk and protective traits on behavior outcomes. Differences in behavior outcomes within and between populations of different backgrounds suggest that what might cause low
academic performance in one adolescent may be significantly different from what might cause another adolescent to achieve a comparable level of achievement in the same situation. The next section provides an overview of academic achievement trends in Ghana.

**Academic Achievement Trends in Ghana**

Research into educational resilience of adolescents has increased significantly in recent years as discussed in the preceding sections. These findings are largely based on populations in the United States, Canada, and Western Europe. Not surprisingly, ever since Stephen Heyneman (1976) responded to the Coleman Report by examining the determinants of educational achievements in Uganda, interest in assessing the impact of family background and other ecological factors on educational outcomes in developing countries has increased considerably (Buchmann, 2000). While Coleman and his colleagues (Coleman, Campbell, Hobson, McPatland, Mood, Weinfall, & York, 1966) reported strong connection between family background and academic achievement in the United States, Heynemann (1976) and Heyneman and Loxley (1983) found school quality to have a greater impact than family background on academic achievement in developing countries.

Despite this, little is known about the applicability of the risk and resilience framework in sub-Saharan Africa and Ghana in particular. The present study, born out of this knowledge gap, adapted the risk and resilience framework to examine the relationship between individual and social characteristics and academic achievement in Ghana. In this section, I examine the history of academic achievement in Ghana and
provide a deeper understanding of past and current trends in achievement in relation to risk and resilience.

**Academic achievement trends in Ghana 1852 – 1957.**

Similar to other African countries, formal education in Ghana began with the arrival of European merchants and missionaries in the seventeenth century. In an effort to improve trading relations with the local population and in particular to propagate the gospel, the early Europeans started education in the form of castle schools in the 1600s and mission schools in the 1800s (Foster, 1965; Graham, 1971). This was long before Ghana, then Gold Coast, became a Crowned British Colony. Before the first colonial education ordinance was passed in 1852 the Wesleyan and Basel missionaries had built a number of schools in Cape Coast and other towns along the coast (McWilliam & Kwamena-Poh, 1975). Yet, the mission schools were not designed to equip young people with employable skills or spread literacy but as a means of spreading the Christian faith (McWilliam & Kwamena-Poh, 1975). In 1882, a second education ordinance was enacted and incorporated elements of agricultural, industrial, and commercial training into the curriculum to replace the bookish nature of the previous curriculum (Graham, 1971). Both ordinances did not require compulsory school attendance.

However, it must be noted that the colonial authority and education policies were limited to the coastal regions until about 1900 when the middle belt and the Northern Territories became part of the Gold Coast Colony (Foster, 1965; McWilliam & Kwamena-Poh, 1975). Like other countries in Sub-Saharan Africa, Ghana is ethnically diverse, and historically ethnicity and regionalism have been the most important sources
of variation in educational participation and achievement. Ethnic groups who reside along the coast where the Europeans first settled were exposed to Christianity and missionary education long before Ghana was colonized (Foster, 1965; McWilliams & Kwamena-Poh, 1975). As a result of their proximity to the European missionaries and merchants, they had extensive interaction with the British during the colonial era and accepted Western education early.

In contrast, ethnic groups consisting mainly of the Mole-Dagbani and some members of the Guan, residing in remote savannah regions of the north became insulated from missionary and colonizing forces. In general, their exposure to Western-based education and economic systems came only at the beginning of the 20th century (Saaka, 2001). A detailed discussion of the reasons for the marginalization of the north by the Europeans and causes of low educational achievement is found elsewhere (Bening, 1990; Saaka, 2001). Some ethnic groups in the north, notably the Mole-Dagbani, held on to African customs while simultaneously practicing the Islamic religious values brought to the northern regions earlier by Arab traders from North Africa (Iddrisu, 2002). Iddrisu also notes that during the rapid expansion of education after independence, many Muslims initially resisted formal education, since it was equated with Christianity. Instead, a number of Islamic religious schools popularly called madrasas, were established to teach the basic tenets of Islam, perhaps to counteract the influence of public schools (Blakemore, 1975; Iddrisu, 2002). Today, the majority of the madrasas in northern Ghana have incorporated secular education into their curriculum to ensure that secular education does not undermine teaching of Islamic beliefs (Iddrisu, 2002).

Educational outcomes in Ghana in the first 30 years as a sovereign state are particularly significant because it was a period characterized by rapid expansion and decline, both in terms of access and outcomes (Akyeampong, Djangmah, Oduro, Seidu & Hunt, 2007; White, 2004). The nascent state, in its quest to “modernize”, and with prodding by Western international organizations such as the World Bank, International Monetary Fund, and the United Nations, played a significant role in formalizing and expanding formal education (Akyeampong, et al., 2007). As in other developing countries, educational expansion took the form of creating and reinforcing modern institutions (Foster, 1965). In his address to the Legislative Assembly shortly after independence, Ghana’s first president, Dr. Kwame Nkrumah outlined his government’s vision which had education at its focus (Akyeampong et al., 2007). According to Akyeampong and colleagues, Nkrumah’s vision for education in the new state had three goals: (1) it was a tool for scientific knowledge (2) finding solutions to environmental causes of low productivity and (3) to generate knowledge that will propel Ghana’s economic development.

Not surprisingly, three years after independence, Ghana enacted the first free compulsory universal primary education policy in Sub-Saharan Africa to cover six years of primary education [Ghana Education Service, (GES, 2004)]. Since 1961, educational development has been guided by the Education Act of 1961. This legislation established the right to education for every Ghanaian child of school age (GES, 2004; Foster, 1965). Driven by the Accelerated Development Plan of 1951, the Education Act of 1961
provided free, universal and compulsory basic education (6 years duration) for all children from 6 years of age (GES, 2004). The Act also empowered local authority councils to manage schools in their localities (Foster, 1965). Consequently, primary education expanded rapidly and the number of schools increased from 1,081 in 1951 to 3,372 in 1952, and enrollment doubled in a period of five years and Ghana was applauded as having the most developed education system in Africa (Foster, 1965). It must also be emphasized that in an effort to narrow the education and achievement gap between north and south, the Education Act of 1961 extended the fee-free education in northern Ghana up to secondary school compared to the six years of primary education in the south.

Unfortunately, the achievements of the early post-independence era were short lived. Engineered primarily by political instability starting with the overthrow of the Nkrumah government in 1966 and followed by the economic crisis of the 1970s and early 1980s, the educational system declined to its lowest level and was criticized for poor quality (Akyeampong et al., 2007). Furthermore, the educational system was criticized for being elitist as it was on a selective system with competition taking root in primary and middle school education which further limited access to secondary education, especially for children from underprivileged and low income households (Addae-Mensah, Djangmah, & Agbeyega, 1973). By the mid 1980s, Ghana’s educational system was in shambles following a decade of poor economic performance that led to acute shortage of teachers (most of whom had migrated to neighboring Nigeria where oil was
To resuscitate the education sector, the government through assistance from the World Bank implemented a number of reforms as part of a broader economic recovery program in the mid 1980s (Akyeampong et al., 2007; White, 2004). The reforms reduced the years of pre-college education from 17 years to 12 years with an implicit goal to cut cost and motivate students to complete secondary school. Paradoxically, the World Bank-led reforms had a lot of emphasis on cost recovery at the secondary school and college levels (White, 2004). This resulted in increase in school fees, textbooks fees, and withdrawal of subsidies on education with a devastating impact on poor families who became increasingly excluded from secondary and college education (Akyeampong et al., 2007; White, 2004). The implication of this on academic achievement was a widening gap between the rich and the less privileged and between rural and urban areas.

Nonetheless, the reforms brought some positive contributions by expanding access and improved infrastructure base at both basic and secondary school levels. In fact, the number of basic schools increased from 12,997 in 1980 to 18,374 in 2000 (Akyeampong et al., 2007). However, the expansion of school infrastructure and training of teachers in the 1980s did not contribute significantly to narrowing the achievement gap between north and south, rural and urban, and even between genders. For example, the Ghana Living Standards Survey (GSS, 1989) revealed deterioration in education quality during the period with wide disparities in school quality between urban and rural areas. For example, the percentage of classrooms that were dilapidated that they could not be
used was twice as high in rural areas than in urban ones, while the proportion of classrooms with leaking roofs was 50% higher in rural areas (Glewwe & Ilias, 1996; GSS, 1989).

Similarly, the proportion of rural schools with sufficient desks was less than half that of urban schools (Glewwe & Ilias, 1996). The report further shows that urban teachers had 28% more experience than their rural counterparts. The disparities in school characteristics between urban and rural areas were further reflected in the relatively poor performance of rural students in terms of school attainments and scores on achievement tests. For example, in rural Ghana, the average years of schooling attained for individuals aged 20 to 30 in 1988-89 was 5.1 years compared with 8.0 years in urban areas (GSS, 1989). Similarly, on a math test administered as part of the 1988-89 survey, students in urban areas with six years of education scored 29% higher than rural students at the same grade level, and 169% better on reading test (Glewwe & Ilias, 1996; GSS, 1989).

Moreover, regional variations in access and participation in education persist with as many as 40% of school-age children not enrolled in the northern regions of the country where enrollment for girls is already lower than boys (Akyeampong et al., 2007).

**Recent trends in academic achievement, 1987 – present.**

The beginning of the 1990s witnessed an increase in international concerns about low academic achievement and disparities in achievement in developing countries as reflected in the Jomtien, Thailand, Conference of 1990, and re-affirmed at the World Education Forum in Dakar, Senegal, in 2000 (Dunne et al., 2005). These concerns echoed the low academic achievement and girls’ underachievement relative to boys in
developing countries and examined the parts played by informal as well as school environment in perpetuating this gender achievement gap (Dunne et al., 2005). 

In Ghana, the challenge of basic education has to a large extent become one of quality. In many schools, learning achievement is so low that after several years of schooling students still have not obtained basic competence in reading and math (Glewwe & Ilias, 1996; GSS, 1989; White, 2004). Today, formidable obstacles such as shortage of teachers, unwillingness to work in rural communities, poverty, and hunger keep children out of school and/or hamper their ability to learn (Ministry of Education, 2007). This is reminiscent of Heyneman (1976) and Heyneman & Loxley (1983) who reported a strong relationship between school physical facilities and academic achievement in less developed countries. As noted in the previous section, several community and environmental factors including poor quality schools, unmotivated teachers, and general lack of opportunities for education are risk factors that negatively affect academic achievement. These community and environmental factors also reflect the macrosystem of Bronfenbrenner’s (1979) ecological model that consists of laws and norms that impact the lives of adolescents but in which he or she does not participate directly as previously discussed. Consistent with this model, a number of individual, family, community, and environmental factors that influence academic achievement in Ghana including gender, locality (region, urban, rural), and external support systems are discussed next.

**Academic achievement and gender in Ghana.**

Although a growing number of young people are spending more time in school during adolescence, little research on education in developing countries has focused on
adolescent issues (Blum, 2007; Mensch & Lloyd, 1998). This section examines gender differences in academic achievement with a view toward illuminating some factors that may account for differences in achievement between boys and girls and between regions. Both school enrollment and academic achievement have risen in Ghana over the past two decades. Evidence shows a significant reduction in dropout rate while graduation rate has risen from 60% in the 1980s to 73% in 2001 (White, 2004). Similarly, the gender gap in primary school enrollment has been virtually eliminated between children of middle class and low-income families (Dunne et al., 2005, GSS, 2008). According to the Ghana Statistical Service (2008), primary school enrollment for boys increased by 33% and 39% for girls while junior secondary school enrollment increased by 38% for boys and 44% for girls from 2000 to 2008. Despite this, male enrollment is still higher than female enrollment at all levels of the educational system and the gender gap remains greatest where enrollments are lowest, particularly in the northern regions (GSS, 2008). It is observed that while enrollments have rapidly increased in the savannah regions (Northern, Upper East, and Upper West Regions) for the 7-12 year olds it was not enough to catch up with the urban areas and as such a substantial gap remains (GSS, 2008). This suggests that living in a rural area or in the northern regions in Ghana is a risk factor for academic achievement.

A look at net enrollment figures provides further insights. For example, a report by the Ghana team on the Female Education in Mathematics and Science in Africa (FEMSA, 1998) at primary school level shows a net enrollment of 71% for girls compared with 82% for boys. In addition, the report found that the gap tends to widen as
girls enter early adolescence (at the end of primary school) and widen further at higher
levels. For example, it is estimated that overall, only 37% of young people of secondary
school age are enrolled in secondary school and an abysmal three percent of the 18-21
year age group participate in tertiary education (Morley et al., 2010). The researchers
further note that females represent only 26% of all students enrolled in tertiary education.

To illustrate the gender differences in achievement, the curriculum at the JSS
level consists of 10 compulsory subjects: English Language, Ghanaian Language, French
(where teacher is available), General Science, Mathematics, Agricultural Science, Pre-
Technical Skills, Pre-Vocational Skills, Social Studies, and Religious and Moral
Education (GES, 2004)). Students are tested on these subjects at the end of JSS in the
Basic Education Certificate Examination (BECE) by the West African Examinations
Council (WAEC). The BECE is an entry examination into Senior Secondary School
(SSS) and students must attain aggregate scores between 6 and 30 in their best six
subjects (1 is the highest grade) to qualify for SSS. An examination of BECE results for a
six-year period for those qualifying for SSS between 1996 and 2001 indicates that while
there has been a gradual increase in the number of students who sat for the BECE
between 1996 and 2001 there is an overall decline in the number of those who qualified
to enter SSS (GES, 2004). For example, while 81% of students qualified for SSS in 1996
only 60% qualified in 2001.

Disturbingly, the proportion of girls qualifying remains consistently lower than
that of boys for the six year period (Dunne et al., 2005). The researchers note that while
83% of boys qualified for SSS in 1996, 78% of girls qualified the same year, and 62% of boys compared to 57% of girls qualified for SSS in 2001.

In addition, a detailed examination of students’ performance in individual subjects in the BECE examination provides more insight into the pattern of the gender differences in achievement. For example, the percentage of students who scored grades 1-5 in four subjects across the 10 regions of the country by gender in 2001 reveals that boys perform higher in all four subjects than girls across the country. The overall higher performance of boys cuts across traditional subjects and these data provide strong suggestion that the same trend will be found in all subjects (Dunne et al. 2005). The evidence presented in the preceding analysis does not account for how the effects of individual, family, and the broader environmental factors could have potentially impacted the performance of girls. That is the knowledge gap this investigation intended to fill.

The significant gender gap in achievement as described above also suggests that nationally boys still have more access and opportunities to education than girls. Evidence suggests that even though both boys and girls below the age of 15 years in Ghana engage in some form of household work, girls work almost twice as many hours than boys (16 hours per week compared to 9 hours per week (Heady, 2000). Similarly, Blum (2007) observes that socio-cultural factors, particularly male teachers’ attitudes and sex stereotypes which view girls as less motivated and less competent than their male counterparts negatively affect girls’ achievement. Consistent with Hirschi’s (1969) notion of social bonding, the behavior of teachers will negatively affect girls developing bonding and commitment to school which are risk factors for academic achievement.
(Haggerty, Sherrod, Garmezy, & Rutter, 1994; Hawkins, Catalona, & Miller, 1992). This point is particularly significant for girls who are the first people in their families to obtain formal education, a common phenomenon for adolescents in Ghana. Parents tend to be overprotective for girls in addition to having fewer role models, and are at a higher risk of being pushed into early marriage as discussed earlier.

**Academic achievement and place of residence.**

Even though school enrollment and completion rates have increased nationally (Dunne et al., 2005; GSS, 2008) fewer students graduate from Junior Secondary School (JSS) or qualify to enter Senior Secondary School (SSS) in rural areas, particularly in the three northern regions (White, 2004). For example, in 2003, 95% of children 15 years of age and below who began primary school reached grade 6 and 92% of them went on to complete Junior Secondary School (JSS), but nine percent of students in the northern regions did not complete grade 6 (White, 2004). Similarly, while primary school enrollment of boys and girls has reached parity in some regions notably Greater Accra and Volta Regions, the gender gap persists with regional variations showing more pronounced disparities in rural areas and in the northern regions (GSS, 2008). As the poorest region of the country, many children are at risk of school failure due to such school and environmental risk factors like poor quality schools and lack of teachers in remote communities.

In addition, rural-urban gap in secondary school enrollment remains significant. For example, while net secondary school enrollment ratio is seven percent among rural children, urban children have a secondary school enrollment ratio of 16% which is more
than twice the rural ratio (GSS, 2003). This depicts a bias in educational opportunities in favor of urban areas and neglect of rural areas. Similarly, fewer children in rural low income households attend secondary school compared to non-poor children in urban areas. Evidence shows that the net secondary enrollment ratio for rural poor is only three percent compared to 19% for children from non-poor families in urban areas (GSS, 2003). Consistent with findings in the U.S., (e.g., Brooks-Gunn & Duncan, 1997; Brooks-Gunn et al., 1993; Carlson, Sroufe, Collins, Jimerson, Weinfield, Hennighausen et al., 1999; Cauce et al., 2003; Corcoran & Chaudry, 1997; Dearing & Zaslow, 2006), being poor diminishes one’s chances of going to secondary school. Another important achievement gap between rural and urban areas of Ghana is reading competence. Nationally, about 50% of the adult population (15 years and older) can read and write in any language (GSS, 2008). However, by area of residence, only 40% are literate in rural areas compared to 70% in urban areas (GSS, 2008).

Achievement scores.

Ghana’s only standardized tests are examinations conducted by the West African Examinations Council (WAEC) that are used as criteria for senior secondary school and university admission. However, a system of testing reading and math competence was developed by the Ghana Statistical Service in 1988 in the form of multiple choice questions to test reading and math competence of students. The first test was administered alongside the Ghana Living Standards Survey (GLSS) in 1988-89 to 1,524 households in 85 different areas of the country (White, 2004). The results revealed poor quality of education being received by Ghanaian children. In fact, children who had
completed three years of primary education scored an average of 0.8 on the short English test – worse than if they had simply guessed the answers; and children who had completed six years of primary education did not do much better, with an average score of only 3.1 (White, 2004).

A second wave of the test 15 years later in 2003 conducted in the same communities suggests that children are receiving better education today than a decade and a half ago. For example, primary school graduates scored an average of 5.6 on the short English test and 5.7 on the math test (White, 2004). The results also indicate that Junior Secondary School graduates scored higher than did Middle School graduates in 1988, despite the fact that the latter received 10 years of education rather nine years of the JSS system (White, 2004). Notwithstanding, White cautioned that improvement in test scores was not uniform across all levels of pre-university education. For example, reading score of secondary school graduates in 2003 was significantly lower than the 1988 score. Analysts believe the shortening of the secondary education from 17 years to 12 years might have compromised quality (White, 2004).

A recent assessment of students by the Ministry of Education shows that students’ low proficiency levels in reading, math, and English language persist. For example, only 26% of sixth graders or primary six students are functionally literate while 23% of students at this grade level achieve English language proficiency. The study further revealed that only 10% of primary six pupils or sixth graders are proficient in basic arithmetic (Ministry of Education, 2007).
Summary of academic achievement trends in Ghana

As observed in the preceding analysis, the quest for applying and understanding the applicability of the risk and resilience framework in non-Western cultures and the risk and protective factors associated with academic achievement among Ghanaian youth was the impetus for this study. A review of academic achievement trends in Ghana shows that educational opportunities and outcomes wax and wane since the introduction of formal education in the country. Educational successes attained in the 1960s and 1970s could not be sustained due to a myriad of problems including political instability, economic decline, and shortage of teachers. The review also suggests that in spite of some progress being made in increasing access to education, female enrollment still lags behind in all levels of the educational system. Moreover, improving quality of educational outcomes remains a challenge.

The Current Study

While efforts have been made in the past to reform and modernize the educational system in Ghana, little attention has been paid to the internal and external characteristics and conditions of students and their environment that may promote or inhibit effective learning and positive academic outcomes. In addition, while there has been a recent policy focus on educating young women by creating a ministry of women and children’s affairs, the socio-cultural effects on academic achievement among females has not been empirically examined. The socio-economic and educational inequality between the northern and southern regions has also attracted a lot of attention albeit rhetorically. The present study examined the relationship between subcategories of risk and protective
factors and academic achievement among Ghanaian youth. Gender and regional
differences in risk and protection were examined. In view of the gaps identified above,
the current study aimed to answer the following research questions:

1. What are the most prevalent risk and protective factors that influence
   academic achievement among Ghanaian youth?

2. Do risk and protective factors among young people in Ghana vary by
   gender?

3. Do risk and protective factors among young people in Ghana vary by
   region of residence?

4. What is the relationship among risk, protection, and academic
   achievement among Ghanaian youth living in economically disadvantaged
   communities?

Chapter Summary

This chapter reviewed advances in existing knowledge about risk, protection, and
resilience. The evolution of these concepts and the theoretical models that guide them has
resulted in increased understanding and application of complex models to examine the
sophisticated relationship between resilience and youth behavior outcomes. A review of
academic achievement trends in Ghana further reveals that despite progress being made
to improve access to and quality of education, many challenges remain. Notwithstanding
these advances, a number of questions regarding the processes of resilient adaptation
remain. Specifically, the coping mechanisms and the protective processes of youth raised
in adversity in non-Western countries have not been fully explored and understood. How
young people overcome severe adversity in the face of inadequate resources in
developing countries and succeed in school remains largely unclear. The next chapter
presents the research methodology for the current study which investigated the
relationship between risk and protective factors and academic achievement among Ghanaian youth.
Chapter Three: Methodology

Chapter Two provided a context for the current study by examining existing theories and research addressing risk, protection, and resilience. An historical review of the Ghanaian education system was conducted to set a context for the current study. This review reinforces the need to examine multiple risk factors and layers of protection associated with academic achievement among students in Ghana. The study’s research design, procedures, measures, and analytic strategies are presented in this chapter.

Study Background and Setting

This study was conducted in Ghana, located in West Africa with Accra as its capital. With a population of approximately 22.2 million (Ghana Statistical Service, 2008), Ghana is divided into ten administrative regions. Its neighbors are Togo to the east, Ivory Coast to the west, and Burkina Faso to the north. The southern part of Ghana is bordered by the Atlantic Ocean. In 1957, Ghana was the first country in Sub-Saharan Africa to gain independence from colonial rule. During the nascent years of the republic, the government was proactive in recognizing the important benefits of education in the lives of Ghanaian children. The country has a large youthful population with the proportion of youth 15 years and younger constituting 40% of the population (Ghana Statistical Service, 2008).

Many young people growing up in Ghana are at risk of school failure or not attending school due to the convergence of poverty, illiteracy, and inadequate schools.
With the incidence of poverty in the general population estimated at 28% (GSS, 2008), many young people face a desolate future and a life of unemployment and underemployment (Abukari, 2007). Moreover, the majority of Ghanaians are illiterate with substantial differences in reading skills by gender and locality. According to the GSS (2008), six out of ten men are literate while fewer than four out of ten women are able to read.

Regional differences in risk and opportunity are even more pronounced. The Northern Region, which is the largest of the ten administrative regions in terms of land area and covers one-third of Ghana’s total land area is one of the poorest in the country (GSS, 2008). Also, in spite of the fact that Ghana has largely escaped the civil wars that have plagued the West African sub-region, the northern regions have been in a tangle of sporadic inter-ethnic and chieftaincy conflicts since independence (Abukari, 2005). This, combined with climatic and historical factors, has made the region the poorest in the country. Almost 60% of the rural residents in this region are illiterate and struggle to meet the basic daily needs of food, water, shelter, and healthcare (GSS, 2008). This has a devastating effect on the academic achievement of young people who are struggling to learn in dilapidated school buildings, or under trees in rural communities (Dunne et al., 2005; White, 2004). The country is very diverse in terms of ethnicity, dialect, and belief systems. With the current population estimated at 22.2 million, Ghana has more than 50 ethnic groups who practice Christianity, Islam, and Traditional African Religion or idol forms of worship.
Research Design

This investigation used a mixed methods quantitative and qualitative design. Mixed methods as a research methodology has evolved significantly over the last 30 years (Tashakkori & Teddlie, 2003) and the use of diverse quantitative and qualitative approaches within a single study has become more common in social science research (Slonim-Nev & Nevo, 2009). Mixed methods studies are advantageous because they provide a diversity of viewpoints, exposure to different bodies of knowledge, and a more complete picture of complex social phenomena. The advantage of using mixed methods in a single study is illustrated by Creswell, Plano Clark, Gutman, and Hanson (2003):

A mixed methods study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research (p.212). See also Plano Clark & Creswell (2008, p. 165).

This definition suggests several actions that are often undertaken by mixed methods researchers. First, the investigator must integrate data from both quantitative and qualitative sources. Second, emphasis is usually placed on one method (quantitative or qualitative), a model Plano Clark and Creswell (2008) refer to as the dominant-less-dominant model. Finally, integration of data from both sources logically leads to either the convergence or divergence of findings. One major advantage of mixed methods research is that “it enables the researcher to simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study” (Tashakkori & Teddlie, 2003, p. 15).
This investigation uses a mixed methods design identified by Tashakkori and Teddlie (2003) as the Concurrent Mixed Model Design. The design also mirrors Plano Clark and Creswell (2008) Concurrent Triangulation Design. In this type of design, there are two methods of research to address both quantitative and qualitative questions, and types of data analytic approaches. Finally, two types of inferences are made at the end of the study to reach a meta-inference (Plano Clark & Creswell, 2008; Tashakkori & Teddlie, 2003). Figure 3 shows the framework for concurrent mixed model design. The mixed methods model conceptualized by Tashakkori and Teddlie (2003) includes research purpose or questions, data collection, data analysis for both methods and the meta-inferences at the end.

Figure 3. Concurrent Mixed Model Design

Source: Tashakkori and Teddlie (2003, p. 688)
As shown in Figure 3, the design generally uses separate quantitative and qualitative methods as a means to offset any weaknesses associated with one method with the strengths of the other (Plano Clark & Cresswell, 2008). That implies that the quantitative data collection and qualitative data collection occur concurrently during a single phase of the research study.

**Rationale for a Mixed Methods Design**

One of the goals of social science research is to generate valuable information from research participants in order to explain the complexities of human behavior. Given these complexities and the multifaceted nature of educational research and social phenomena, multiple approaches offer a richer, deeper, and better understanding of complex social phenomena (Greene, 2007). According to Greene, there has been a long standing epistemological debate regarding what is and how to generate *objective* knowledge (emphasis added). The natural science approach otherwise known as “positivist”, “experimental”, or “deductive” emphasizes universal laws of cause and effect and a belief that knowledge can be obtained by inducing theory through scientific observations and testing that theory under careful controlled experimental conditions to generate sound and generalizable knowledge (Greene, 2007). This reiterates the importance of numbers in the positivist approach because numbers symbolize theoretical constructs that can be transformed into observable and measurable phenomena.

On the other side of the epistemological debate are “naturalistic”, “interpretivist” or “constructivist” approaches that emphasize that reality must be represented through the eyes of the research participant and the significance of using context as a guide to
describe experience and behavior (Henwood & Pidgeon, 1992). Henwood and Pidgeon
argue that constructivists use language and words rather than numbers to provide a better
picture of reality as experienced by participants and subsequent forming of hypotheses
that “emerge” rather than an a priori method.

Between these “paradigm wars” (Maxcy, 2003) of positivism and constructivism
and born out of criticisms of positivism and constructivism lies an emerging
methodological approach referred to as “the third methodological movement”
(Tashakkori & Teddlie, 2003, p. ix) or “the third research community” (Teddlie &
Tashakkori, 2009, p. 4). Proponents of this method advocate for integration of statistical
and thematic data analytic strategies that present data in both narrative and numerical
forms. According to Johnson and Turner (2003), methods should be mixed in a way that
maximizes the strengths and minimizes any overlapping weaknesses. This approach to
data analysis offers a more comprehensive means of authenticating findings than do
either quantitative or qualitative analysis alone because it provides an opportunity for
others to access and interpret data from both perspectives (Onwuegbuzie & Teddlie,
2003). Various sources in the literature use the term ‘triangulation’ to refer to the
combination of multiple sources of data, methods, techniques, and questions in a single
study (e.g., Creswell, et al., 2003; Greene, 2007; Plano Clark & Creswell, 2008;
Tashakkori & Teddlie, 2003; Teddlie & Tashakkori, 2009).

This study used quantitative self-reported surveys with first-year college students
in Ghana. It also used qualitative focus group interviews with a subgroup of purposefully
selected students who had participated in the surveys. Within the framework of the
dominant-less-dominant model (Plano Clark & Creswell, 2008), emphasis in the study was placed on the quantitative method. Survey was the main tool for the investigation. Qualitative methods and findings were expected to augment quantitative procedures and findings in this study. The next section describes the two research designs.

**Quantitative design procedures.**

**Sampling plan.**

The sample was drawn from university students in Ghana. To obtain a diverse and representative sample, students from four universities in the south and north of the country were included in the sampling frame. The schools represented were University of Ghana and Islamic University college of Ghana, both located in the capital, Accra. The others were University for Development Studies and the Tamale Polytechnic, located in Tamale, the capital of the Northern Region. These schools and locations are different in terms of size and prestige and also important learning centers to a cross-section of Ghanaian students. Undergraduate students were appropriate for this study because they likely have overcome numerous adversities in early adolescence and in their primary and secondary school years based on many known barriers to education in the country.

Subjects from the northern and southern regions were selected to allow for a comparison of differences in levels of risk, protection, and academic achievement. The southern half of the country is relatively prosperous in terms of natural resources, educational infrastructure, and other social amenities. Northern Ghana, by contrast, is the most deprived region in the country in terms of resources and social infrastructure.
Formal education also started later in northern Ghana compared to southern Ghana where European merchants and missionaries settled some 300 years earlier.

**Study procedures.**

The University of Denver Institutional Review Board for the Protection of Human Subjects approved the application for this study on March 10, 2009. Data were collected in Ghana from November 6 through December 15, 2009. Intensive recruitment efforts were needed to obtain the sample size required for statistical analysis. The original target sample was to be 400 first-year university students in Ghana. A final sample size of 276 was obtained, enough to meet the conditions for the number of cases per predictor variable for the regression analysis conducted in this study (Tabachnick & Fidell, 2007). The long distance between the United States and Ghana posed serious communication challenges. A letter explaining the study objectives was sent to the head of each university where the research was conducted. In all cases, telephone and e-mail communication were ineffective methods of communication. Instead, the letters were hand-delivered to the heads of the various schools by friends of the investigator in Ghana. When the study began, the researcher visited each school to meet authorized officials to further discuss the research project and its objectives. After the study began, research assistants and contact persons in each school assisted in organizing and selecting participants as well as administering the surveys and focus groups.

In each school, the researcher explained the purpose of the study and distributed the project information sheet which contained a brief description of the research before distributing the surveys. The survey was anonymous and all participants were 18 years
and older. All surveys were completed in a school setting during courses that were required for all first-year students. Students were assured that the surveys were anonymous and that participants involved in the study would not be identified in any publication. Finally, subjects were told that only aggregate reporting of the findings would be conducted.

Participants were informed that their involvement in the study was voluntary and that they could decline to answer any questions or withdraw from the study at any time without penalty or loss of any benefits. No monetary compensation was paid to research participants. However, participants were given pens and mechanical pencils with a University of Denver logo. Subjects took an average of 45 minutes to complete the surveys.

Participants.

Participants were recruited from three colleges and one polytechnic institute as noted above. Eligible participants had to be freshmen enrolled in college, between the ages of 18 to 24 years, and be citizens of Ghana. The age group of late adolescence to young adulthood was targeted for this study because of prior evidence suggesting that this developmental stage is crucial for understanding how key developmental competencies and resilience from early childhood and adolescence affect academic achievement (Masten, Burt, Roisman, Obradovic, Long, & Tellegen, 2004; Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999; Obradovic, Burt, & Masten, 2006; Werner, 2000; Werner & Smith, 1992).
Students were selected through purposive and convenience sampling methods. With the exception of University of Ghana, all surveys were completed during class sessions. To obtain a representative sample, mandatory freshman classes were targeted for the survey. After the researcher explained the research objectives, participants who agreed to participate were given the surveys.

**Measures.**

Measures used in this study were adapted from the Laser Ecological Protective Factors for Young Adults (LEPFYA) and the Life Events Survey for Japanese Youth (LESJY) (Laser, 2003). Demographic information including age, gender, ethnicity, locality or region, and parental education was collected from all subjects. The dependent measure of total grades was adapted from the Morgan/Jinks Self Efficacy Scale (MJSES) (Jinks & Morgan, 1999) which assesses academic self-efficacy beliefs and academic performance of young people. This instrument was used to gather information on final grades of core subjects at the secondary school final exams. Instruments developed by Laser are designed to measure a variety of risk and protective factors and to be sensitive of cultural differences (Laser et al., 2007a). According to the authors, the creation of these instruments was necessitated by the apparent lack of cultural compatibility in measuring risk and resilience in non-Western societies. The next section provides a brief description of each instrument.

*The Laser Ecological Protective Factors for Young Adults (LEPFYA).*

LEPFYA measures protective factors and contains 151 items and 19 subscales that use a five-point Likert scale format, with 1 = *strongly disagree* to 5 = *strongly agree.*
Questions in this instrument address individual, family, peer, environmental, and community factors. Higher scores signify that an individual possesses more of a particular protective factor (Laser et al., 2007a). Protective factors in this instrument are those that have been linked to positive youth behavior outcomes including academic achievement in North America, Europe, and the South Pacific regions (Gutman, Sameroff, & Eccles, 2002; Laser et al., 2007b; Luthar, 1991; Tietjen, 1989). The LEPFYA instrument for this study was developed in consultation with Professor Laser. A number of items were modified to ensure that the wording was culturally appropriate and well understood by Ghanaian youth. As a former British colony, English is the official language in Ghana and the language of instruction in all schools. Therefore, translation of the instrument was unwarranted.

**The Life Events Survey for Japanese Youth (LESJY).**

The LESJY assesses potential individual, familial, and environmental risk factors and contains 114 items and 16 subscales on a five-point rating scale. Responses range from 1 = *never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *most of the time*, and 5 = *always*. Higher scores in the LESJY indicate higher frequency of risky behavior. Again, only subscales used in this study are discussed below. Items in the LESJY were gleaned from the Teen Assessment Project (TAP) Survey, the National Longitudinal Study of Youth (NLSY), and other specific items created by Laser (2003) based on risk and resilience literature in North America, Europe, Australia, and New Zealand. Subscales from the LEPFYA and LESJY that were used in the current analysis are described below.
**Subscales.**

This section presents a brief description of the subscales of LEPFYA and LESJY used in the study. All items were scored on a five-point rating scale. A total score for each subscale was calculated by adding the item scores for each subscale. Cronbach’s alpha was calculated for each subscale based on multiple items. Internal variable measures at system level for LEPFYA are presented in Table 3 and described below. Alpha coefficients for each subscale in the current study and prior studies are also summarized in Table 3.

**Protective factors.**

*Individual characteristics.*

Internal measures of individual protective factors selected for this study were autonomy, creation of a personal myth, optimism, self-efficacy, and easy temperament. Additional measures were added to assess physical beauty, moral development, emotional intelligence, and spirituality. These measures were selected because prior research has established a relationship between these measures and academic achievement as discussed in Chapter Two. Another reason was to find out if these resilient traits are associated with academic achievement of Ghanaian youth.

The autonomy subscale was measured on a five-point Likert scale with two items as follows: “If a friend is treating me badly, I have the right to get away from them”, and “if my boyfriend/girlfriend is treating me badly, I have the right to get away from them.” Responses ranged from 1=strongly disagree to 5=agree strongly with high score indicating a greater sense of autonomy. In the present study the subscale had an alpha
coefficient of .71. Easy temperament included four items: “I am easily distracted”, I have
difficulty with change”, “I have trouble concentrating”, and I have trouble meeting new
people.” Respondents chose from the following choices: 1=never, 2=occasionally,
3=sometimes, 4= most of the time, and 5=always. This subscale had a moderate alpha
coefficient of .64.

Table 3

Reliabilities of Internal Measures (LEPFYA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Alpha Current study</th>
<th>Alpha Japan</th>
<th>Alpha Korea</th>
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<td></td>
<td></td>
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<td>.780</td>
<td>.708</td>
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<td>Personal myth</td>
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<td>.650</td>
<td>.702</td>
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<td>Self-efficacy</td>
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<td>.633</td>
<td>.706</td>
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<tr>
<td>Easy temperament</td>
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<td>3.06</td>
<td>.721</td>
<td>.803</td>
<td>.721</td>
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<td>2.45</td>
<td>.804</td>
<td>.763</td>
<td>.905</td>
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<td>Emotional intelligence</td>
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<td>4.07</td>
<td>.786</td>
<td>.538</td>
<td>.722</td>
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<td>Relationship with father</td>
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<td>.826</td>
<td>.788</td>
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<td>Family economic stability</td>
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<td>.775</td>
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<td>Maternal educational values</td>
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<td>Paternal educational values</td>
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<td>-</td>
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<td>Parental social support</td>
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<td>-</td>
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<td>.564</td>
<td>.744</td>
<td>-</td>
</tr>
<tr>
<td>Perceived sense of belonging</td>
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<td>2.38</td>
<td>.612</td>
<td>.564</td>
<td>.761</td>
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<td><strong>Community Protective Factors:</strong></td>
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<td></td>
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<tr>
<td>Social capital</td>
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<td>Neighborhood cohesion &amp;</td>
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<td>Collective efficacy</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived social support</td>
<td>5.22</td>
<td>2.29</td>
<td>.727</td>
<td>.602</td>
<td>.744</td>
</tr>
</tbody>
</table>

*a Laser, 2003; *b Laser et al., 2007a
Emotional intelligence, the ability to understand people and act wisely in human interactions (Gardner, 1983) is positively linked to academic achievement. For example, Petrides, Frederickson, and Furnham (2004) found that high scores on emotional intelligence were associated with academic performance and low incidence of truancy and absenteeism. Emotional intelligence was measured on a five-point rating scale ranging from \(1=\text{never} \) to \(5=\text{always} \) with a coefficient alpha of .79. The subscale had five items which included items such as “I know my feelings and emotions”, “I am able to understand others’ emotions”, and “I can be patient to get what I want.”

Optimism, self-efficacy, physical beauty, and moral development play a crucial role in the academic achievement of young people. Optimism assesses the degree of hopefulness and positive beliefs about the future. Generally, optimistic people expect that “something good” will happen and researchers point out that there is a relationship between optimism and individual success in many tasks they perform including academic performance (El-Anzi, 2005; Noris & Wright, 2003; Yates, 2002). Related to optimism is personal myth which assesses the perceived sense of happiness and hope. Both subscales had three items measured on a five-point Likert scale as follows: “I believe that I will find happiness”, “I believe if I work hard I will have good future”, and “I believe that I can realize my goals.” Responses ranged from \(1=\text{strongly disagree} \) to \(5=\text{agree strongly} \). Optimism: “When times are bad, they will get better”, “I am always optimistic about the future”, and “when I have problems I can make them better.” In the present study the optimism and personal myth subscales had internal consistency of .77 and .65 respectively.
Prior studies indicate that physical beauty or physical attractiveness is linked to academic achievement of young people. While Umberson and Hughes (1987) found a positive relationship between mental health, intelligence, and achievement, Sparacino and Hansell (1979) found physical attractiveness to aid males more than females in academic achievement. However, both findings consider physical beauty as a personal characteristic or quality that confers superiority and attention. Physical beauty included three items with responses ranging from 1=never to 5=always. Example items include: “My friends think I am pretty/handsome”, and “I think I am pretty/handsome” with an alpha of .72.

Bandura and colleagues (1996) found that children’s beliefs in academic efficacy were related to pro-social behavior, peer acceptance, low level of behavior problems, and high academic achievement. Werner and Smith (1992) also found that young adults with healthy developmental outcomes from infancy to middle adulthood had strong religious faith. The self-efficacy and spirituality measures each had three items on a five-point rating scale with responses ranging from 1=never to 5=always. Some of the questions were as follows: “When I see someone do something I have the impression that I can do that too”, “if I have done it before I can do it again”, “my religious convictions help me make decisions”, and “my religious convictions give me hope for the future.” In the present study, Cronbach’s alphas were .72 and .80 respectively for self-efficacy and spirituality.
Family characteristics.

A number of factors were included in this study to examine the influence of family on academic achievement of young people. Family characteristics included six subscales: Relationship with mother, relationship with father, family economic stability, parental social support, maternal educational values, and paternal educational values. Relationships within the family are considered important sources of support for adolescents and young adults (Cobb, 2007; Davies, 2004; Masten et al., 1990). Other studies emphasize the importance of parental aspirations (Spera, Wentzel, & Matto, 2009) as well as maternal education and employment as significant factors in adolescent self-esteem and academic achievement (Gonzales et al., 1996; Laser et al., 2007b; Werner, 2000). Relationship with mother, relationship with father, maternal educational values and paternal educational values were measured on a five-point Likert scale ranging from 1=strongly disagree to 5=agree strongly. Each of these subscales had three items including the following: “I am proud of my mother”, “I will like to be like my mother”, “I am proud of my father”, “I will like to be like my father”, “my mother thinks education is important for girls”, “my father thinks education is important for boys.” Maternal and paternal relationships had moderate Cronbach alphas of .53 and .72 respectively. Parental educational values had very strong alphas of .91 each.

Similarly, evidence suggests that parental economic and emotional stress may encumber parent involvement in their children’s school (Connell & Halpern-Felsher, 1997). Family economic stability was measured on a five-point rating scale with responses ranging from 1=never to 5=always. The subscale had two items: “My family
had enough money to buy the things we don’t need but want”, and “my family had
enough money.” In the present study, Cronbach’s alpha was .72.

The presence of parental social support has been positively related to achievement
in a number of studies (Deberard, Spielmans, & Julka, 2004; Gonzales, Cauce, Friedman,
& Mason, 1996). In the present study, it was expected that a global measure of parental
social support would be significantly related to academic achievement. This subscale had
four items: “My mother had friends who helped her”, “my father had friends who helped
him”, “my mother’s family supported her”, and “my father’s family supported him.”
Responses range from 1 =never to 5=always. Higher scores indicated strong extended
family and social support. Cronbach’s alpha was .82.

Interpersonal and school characteristics.

Prior studies focusing on achievement of disadvantaged students have emphasized
the importance of creating and nurturing supportive teacher-student relationships and
school environments that promote a sense of belonging (e.g., Gutman & Midgley, 2000;
Rutter, 1979; Shumow, Vandell, & Posner, 1999). A similar subscale in this study had
three items and included the following: “At school there is a teacher that I like to talk to”,
“at school, there is a teacher that I would like to be like in the future”, and “at school,
there is a teacher interested in me”. Responses range from 1=strongly disagree to
5=agree strongly. High scores indicated a more positive relationship with the teacher.
The subscale had a Cronbach’s alpha of .56.

Another mezzo transaction that supports achievement of adolescents and young
adults is sense of belonging to school. Gutman and Midgley (2000) found that students
with high levels of both parental involvement and school belonging tended to have higher grade point averages than their peers without these factors. Related to school belonging is perceived social support which a small number of studies have documented links with academic performance. These studies suggest that students with high social support reported less cognitive interference in performing a number of tasks including academic work and fewer thoughts and worries performing those tasks (Cutrona, Cole, Colangelo, Assouline, Russell, 1994; Gutman et al., 2002; Wong et al., 2002). According to these views, social support from different sources is a protective factor for youth facing multiple risks. School belonging and perceive social support were measured on a five-point Likert scale and responses ranged from 1=never to 5=always. School belonging had three items while perceived social support had two items including the following: “At school my classes are interesting”, I feel like I am learning something that can help me later”, and “I have the impression that I should not ask others to help me”, and “I don’t ask others to help me because I am afraid they will say no.” Cronbach alphas were .61 and .73 for school belonging and social support respectively.

*Macro and community transactions.*

Neighborhood as a developmental context (Bronfenbrenner, 1979) plays an important role in understanding school achievement outcomes. A number of neighborhood resources including what Leventhal and Brooks-Gunn (2000) call collective socialization confer benefits to children and youth including positive educational outcomes. Neighborhood cohesion and collective self-efficacy assesses the strength of relationships among community members and their shared beliefs in their
collective capabilities to achieve a common goal. There were five items in this subscale including the following: “In the neighborhood where I grew up, I knew the names of my neighbors”, “In the neighborhood where I grew up, I would see my neighbors talk to each other”, Responses range from $1=\text{strongly disagree}$ to $5=\text{agree strongly}$. Higher scores indicated the presence of strong neighborhood relationships and mutual help. Cronbach’s alpha in the present study was .82.

Another important macro level resource for achievement is social capital, an indication of helpful connections, networks and trust between people. Contrary to findings reported in earlier studies that familial relationships particularly collective cultural norms and dynamics are a hindrance to academic achievement (e.g., Heller, 1966; Horowitz, 1981), recent investigations suggest that familial attitudes and dynamics are important to academic outcome particularly for students from more traditional cultural backgrounds (Caldas & Bankston III, 1997; Israel, Beaulieu & Hartless, 2001; Valenzuela & Dornsbusch, 1994; Zhou & Bankston III, 1994; ). The social capital subscale included nine items. Two of the questions read as follows: “I know people I can count on to help me out if I need money”, and “I know people I can count on to listen to me when I am sad.” Responses ranged from $1=\text{no one}$ to $5=\text{five or more people}$. Higher scores indicated more social networks and helpful connections. This subscale had a Cronbach’s alpha of .88.
**Risk factors.**

Measures of risk factors for academic achievement are described below and presented in Table 4. Again, alpha levels are presented at system level of influence and compared to alpha levels of prior studies when applicable.

**Community and neighborhood conditions.**

A number of ecological factors external to the individual and the immediate family may diminish the capacity of young people to develop positive behavior outcomes. Many investigations reveal that living in a high-risk neighborhood (e.g., violence, gang activities, drug abuse) is associated with poor educational outcomes (Brooks-Gunn & Duncan, 1997; Corcoran & Chaudry, 1997; Gonzales et al., 2000; Jenson & Fraser, 2006).

Table 4

**Reliabilities of Internal Measures (LESJY)**

<table>
<thead>
<tr>
<th>Risk Factors:</th>
<th>M</th>
<th>SD</th>
<th>Alpha Current study</th>
<th>Alpha Japan&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Alpha Korea&lt;sup&gt;b&lt;/sup&gt;</th>
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<td><strong>Individual Risk Factors:</strong></td>
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<tr>
<td>Drug and alcohol abuse</td>
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<td>.870</td>
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<td>Internalizing behavior</td>
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<td>5.75</td>
<td>.846</td>
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<td>Delinquency</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Poor neighborhood safety</td>
<td>9.99</td>
<td>4.59</td>
<td>.817</td>
<td>.802</td>
<td>.738</td>
</tr>
<tr>
<td>Television viewing</td>
<td>4.24</td>
<td>2.04</td>
<td>.657</td>
<td>.799</td>
<td>.767</td>
</tr>
</tbody>
</table>

<sup>a</sup> Laser, 2003;  <sup>b</sup> Laser et al., 2007a
Another issue of particular interest in this study is frequency of television viewing. Many researchers point out that children who watch more television spend less time doing homework, studying, and reading for leisure leading to an eventual decrease in academic achievement (Chernin & Linebarger, 2005; Shin, 2004). The neighborhood safety subscale had five items while TV viewing had two items both rated on a five-point rating scale where 1=never, 2=occasionally, 3=sometimes, 4=most of the time, and 5=always. Some of the questions were: “I watch violent films or TV”, “I watch sexually explicit television shows or movies”, “there are youth gangs in my neighborhood”, and “I know people who are involved in organized gang.” Neighborhood safety had demonstrated internal consistency of .82 while TV viewing had internal consistency of .65.

*Family conditions.*

Within the ecological literature, recent attention has been drawn to the important connection between the child’s home environment (i.e., family) and his/her school environment (Anthony et al., 2009; Jenson et al., 2006; Werner, 2000; Werner & Smith, 1992). While parent involvement and monitoring are associated with youth academic achievement (Spera, 2005), failure to set clear expectations, lack of youth monitoring and supervision, and inconsistent and harsh discipline practices are associated with anti-social behavior and poor academic achievement (Bolger & Patterson, 2003; Cauce et al., 2003). The harsh parenting practices subscale had four items: “I was hit when I misbehaved”, “I was hit when I didn’t work well at school”, “I was hit when I didn’t respect my parents”, 
and “I was hit when I embarrassed my family.” Responses ranged from 1 = never to 5 = always. Cronbach’s alpha was .78.

Another family risk factor for poor youth achievement is parental depression. As noted above, parental school involvement and youth monitoring are strong buffers against adversity and school failure. However, effective parental involvement is predicated on their psychological state of mind (Hill & Taylor, 2004). According to this view, depression and anxiety are serious barriers to school involvement; mothers who are depressed are less likely than non-depressed mothers to be involved in their children’s schooling. The parental depression subscale included four items on a five-point likert scale. Some of the questions read: “My mother was sad or depressed” and “my father was sad or depressed.” Responses ranged from 1 = never to 5 = always with an internal consistency of .88.

Other family conditions that have negative influences on children’s youth behavior outcome and psychological adjustment include exposure to domestic violence and parental drug abuse. In two meta-analyses, Kitzmann, Gayloard, Holt, and Kenny (2003) and Schwartz and Gorman (2003) found that children’s exposure to marital and community violence was associated with a myriad of psychological, emotional, behavioral, social, and academic problems. In parallel fashion, parental drug and alcohol use have been identified in prior studies as risk factors for a number of youth behavior problems including drug and alcohol use and aggression (Hawkins et al., 1992; Jenson et al., 2006). Exposure to domestic violence was measured on five-point Likert scale. The measure included four items including: “I saw my father hit my mother”, I heard my
father insult my mother”, and I saw my mother hit my father.” Responses ranged from 0=never, 1=once, 2=twice, 3=three times, and 4=more than four times. Cronbach’s alpha was .83. Parental drug use subscale had two items: “My mother drunk alcohol to get drunk” and “my father drunk alcohol to get drunk” measured on a five-point Likert scale where 1=never, 2=occasionally, 3=sometimes, 4=most of the time, and 5=always. Cronbach’s alpha was .86.

**Individual characteristics.**

From an ecological perspective, the nature and functions of children’s support systems are influenced by both environmental and personal factors (Bronfenbrenner, 1979; Tietjen, 1989). A number of individual factors that have been recognized as part of the risk-chain include drug and alcohol abuse, delinquency, and internalizing behavior (Hawkins et al., 1992; Masten, Roisman, Long, Burt, Obradovic, & Riley, 2005). According to Masten and colleagues (2005), internalizing behavior includes anxiety and depression, withdrawal, fear and worries and loneliness. This subscale had eight items, some of them included: “I felt lonely”, “I was depressed”, “I did not sleep well”, “I could not get going”, and “I did not like myself.” Responses ranged from 1=never to 5=always. High scores indicated isolation and negative and destructive thoughts. Cronbach’s alpha was .85.

Drug and alcohol use had eight items on a five point rating scale including the following: “I smoked cigarettes”, “I drank alcohol”, and I smoked marijuana.” Responses ranged from 1=never to 5=everyday. Cronbach’s alpha was .96. As noted by Hawkins and colleagues (1992), risk factors for youth drug and alcohol use also predict other
problem behaviors including delinquency, teen pregnancy, and school dropout. The delinquency subscale had three items measured on a five-point rating scale: “I shoplifted”, “I vandalized public/private property”, and “I had problems with the police.” Responses ranged from 0 = never to 4 = four or more times and an internal consistency of .70.

**Dependent measures.**

The dependent variable of academic achievement was measured using a selected number of items adapted from the Morgan/Jinks Self-efficacy Scale (MJSES) (Jinks & Morgan, 1999). These items were used to gather retrospective self-reported grades in core subjects of math, English language, social studies, and integrated science. Three elective subjects on the final Senior Secondary School Certificate Exams (SSCE) or on the West African Senior Secondary Certificate Exams (WASSCE) were also measured. These exams are the equivalent of college entry exams and are used as the sole criteria for admission into universities in Ghana. The questions asked participants the grade they received for each subject ranging from 1 = A, 2 = B, 3 = C, 4 = D, and 5 = F, A being the highest score. These results were reverse-coded for analytical purposes.

The general requirements for entry to a bachelor's degree program in Ghana are as follows: A Senior Secondary School Certificate with passes in four core subjects, namely, English, Mathematics, Integrated Science, and Social Studies and three elective subjects, with an aggregate score of 24 or better in the best six subjects (three core subjects plus three electives) (Ghana Education Service, 2004). For example, if an arts student scores ‘A’ in Geography, ‘B’ in Literature and ‘C’ in Economics, she will obtain an aggregate
score of 6 for his electives (i.e. A=1; B=2 & C=3). Her best electives are then added. If she obtains 'B' in English, 'C' in Mathematics and 'A' in Social Studies, her best 'core' aggregate will be six. Therefore, her overall aggregate score will be 12 and she qualifies for admission into a university (Ghana Education Service, 2004). Scores of the seven items (i.e., four core plus three electives) were added to get a total score for the dependent variable. Total grade had a Cronbach’s alpha of .76, \( M = 20.18, SD = 3.71 \).

**Qualitative design.**

Qualitative methodology was applied to augment the findings from the survey and to deepen understanding of risk and resilience in the Ghanaian context. As noted earlier, emphasis of the study was placed on the quantitative findings. The objectives of the qualitative component of this study were to: 1) understand what resilience means for Ghanaian youth, 2) examine factors contributing to youth resilience and academic achievement in Ghana, and 3) investigate the contributions risk and resilience framework can make to generate understanding of experiences of young people in Ghana. Evidence suggests that this method enables researchers to understand participants’ definition of “healthy outcomes” through narratives of their lived experiences (Ungar, 2004). It is argued that what is determined as a risk or protective factor depends on the context and the socio-cultural perspective of the researcher (Hunter, 2001; Ungar, 2004). Through an inductive, qualitative approach, investigators can unravel a number of unnamed risk and protective factors relevant to the everyday experiences of participants (Ungar, 2004). The underlying question is how young people in Ghana cope in their educational experience.
given the numerous barriers to education in the country. The following questions were investigated in this portion of the study:

1. How do young people in Ghana define resilience?
2. What kinds of challenges do young people in Ghana face growing up?
3. How do young people deal with challenges they face in life?
4. How do young people describe people who grow up well and succeed in school in their community despite the difficulties they encounter?
5. How do young people describe strength and success?

*Focus groups.*

This qualitative method used focus groups to glean data from participants who completed the surveys. This method aimed to understand in-depth experiences of youth who grew up in extreme poverty and yet made it to college. It was the expectation of the researcher that focus groups will help paint a picture of resilience and achievement through students’ own perspectives. A focus group interview enables the researcher to learn more about how participants talk and feel about a phenomenon and attempt to understand the biographies and life experiences of group participants (Berg, 2007). A focus group interview is usually conducted with a small group of people on a specific topic. Groups are typically six to 12 people with similar experience or background and last between one and three hours to allow in-depth discussion (Berg, 2007; Johnson & Turner, 2003). In the present study, each participant was a college student in the first year. Two focus group interviews were conducted to obtain different perspectives and increase confidence and trustworthiness in the emerging patterns. According to Johnson and Turner, focus groups may be used along with other data collection methods or as a
stand-alone method. In this study, focus group interviews were conducted to help better understand and interpret information and findings from the quantitative method.

The use of focus groups interviews has several advantages for qualitative inquiry. Johnson and Turner (2003) note that focus group interviews are useful for exploring new ideas, allow good interpretive validity, and enhances the collection of in-depth information about people’s feelings and perspectives about an issue. They further note that focus group interviews allow probing for more information and make it possible for most content to be audio-recorded. The authors also note that this process can be expensive, produce bias data, and a time-consuming data analysis process.

Two focus groups were selected purposively from the participants who completed the surveys. One group was selected from the Islamic University College of Ghana and the other from the Tamale Polytechnic. This was to ensure a fair representation from both the southern and the northern regions. Each focus group composed of 10 members and participants met the same criteria as the survey participants. A proportionate number of five males and five females were selected for each focus group.

**Qualitative data collection procedures.**

Data were collected through focus group discussions using a semi-structured questionnaire comprising a battery of measures on demographic information, risk and protective factors, resilience, and academic achievement. Each interview was audio-recorded and transcribed verbatim to aid in the analysis. Interview guides for the study was constructed and reviewed by experts for appropriateness of content, language, wording, and questions. One interview lasted for 1.5 hours while the other lasted for one
hour. The first interview was conducted in the middle of the day in an empty classroom. Even though the classroom was empty loud noise could be heard from outside as other students moved and changed classrooms for different subjects. The second interview was conducted in a large quiet office and lasted for one hour.

Each interview provided an opportunity to explore in detail each participant’s ideas, feelings, and experiences regarding the difficulties they encountered growing up and their coping mechanisms. Participants were asked to answer questions on the meaning of resilience to them and how they coped with challenges in their life, family, school, and dealt with difficulties in the larger social context. In order to maintain consistency in data collection, a semi-structured interview protocol was developed and used for this study (Appendix A). The interview protocol was developed in a way that allowed participants to broadly describe their perceptions of factors that helped them to overcome the obstacles in their personal, family, and social contexts to reach their present level of schooling.

The protocol contained 13 exploratory questions and several probing questions that were used to encourage participants to expand their responses and perceptions of factors that impeded or promoted their achievement. Some of the questions were: “What has helped you to reach the level of schooling you are in now?”, “what does the word resilience mean to you?”, “what kind of hardships did you face growing up”, “how did you deal with those hardships?”, and “how do you describe people who grow up well here despite the difficulties they encounter?” Recognizing that qualitative interviews can elicit intense emotions, the researcher took steps to protect the emotional safety of
participants. No sensitive topics were included in the interview questions and participants were reminded of their right to stop the interview at any time if they felt uncomfortable. The researcher assured participants that the likelihood and degree of discomfort anticipated in the research was not greater than that ordinarily encountered in daily life.

This approach is supported by research suggesting that by concentrating on a single phenomenon, the investigator can unravel the manifest interaction of important factors associated with the phenomenon such as individual, community, and institutional factors (Berg, 2007). This also is consistent with the ecological and risk and resilience frameworks discussed earlier where issues affecting the individual are situated within multiple systems. Field notes were also collected as part of the data collection process.

**Analytic Approaches**

Within the framework of mixed-methods design, data analysis was based on parallel mixed data analysis methods (Teddlie & Tashakkori, 2009). This method involves quantitative analysis using descriptive and inferential statistics for selected variables and qualitative analysis using emerging themes and narratives. In this type of design, the ‘actual mixing of methods’ comes toward the end of the study or at the stage of drawing inferences and conclusions (Greene, 2007; Greene, Benjamin, & Goodyear, 2001). This mixed method approach is predicated on the idea that one set of findings is used to illustrate, enhance, explain, or refine the findings of the other set. Here, drawing from Plano Clark and Creswell (2008) dominant-less-dominant model, more emphasis was placed on the quantitative analysis in this study. Data analysis strategies for each strand of research are presented in this section.
Quantitative data analysis.

Several quantitative statistical techniques were used to address the four research questions. First, descriptive statistics were used to present demographic information and to assess the prevalence of risk and protective factors among the study sample. Bivariate analyses including independent samples $t$-test were then conducted to examine relationships and differences in protective or risk factors by gender and geographical region. Correlational analyses were run to help identify independent variables (IVs) to be included in regression analyses.

After the initial steps to prepare the data were complete, independent samples $t$-tests were used to examine differences in risk and protective factors in academic achievement by gender and locality. To identify which independent variables predicted achievement, multiple regression analyses were used. According to Tabachnick and Fidell (2007), the number of cases per IV or cases-to-IVs ratio is an important consideration for the results to be meaningful. According to the authors, a rule of thumb for testing B coefficients for individual predictors is to have $N \geq 104 + m$, (where $m =$ number of independent variables). Another common rule of thumb is that there must be at least 20 times as many cases as independent variables. A rule of thumb for testing R-square is $N \geq 50 + 8m$ (where $m =$ number of predictors). With a sample size of 276, these requirements were satisfied to run multiple regressions.

A large number of predictor variables that were correlated with the dependent variable of academic achievement rendered linear multiple regressions unsuitable for the analysis. Thus, hierarchical multiple regression technique was used to examine the
relationship among risk, protection, and academic achievement. According to Cohen, Cohen, West, and Aiken (2003), hierarchical analysis is useful in providing the necessary coefficients to answer research questions where \( k \) IVs are entered cumulatively in a predetermined order. \( R^2 \) values and partial regression coefficients are calculated as they are added to the hierarchical model.

Basic principles identified by Cohen et al. (2003) to determine the hierarchical sequence for entry were followed. These principles include an assessment of causal priority, elimination of extraneous relationships, and theoretical and research relevance. A combination of these factors guided the choice of variables and their sequence in the regression equations. For example, place of residence (north or south; rural or urban) has been an important source of variation in academic achievement in Ghana (GSS, 2008). The researcher was curious to know how regional differences could be related to academic achievement among subjects. Methods of teaching in the Ghana educational system tend to be autocratic and riddled with gender and other stereotypes. Thus, the role of school mentor and overall school environment, which have been found to be protective factors for achievement in Western literature (Gutman & Midgley, 2000; Rutter, 1979) were used as subsequent predictor variables in the regression equations.

**Qualitative data analysis.**

Analysis of the qualitative data obtained from the focused group interviews was based on grounded theory approach first introduced by Glaser and Strauss (1967) as a systematic and inductive method by which data is collected, analyzed, and interpreted (Charmaz, 2006). According to Charmaz (2006), the advantage of grounded theory lies in
its analytic power to generate theory about how meaning, actions, and social interactions are constructed. “Grounded theories dig deep into the empirical and build analytic structures that reach up to the hypothetical” (p. 151). Data analysis procedures under grounded theory are guided by the research objectives and follow specific and systematic steps. Creswell (1998) identified three methods of coding as an inductive and data reduction strategy – open, axial, and selective coding. The first step of coding involves naming each word, line or segment of data followed by axial and selective or focused coding to sort, synthesize, and organize the data (Charmaz, 2006). Using constant comparative method (Creswell, 1998; Lincoln & Guba, 1985), the researcher establishes connections between and among codes generated and classifies them into categories or properties (Charmaz, 2006; Corbin & Strauss, 2008; Creswell, 1998).

In an effort to understand human interaction, Grbich (2007) argues that meaning is constructed through the use of symbols, signs and language, and our ability to take the position of others and interpret those actions. Based on the interviews and field notes, a code list was developed for individual experiences, risk, and protective factors. Each code was defined separately. This process is described by Miles and Huberman (1994) as first-level coding while Saldana (2010) refers to it as first-cycle coding. Qualitative data analysis principally involves classifying behaviors and events in accordance with the properties that characterize them, a process Lincoln and Guba (1985) describe as systematic and intuitive.

Similarly, Saldana (2010) views qualitative data coding process as cyclical rather than linear. Data obtained during the focus group interviews were transcribed from a
digital recorder. Each transcript was read and reread and compared to each other. Next, data were uploaded in Atlas.ti (version 6) for analysis. This was followed by open-coding and focused or axial coding (Creswell, 1998, 2002; Miles & Huberman, 1994; Saldana, 2010), which aims at establishing relationships between concepts that emerged. Glaser and Strauss indicated that the coding process generates two categories of themes: one constructed by the investigator through his or her observations and the other emerging from respondents’ unique cultural terms about the issue(s) being investigated (Lincoln & Guba, 1985).

Next, data were sorted to identify emergent themes and constructs. A matrix of the focus groups data was created to depict the data and categorize them. According to Miles and Huberman (1994), a matrix is a great tool to both find and demonstrate relationships in qualitative data. The final codes and categories were reviewed by Professor Nicotera, an expert who is knowledgeable about the method and content of this study. Based on Glaser and Strauss’s constant comparative method (Lincoln & Guba, 1985) of data analysis, data were analyzed for themes to emerge and form theoretical propositions. Consistent with Bronfenbrenner (1979) ecological theory, grounded theory perspectives discover the phenomena of human experiences within the context of human interaction (Grbich, 2007).

**Chapter summary**

This chapter discussed the research design and strategies used to examine associations among risk, protection, and academic achievement among Ghanaian youth. The chapter discussed the sampling plan, data collection procedures, and provided an
extensive discussion of internal measures of quantitative data. Methods of qualitative data collection, sampling, and procedures were also described. Data analysis strategies for both quantitative and qualitative methods were presented. This discussion provides a framework for the presentation of results in the following chapter.
Chapter Four: Results

This chapter presents the main findings of the study. In line with the mixed methods approach, the chapter is presented in two parts. First, demographic characteristics and the results of bivariate analyses that examined differences in risk and protective factors between males and females and between northern and southern regions of Ghana are presented. The discussion then proceeds to a review of data reduction strategies used to identify independent variables for the regression analyses and methods used to handle missing data are described. Preliminary analyses used to select the final variables for the regression analyses are described and results of hierarchical multiple regression analyses are reported. The second part of the chapter presents qualitative results. Demographic characteristics of focus group participants and data reduction strategies used to reach emergent themes are discussed. Codes that emerged from the data were first organized into categories using constant comparative analysis. These codes were defined and linked to the original quotations in the data. Final emergent themes are defined and described.

Findings

Sample characteristics.

Demographic characteristics of the sample are presented in Table 5. Thirty one percent (n = 85) of subjects were female and 69% (n = 190) were male. There were more male respondents because a smaller number of females are officially enrolled in the
schools represented in the sample. The age of the respondents ranged from 18 to 24 years ($M = 21.48, SD = 1.81$). Participants were grouped into northern and southern regions. The northern region was comprised of students from Northern, Upper East, and Upper West regions. Students from Brong Ahafo, Ashanti, Volta, Eastern Central, Western, and Greater Accra regions formed the southern region. Sixty two percent ($n = 169$) of subjects hailed from the northern regions while 39% ($n = 106$) came from southern Ghana.

The sample characteristics reveal a significant gap in literacy between men and women that is consistent with overall literacy patterns in the country (e.g., GSS, 2008). Of the total sample, nearly half, 48% ($n = 131$) of mothers had no formal education compared to 34% ($n = 92$) of fathers. Similarly, only six percent ($n = 16$) of respondents’ mothers had a university education. However, 17% ($n = 46$) of fathers had a university education, likely reflecting a societal pattern in educational opportunities that has historically favored males in Ghana. Other data suggest that the present generation of females may have better access to education than their parents’ generation. For example, 25% ($n = 65$) of subjects had a sister who had a university education compared to only five percent of mothers and 16% of fathers. Finally, 41% ($n = 111$) of respondents had four or more siblings.
Table 5

**Characteristics of Survey Participants**

<table>
<thead>
<tr>
<th>Variable</th>
<th>(n=276)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>30.9</td>
<td>85</td>
</tr>
<tr>
<td>Male</td>
<td>69.1</td>
<td>190</td>
</tr>
<tr>
<td>Region:</td>
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<tr>
<td>Northern</td>
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<tr>
<td>Southern</td>
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<td>106</td>
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<tr>
<td>Mother’s level of education:</td>
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<td>No formal education</td>
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</tr>
<tr>
<td>Other professional education</td>
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<td>29</td>
</tr>
<tr>
<td>University education</td>
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</tr>
<tr>
<td>Secondary education</td>
<td>18.1</td>
<td>50</td>
</tr>
<tr>
<td>Primary education</td>
<td>18.1</td>
<td>50</td>
</tr>
<tr>
<td>Father’s level of education:</td>
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<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>33.5</td>
<td>92</td>
</tr>
<tr>
<td>Other professional education</td>
<td>18.9</td>
<td>52</td>
</tr>
<tr>
<td>University education</td>
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<td>46</td>
</tr>
<tr>
<td>Secondary education</td>
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</tr>
<tr>
<td>Primary education</td>
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<tr>
<td>Sister’s level of education:</td>
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<td></td>
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<tr>
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<tr>
<td>University education</td>
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<tr>
<td>Vocational/technical education</td>
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<td>Primary education</td>
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</tr>
<tr>
<td>Number of siblings:</td>
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<tr>
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<td>9</td>
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<tr>
<td>4 siblings or more</td>
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<td>111</td>
</tr>
<tr>
<td>3 siblings</td>
<td>20.1</td>
<td>55</td>
</tr>
<tr>
<td>2 siblings</td>
<td>24.5</td>
<td>67</td>
</tr>
<tr>
<td>1 sibling</td>
<td>11.7</td>
<td>32</td>
</tr>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M$</td>
<td>21.48</td>
<td>1.81</td>
</tr>
<tr>
<td>$SD$</td>
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</tr>
</tbody>
</table>

**Gender differences in risk factors for academic achievement.**

The first research question examined the most prevalent risk factors for academic achievement among Ghanaian youth. Scores on risk factors for academic achievement are
shown for the full sample and for females and males in Table 6. The results indicate that participants showed the highest levels of risk on harsh parenting practices, physical presence of a parent, internalizing behavior, poor neighborhood safety, and drug and alcohol use. Subjects viewed internalizing behavior as the highest risk factor for academic achievement. Participants showed the least risk on measures of parental depression, frequency of television viewing, parental drug abuse, witness to domestic violence, and delinquency.

The second research question examined how risk and protective factors varied by gender. To answer this question, independent samples t-tests were conducted to determine if mean differences of females were significantly different from males on a number of risk factors for academic achievement. As shown in Table 6, statistically significant differences were found between females and males on several risk factors.

Table 6

*Gender Differences in Risk Factors for Academic Achievement*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Full Sample (n =276)</th>
<th>Female (n =85)</th>
<th>Male (n = 190)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental depression</td>
<td>5.02 1.96</td>
<td>5.11 1.93</td>
<td>4.98 1.98</td>
<td>.48</td>
<td>.629</td>
</tr>
<tr>
<td>Harsh parenting practices</td>
<td>12.69 4.24</td>
<td>12.52 4.08</td>
<td>12.76 4.08</td>
<td>-.42</td>
<td>.677</td>
</tr>
<tr>
<td>Internalizing behavior</td>
<td>18.82 5.75</td>
<td>19.05 5.14</td>
<td>18.74 6.05</td>
<td>.93</td>
<td>.694</td>
</tr>
<tr>
<td>Television viewing</td>
<td>4.24 2.04</td>
<td>4.20 1.88</td>
<td>4.26 2.13</td>
<td>-.24</td>
<td>.813</td>
</tr>
<tr>
<td>Parental drug abuse</td>
<td>2.80 1.71</td>
<td>2.45 1.26</td>
<td>2.96 1.87</td>
<td>-2.59</td>
<td>.010**</td>
</tr>
<tr>
<td>Poor neighborhood safety</td>
<td>9.99 4.59</td>
<td>9.09 4.02</td>
<td>10.41 4.80</td>
<td>-2.17</td>
<td>.031*</td>
</tr>
<tr>
<td>Drug and alcohol use</td>
<td>10.49 6.96</td>
<td>9.13 4.58</td>
<td>11.15 7.77</td>
<td>-2.61</td>
<td>.009**</td>
</tr>
<tr>
<td>Witness to domestic violence</td>
<td>5.64 3.08</td>
<td>5.48 2.81</td>
<td>5.73 3.20</td>
<td>-.61</td>
<td>.546</td>
</tr>
<tr>
<td>Delinquency</td>
<td>5.57 1.45</td>
<td>3.31 .88</td>
<td>3.69 1.64</td>
<td>-2.36</td>
<td>.019*</td>
</tr>
</tbody>
</table>

*p < .05; **p ≤ .01
Statistically significant gender differences were found on measures of parental presence, parental drug abuse, poor neighborhood safety, drug and alcohol abuse, and delinquency. As shown in Table 6, young women scored higher than males on physical presence of a parent suggesting that the absence of a parent has a more negative influence on girls than boys in Ghana. Parental drug abuse had a significantly greater negative influence on males than females. Lack of neighborhood safety such as the presence of drugs, gang activity, and violence has a less deleterious effect on females than males. Results indicate that females were significantly less likely than males to abuse drugs and alcohol and to engage in delinquent behavior. No statistically significant differences were found between females and males on other risk variables.

**Gender differences in protective factors for academic achievement.**

The study also examined the most prevalent protective factors for academic achievement among Ghanaian youth. Scores on protective factors for academic achievement for the full sample and females and males are shown in Table 7. Participants showed the highest level of protection for academic achievement on creation of a personal myth, optimism, relationship with mother, moral development, emotional intelligence, spirituality, neighborhood cohesion, and social capital. Subjects showed the least protection on measures of parental educational values, family economic stability, perceived social support, presence of a school mentor, and sense of autonomy.

Independent samples *t*-tests were again conducted to compare gender differences in possession of and/or access to individual, family, school, and environmental protective factors. As shown in Table 7, statistically significant differences were found between
females and males \( (p < .05) \) on variables creation of a personal myth, presence of school mentors, relationship with mother, physical beauty, and neighborhood cohesion and collective efficacy. Significant differences by gender were also found on measures of parental social support, and for maternal and paternal educational values.

Table 7

**Gender Differences in Protective Factors for Academic Achievement**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Full Sample (n = 276)</th>
<th>Female (n = 85)</th>
<th>Male (n = 190)</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>( M = 8.67 ), ( SD = 1.88 )</td>
<td>( M = 8.79 ), ( SD = 1.93 )</td>
<td>( M = 8.62 ), ( SD = 1.86 )</td>
<td>3.65</td>
<td>.000**</td>
</tr>
<tr>
<td>Creation of a personal myth</td>
<td>( M = 14.12 ), ( SD = 1.76 )</td>
<td>( M = 14.57 ), ( SD = .81 )</td>
<td>( M = 14.90 ), ( SD = 2.04 )</td>
<td>.69</td>
<td>.493</td>
</tr>
<tr>
<td>Optimism</td>
<td>( M = 12.66 ), ( SD = 2.18 )</td>
<td>( M = 12.97 ), ( SD = 1.89 )</td>
<td>( M = 12.51 ), ( SD = 2.29 )</td>
<td>1.57</td>
<td>.119</td>
</tr>
<tr>
<td>School mentor</td>
<td>( M = 7.85 ), ( SD = 1.83 )</td>
<td>( M = 7.25 ), ( SD = 1.92 )</td>
<td>( M = 8.13 ), ( SD = 1.72 )</td>
<td>-3.60</td>
<td>.000**</td>
</tr>
<tr>
<td>Relationship with father</td>
<td>( M = 11.77 ), ( SD = 3.16 )</td>
<td>( M = 11.58 ), ( SD = 3.43 )</td>
<td>( M = 11.83 ), ( SD = 3.04 )</td>
<td>-.59</td>
<td>.554</td>
</tr>
<tr>
<td>Relationship with mother</td>
<td>( M = 13.21 ), ( SD = 2.30 )</td>
<td>( M = 13.70 ), ( SD = 2.06 )</td>
<td>( M = 12.98 ), ( SD = 2.38 )</td>
<td>2.39</td>
<td>.013**</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>( M = 8.44 ), ( SD = 1.90 )</td>
<td>( M = 8.67 ), ( SD = 1.80 )</td>
<td>( M = 8.32 ), ( SD = 1.91 )</td>
<td>1.41</td>
<td>.159</td>
</tr>
<tr>
<td>Easy temperament</td>
<td>( M = 10.28 ), ( SD = 3.14 )</td>
<td>( M = 10.73 ), ( SD = 3.02 )</td>
<td>( M = 10.07 ), ( SD = 3.18 )</td>
<td>1.62</td>
<td>.114</td>
</tr>
<tr>
<td>Physical beauty</td>
<td>( M = 10.23 ), ( SD = 3.06 )</td>
<td>( M = 11.17 ), ( SD = 2.85 )</td>
<td>( M = 9.78 ), ( SD = 3.07 )</td>
<td>3.43</td>
<td>.001**</td>
</tr>
<tr>
<td>Moral development</td>
<td>( M = 25.16 ), ( SD = 4.33 )</td>
<td>( M = 24.55 ), ( SD = 3.18 )</td>
<td>( M = 25.45 ), ( SD = 4.76 )</td>
<td>-1.78</td>
<td>.076</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>( M = 20.38 ), ( SD = 4.07 )</td>
<td>( M = 20.67 ), ( SD = 3.40 )</td>
<td>( M = 20.24 ), ( SD = 4.35 )</td>
<td>.78</td>
<td>.435</td>
</tr>
<tr>
<td>Spirituality</td>
<td>( M = 13.55 ), ( SD = 2.45 )</td>
<td>( M = 13.78 ), ( SD = 1.87 )</td>
<td>( M = 13.43 ), ( SD = 2.67 )</td>
<td>1.21</td>
<td>.290</td>
</tr>
<tr>
<td>Perceived social support</td>
<td>( M = 5.22 ), ( SD = 2.29 )</td>
<td>( M = 5.26 ), ( SD = 1.96 )</td>
<td>( M = 5.20 ), ( SD = 2.44 )</td>
<td>.22</td>
<td>.837</td>
</tr>
<tr>
<td>Neighborhood cohesion</td>
<td>( M = 19.22 ), ( SD = 4.58 )</td>
<td>( M = 18.02 ), ( SD = 4.38 )</td>
<td>( M = 19.74 ), ( SD = 4.59 )</td>
<td>-2.83</td>
<td>.005**</td>
</tr>
<tr>
<td>Parental social support</td>
<td>( M = 10.75 ), ( SD = 3.97 )</td>
<td>( M = 9.88 ), ( SD = 3.67 )</td>
<td>( M = 11.14 ), ( SD = 4.06 )</td>
<td>-2.39</td>
<td>.017*</td>
</tr>
<tr>
<td>Family economic stability</td>
<td>( M = 5.55 ), ( SD = 2.30 )</td>
<td>( M = 5.84 ), ( SD = 2.30 )</td>
<td>( M = 5.42 ), ( SD = 2.30 )</td>
<td>1.36</td>
<td>.175</td>
</tr>
<tr>
<td>Maternal educational values</td>
<td>( M = 8.25 ), ( SD = 2.43 )</td>
<td>( M = 9.20 ), ( SD = 1.41 )</td>
<td>( M = 7.82 ), ( SD = 2.67 )</td>
<td>2.53</td>
<td>.000***</td>
</tr>
<tr>
<td>Paternal educational values</td>
<td>( M = 8.06 ), ( SD = 2.61 )</td>
<td>( M = 8.62 ), ( SD = 2.22 )</td>
<td>( M = 7.78 ), ( SD = 2.75 )</td>
<td>5.48</td>
<td>.012**</td>
</tr>
<tr>
<td>Social capital</td>
<td>( M = 23.75 ), ( SD = 8.66 )</td>
<td>( M = 22.75 ), ( SD = 7.83 )</td>
<td>( M = 24.14 ), ( SD = 8.96 )</td>
<td>-1.18</td>
<td>.238</td>
</tr>
</tbody>
</table>

\*p < .05; \**p < .01; \***p < .001
Findings indicate that males were more likely than females to create a personal myth by believing that they will find happiness and a good future if they work hard. Results also revealed that school environment and interaction patterns between students and teachers favored males over females. Furthermore, close relationships and attachments to parents served as a buffer against adversity for females ($M = 13.70$, $SD = 2.06$) but not for males ($M = 12.98$, $SD = 2.38$). As shown in Table 7, females were significantly more likely than males to view themselves as physically attractive. Interestingly, neighborhood cohesion and collective efficacy was significantly higher for males than for females.

Study results indicate that parental educational values were significantly more likely to operate as a protective factor for females compared to males. Both maternal and paternal educational values were significantly higher for females than for males. Finally, results indicate that males were significantly more likely than females to benefit from parental social support. In this case, female students were less likely than male students to receive support and protection from immediate and extended family members. The remaining protective factors yielded no statistically significant differences by gender.

**Regional differences in risk factors for academic achievement.**

The third research question asked whether risk factors for academic achievement varied by locality or region. To address this question, independent samples $t$-tests were again conducted to compare risk traits between subjects in the northern and southern regions of the country. As shown in Table 8, results show that study participants differed on only one risk factor by region. With the exception of harsh parenting practices,
participants’ exposure to risk tends to be the same regardless of location in the country.

Participants in the northern sub-sample reported significantly higher harsh parenting practices than subjects in the southern region.

Table 8

**Regional Differences in Risk Factors for Academic Achievement**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Northern (n=169)</th>
<th>Southern (n=106)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental depression</td>
<td>4.85 1.99</td>
<td>5.32 1.85</td>
<td>-1.90</td>
<td>.059</td>
</tr>
<tr>
<td>Harsh parenting practices</td>
<td>13.16 4.14</td>
<td>11.91 4.32</td>
<td>2.26</td>
<td>.024*</td>
</tr>
<tr>
<td>Physical presence of a parent</td>
<td>13.22 3.52</td>
<td>12.79 3.74</td>
<td>.93</td>
<td>.353</td>
</tr>
<tr>
<td>Internalizing behavior</td>
<td>18.42 5.89</td>
<td>19.45 5.52</td>
<td>-1.36</td>
<td>.169</td>
</tr>
<tr>
<td>Television viewing</td>
<td>4.07 2.10</td>
<td>4.49 1.93</td>
<td>-1.61</td>
<td>.108</td>
</tr>
<tr>
<td>Parental drug abuse</td>
<td>2.72 1.56</td>
<td>2.92 1.95</td>
<td>-.86</td>
<td>.366</td>
</tr>
<tr>
<td>Neighborhood safety</td>
<td>9.84 4.56</td>
<td>10.26 4.66</td>
<td>-.71</td>
<td>.481</td>
</tr>
<tr>
<td>Drug and alcohol use</td>
<td>10.88 7.72</td>
<td>9.87 5.46</td>
<td>1.23</td>
<td>.212</td>
</tr>
<tr>
<td>Witness to domestic violence</td>
<td>5.52 2.99</td>
<td>5.82 3.23</td>
<td>-.77</td>
<td>.442</td>
</tr>
<tr>
<td>Delinquency</td>
<td>3.55 1.41</td>
<td>3.59 1.52</td>
<td>-.21</td>
<td>.832</td>
</tr>
</tbody>
</table>

*p ≤ .05

**Regional differences in protective factors for academic achievement.**

The third research question also addressed differences in protective factors by geographic location. Similar to earlier analyses, independent samples t-tests were conducted to compare differences in protection between participants from northern and southern Ghana. As shown in Table 9, three significant regional differences in levels of protection were found.

A statistically significant mean difference was found between participants of the two regions in terms of relationship with father. This finding revealed a stronger close positive relationship between students of northern Ghana and their fathers compared to
their counterparts in the southern part of the country. Results in Table 9 also revealed a statistically significant mean difference by location for neighborhood cohesion and collective efficacy. Subjects from the north had statistically higher levels of cohesion and collective efficacy compared to subjects from the south.

**Table 9**

**Regional Differences in Protective Factors for Academic Achievement**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Northern (n=169)</th>
<th>Southern (n=106)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>8.67 1.88</td>
<td>8.66 1.89</td>
<td>.07</td>
<td>.941</td>
</tr>
<tr>
<td>Creation of personal myth</td>
<td>14.03 1.78</td>
<td>14.26 1.75</td>
<td>-99</td>
<td>.323</td>
</tr>
<tr>
<td>Optimism</td>
<td>12.67 2.44</td>
<td>12.63 2.02</td>
<td>.13</td>
<td>.894</td>
</tr>
<tr>
<td>School mentor</td>
<td>7.97 1.93</td>
<td>7.69 1.76</td>
<td>1.22</td>
<td>.224</td>
</tr>
<tr>
<td>Relationship with father</td>
<td>12.08 3.30</td>
<td>11.28 3.05</td>
<td>1.98</td>
<td>.049*</td>
</tr>
<tr>
<td>Relationship with mother</td>
<td>13.44 2.43</td>
<td>12.88 2.19</td>
<td>1.92</td>
<td>.055</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>8.51 2.08</td>
<td>8.31 1.78</td>
<td>.82</td>
<td>.414</td>
</tr>
<tr>
<td>Easy temperament</td>
<td>10.22 3.12</td>
<td>10.35 3.16</td>
<td>-32</td>
<td>.748</td>
</tr>
<tr>
<td>Physical beauty</td>
<td>10.07 3.16</td>
<td>10.46 3.01</td>
<td>-99</td>
<td>.321</td>
</tr>
<tr>
<td>Moral development</td>
<td>25.41 4.97</td>
<td>24.76 3.87</td>
<td>1.12</td>
<td>.265</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>20.51 4.36</td>
<td>10.16 3.89</td>
<td>.66</td>
<td>.510</td>
</tr>
<tr>
<td>Spirituality</td>
<td>13.62 2.86</td>
<td>13.44 2.18</td>
<td>.53</td>
<td>.574</td>
</tr>
<tr>
<td>Perceived social support</td>
<td>5.23 2.20</td>
<td>5.19 2.36</td>
<td>.14</td>
<td>.892</td>
</tr>
<tr>
<td>Neighborhood cohesion</td>
<td>19.75 5.02</td>
<td>18.39 4.23</td>
<td>2.36</td>
<td>.019*</td>
</tr>
<tr>
<td>Parental social support</td>
<td>10.95 3.99</td>
<td>11.42 3.94</td>
<td>1.05</td>
<td>.295</td>
</tr>
<tr>
<td>Perceived sense of school belonging</td>
<td>12.19 2.64</td>
<td>11.64 2.20</td>
<td>1.83</td>
<td>.069</td>
</tr>
<tr>
<td>Family- sense of economic stability</td>
<td>5.22 2.23</td>
<td>6.04 2.31</td>
<td>-2.86</td>
<td>.005**</td>
</tr>
<tr>
<td>Social capital</td>
<td>23.43 9.30</td>
<td>24.30 8.27</td>
<td>-.75</td>
<td>.455</td>
</tr>
<tr>
<td>Maternal educational values</td>
<td>8.05 2.32</td>
<td>8.56 2.49</td>
<td>.167</td>
<td>.097</td>
</tr>
<tr>
<td>Paternal educational values</td>
<td>7.97 2.71</td>
<td>8.18 2.55</td>
<td>.61</td>
<td>.542</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .001

Finally, a statistically significant difference was found on family socio-economic stability between the two samples. Subjects in the northern region reported significantly less
opportunity than subjects in the southern region. There were no statistical significant
differences between participants of the two regions on other protective factors.

**Factors associated with academic achievement among Ghanaian youth.**

Question four examined the relationship among risk, protection, and academic
achievement for Ghanaian youth in the study sample. The purpose of these analyses was
to identify specific traits that increased or decreased the likelihood of academic
achievement for study subjects. For ease of presentation, this section is reported in two
parts. In the first part, correlations among protective traits, risk factors, and academic
achievement are shown. The second section reports the results of multiple regression
analyses that examined the main effects of individual, family, school, and environmental
factors on students’ achievement.

**Correlational analysis.**

Correlations among study variables were first examined to inform the selection of
variables for the subsequent regression analyses. As shown in Table 10, academic grades
were significantly correlated with age ($r = -.189, p = .004$) and region ($r = .171, p =
.008$). Significant positive correlations were also found between academic grades and the
protective measures of optimism, school mentor, physical beauty, family economic
stability, and social capital. In each case, the findings indicate that higher levels of these
protective traits were associated with higher academic achievement. Interestingly, the
only risk factor that was significantly correlated with grades was neighborhood safety ($r
= -.185, p = .006$); safety was inversely related to achievement. Pearson correlations
among all study variables are displayed in Table 10.
### Table 10

**Summary of Intercorrelations among Independent Variables and Grades**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Grades</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Age</td>
<td>-.189**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Gender</td>
<td>-.011</td>
<td>.192**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Region</td>
<td>.171**</td>
<td>-.153*</td>
<td>-.039</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>5. Autonomy</td>
<td>.008</td>
<td>.089</td>
<td>-.042</td>
<td>-.005</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Personal myth</td>
<td>-.033</td>
<td>-.065</td>
<td>-.177**</td>
<td>.063</td>
<td>.355**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>7. Optimism</td>
<td>.155*</td>
<td>-.022</td>
<td>-.099</td>
<td>-.008</td>
<td>.133*</td>
<td>.377**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8. School Mentor</td>
<td>-.189**</td>
<td>.177**</td>
<td>.224**</td>
<td>-.075</td>
<td>.008</td>
<td>.107</td>
<td>.047</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>9. Relationship with father</td>
<td>.003</td>
<td>-.065</td>
<td>.037</td>
<td>-.122*</td>
<td>.155*</td>
<td>.054</td>
<td>.131*</td>
<td>.201**</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. Relationship with mother</td>
<td>-.031</td>
<td>-.084</td>
<td>-.145*</td>
<td>-.117</td>
<td>.139*</td>
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<td>.226**</td>
<td>.168**</td>
<td>.359**</td>
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<td>-</td>
</tr>
<tr>
<td>11. Physical beauty</td>
<td>.155**</td>
<td>-.219**</td>
<td>-.211**</td>
<td>.063</td>
<td>.003</td>
<td>.008</td>
<td>-.021</td>
<td>-.119</td>
<td>.014</td>
<td>.087</td>
<td>-</td>
</tr>
<tr>
<td>12. Moral development</td>
<td>.007</td>
<td>.024</td>
<td>.097</td>
<td>-.074</td>
<td>.012</td>
<td>.043</td>
<td>.012</td>
<td>.026</td>
<td>-.024</td>
<td>-.009</td>
<td>.130*</td>
</tr>
<tr>
<td>13. Emotion intelligence</td>
<td>-.064</td>
<td>-.101</td>
<td>-.049</td>
<td>-.041</td>
<td>-.118</td>
<td>-.029</td>
<td>.043</td>
<td>.031</td>
<td>.039</td>
<td>.005</td>
<td>.276</td>
</tr>
<tr>
<td>14. Spirituality</td>
<td>.028</td>
<td>.001</td>
<td>-.065</td>
<td>-.035</td>
<td>-.014</td>
<td>-.001</td>
<td>.035</td>
<td>-.001</td>
<td>.003</td>
<td>.011</td>
<td>.204**</td>
</tr>
<tr>
<td>15. Neighborhood cohesion</td>
<td>-.105</td>
<td>.121</td>
<td>.173**</td>
<td>-.145*</td>
<td>-.041</td>
<td>-.076</td>
<td>-.026</td>
<td>.144**</td>
<td>.155*</td>
<td>.010</td>
<td>.122</td>
</tr>
<tr>
<td>16. School belonging</td>
<td>-.005</td>
<td>-.018</td>
<td>-.018</td>
<td>-.113</td>
<td>-.006</td>
<td>.075</td>
<td>.093</td>
<td>.168**</td>
<td>.052</td>
<td>.124*</td>
<td>.204**</td>
</tr>
<tr>
<td>17. Family economic stability</td>
<td>.146*</td>
<td>-.203**</td>
<td>-.084</td>
<td>.174**</td>
<td>-.058</td>
<td>.127*</td>
<td>.074</td>
<td>-.103</td>
<td>.180**</td>
<td>.095</td>
<td>.247**</td>
</tr>
<tr>
<td>18. Social capital</td>
<td>.136*</td>
<td>-.208**</td>
<td>.075</td>
<td>.049</td>
<td>-.0147</td>
<td>-.004</td>
<td>.048</td>
<td>-.014</td>
<td>.185**</td>
<td>.066</td>
<td>.069</td>
</tr>
<tr>
<td>19. Maternal education values</td>
<td>.039</td>
<td>-.090</td>
<td>-.261**</td>
<td>.102</td>
<td>.123*</td>
<td>.106</td>
<td>.262**</td>
<td>-.074</td>
<td>.101</td>
<td>.341**</td>
<td>.177**</td>
</tr>
<tr>
<td>20. Paternal education values</td>
<td>-.022</td>
<td>-.030</td>
<td>-.148*</td>
<td>.039</td>
<td>.109</td>
<td>.006</td>
<td>.120</td>
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**Note.** *Correlation is significant at the .05 level, two-tailed. **Correlation is significant at the .001 level, two-tailed.*
Table 10 Continues

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<td>-.029</td>
<td>.371**</td>
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</tbody>
</table>

Note. *Correlation is significant at the .05 level, two-tailed. **Correlation is significant at the .001 level, two-tailed.
Correlations were used to provide empirical justification for conceptual selection and grouping the measures selected for use in hierarchical multiple regression models (Tabachnick & Fidell, 2007). Based on Tabachnick and Fidell (2007), variables with significant correlations should receive first priority for selection into regression models. Thus, variables that were significantly correlated with academic achievement were chosen for subsequent regression analyses. Other variables that were not significantly correlated with grades were also selected due to their perceived theoretical importance. These variables included gender, neighborhood cohesion and collective efficacy, parental social support, harsh parenting practices, and internalizing behavior. Detailed selection and procedures used for the regression analyses are described below.

**Hierarchical multiple regression.**

**Preliminary analyses and procedures.**

Multiple regression approaches provide a means of clarifying complex relationships associated with correlational data such as those collected in this study (Cohen et al., 2003). This method, recommended for designs with multiple independent variables, reveals the unique contribution of each predictor to the criterion variable of academic achievement. Further, hierarchical regression considers the inter-correlations between predictors (Cohen et al., 2003). Criteria suggested by Cohen and colleagues were used to determine the order or sequence in which variables were entered into the regression equations. Perceived theoretical causal priority of certain independent variables was also considered for inclusion in the regression models. For example, the correlational analysis in Table 10 reveals that there is no significant correlation between
the independent variable gender and academic achievement. However, gender was
entered in the regression analyses to examine the individual contribution it made to the
variance accounted for in the additive model. Moreover, the relationship between gender
and academic achievement was of interest because gender was correlated with physical
beauty, presence of a school mentor and neighborhood safety.

Garmezy et al. (1984) suggest that in research focusing on psychological
attributes, “organismic” (i.e., personal) characteristics should be considered first before
familial and environmental factors. Thus, in these analyses, the more proximal factors
were entered first. In the first step, students’ age, gender, and region of residence were
entered (note: gender and region were recoded as dummy variables). Individual
vulnerability or resilient traits were entered in the second step. This was followed by
family processes and school and environmental conditions in the third and fourth steps
respectively.

Interaction effects among predictor variables.

In hierarchical multiple regression analysis, a moderator effect may be tested by
including the interaction term in the regression equation after all the independent factors
have been added (Bobko, 2001; Cohen et al., 2003). This is important because a
relationship between a dependent variable and a specific predictor variable may depend
(moderated) on a third variable (interaction term) (Cohen et al., 2003). In this study, the
positive significant correlations between optimism and social capital and grades suggest
that there is a relationship between these factors and academic achievement. The
hierarchical incremental $F$ was also used to determine whether specific interaction terms
added any predictability to the additive model of the independent variables. The interaction effects were entered in the fifth and final step in order to determine their unique contribution to variance accounted for after the main effects had already been entered. Region by family economic stability, internalizing behavior by harsh parenting practices, region by optimism, and parental social support by social capital were included as interaction terms.

**Missing Data**

Because survey participants did not always answer all of survey questions, handling missing data was an important consideration. Prior to analysis, the data were examined using PASW procedures for accuracy of data entry, missing values, and assumptions relative to multivariate analysis. Twelve participants of the original 288 participants were dropped because of substantial missing data. This resulted in a final sample size of 276. Cohen et al. (2003) note that excluding such subjects or variables is not considered a loss if they do not contribute substantially toward the prediction of the dependent measure. The majority of the remaining cases had missing data in the range of two to 15%. As a result, regression-based replacement of means, a method of providing information where none was given was not found to be useful (Cohen et al., 2003; Tabachnick & Fidell, 2007).

Further, listwise deletion, a method in which all cases with missing data are excluded from the analysis (Cohen et al., 2003) was found unsuitable due to the relatively large amount of missing data for some subjects. Thus, pairwise deletion method was used for the multiple regression analysis. Unlike listwise deletion which removes all cases
(subjects) with missing data, pairwise deletion excludes only specific missing values from a particular computation. According to Cohen et al. (2003), this method is appropriate if data are missing completely at random as each statistic provides an unbiased estimate of the population parameter in the full sample. The authors, however, warn that due to variation of the sample size on which the findings are based, the procedure is not as rigorous as when a total sample is used. Regression results are presented below.

Findings for the full sample.

Table 11 presents the hierarchical multiple regression results for the full sample. Overall, the model accounted for 24% of the variance in academic grades. After age, gender, and residence were taken into account, other individual factors in (Step 2) accounted for five percent of the variance in academic achievement. Optimism and physical beauty were positively correlated with academic achievement suggesting that higher levels of hope for the future and positive self-feelings were associated with higher grades. Family factors (Step 3) accounted for only two percent of the variance and was not statistically significant. Community and other environmental factors (Step 4) accounted for six percent of the variance in achievement and was statistically significant.
Table 11

Summary of Hierarchical Regression Analysis for the Full Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<th>SE B</th>
<th>$\beta$</th>
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As shown in Table 11, the interaction terms (Step 5) accounted for an additional six percent of the explained variance in academic achievement. Two of the four interaction terms were statistically significant and positively related to achievement. These variables included interactions between region and family economic stability and between region and optimism. The incremental change at step 5 was statistically significant.

**Relationship among risk, protection, academic achievement, and gender.**

Hierarchical regression analyses were conducted to determine if the independent variables presented in the preceding section were differentially associated with achievement for females and males in the sample.
**Academic achievement among females.**

Table 12 presents the hierarchical regression results for independent variables and academic achievement for the female sample. As shown in Table 12, the overall model accounted for 55% of the variance in achievement for females. After participants’ age and region were taken into account, other individual resilience and vulnerability traits (Step 2) accounted for six percent of the variance in achievement; this increment was not statistically significant. Family characteristics (Step 3) accounted for 11% of the explained variance in academic achievement among females; the incremental $F$ change at this step was statistically significant [$F(3, 54) = 2.83, p = .047, \Delta R^2 = .109$]. Among family characteristics, parental social support was significantly associated with academic grades suggesting that female students who perceived the relationship between their parents and their networks positively had higher grades than other students.

Table 12

*Summary of Hierarchical Regression Analysis for Females Subjects*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<th>$\beta$</th>
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</tr>
<tr>
<td><strong>Step 3</strong></td>
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<tr>
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<tr>
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<td>-.372**</td>
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<td>.088</td>
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<tr>
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<td>.004</td>
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<tr>
<td>Family economic stability</td>
<td>-.264</td>
<td>.206</td>
<td>-.171</td>
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</tbody>
</table>
Environmental and community characteristics (Step 4) explained an additional eight percent of the variance in academic achievement. This was not statistically significant. Finally, the interaction terms (Step 5) explained 16% of the variance after the main effects were considered; this increment was statistically significant \(F(3, 47) = 5.72, \ p < .01\).
$p = .002, \Delta R^2 = .163]$. The interaction term, parental social support by social capital was also significantly associated with achievement in the female sample.

*Academic achievement among males.*

The hierarchical regression analysis for male participants accounted for 24% of total variance in grades. As shown in Table 13, demographic factors contributed a small but significant unique proportion (5%) of the variance in academic achievement. Other individual factors (Step 2) contributed an additional five percent of unique variance but this was not statistically significant. None of the family characteristics (Step 3) contributed significantly to the outcome measure. However, community and environmental factors (Step 4) added a unique variance of seven percent and the incremental $F$ change was statistically significant [$F(4, 124) = 2.77, p = .030, \Delta R^2 = .073$]. Among the environmental factors, poor neighborhood safety was inversely related to academic achievement [$B = -.209, t(4, 124) = -2.77), p = .006$] suggesting that students who perceived their neighborhoods as less safe were more likely to obtain lower grades than their counterparts in more stable and safe neighborhoods. The interaction terms explained six percent of the variance in academic achievement after the main effects were added; this incremental change was not statistically significant. The interaction term region by optimism was negatively correlated with achievement [$B = -.901, t(5, 120) = -2.65, p = .009$].
Table 13

Summary of Hierarchical Regression Analysis for Males Subjects

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*p < .05; **p < .01; ***p < .001; n = 164
Examining academic achievement by geographic region - Northern.

Table 14 presents the hierarchical regression results for academic achievement by participants from northern Ghana. Overall, the model accounted for 23% of the variance in achievement. After students’ age and gender were excluded, other individual characteristics (Step 2) accounted for 11% of the variance in academic achievement; the incremental change at this step was statistically significant. Among the individual factors, optimism and physical beauty were significantly related to achievement among subjects in the northern sample. Family characteristics (Step 3), contrary to expectation, accounted for two percent of the variance and was not statistically significant. Community and environmental factors (Step 4) accounted for a unique variance of seven percent; this increment was statistically significant. Contrary to expectation, none of the community factors was significantly related to academic achievement. Finally, the interaction terms (Step 5) contributed an additional one percent of variance in achievement. The increment at the final step was not statistically significant.
Table 14

Summary of Hierarchical Regression Analysis for Subjects in Northern Ghana

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*p < .05; **p < .01; ***p < .001; n = 148
Examining academic achievement by geographic region – Southern.

Table 15 presents hierarchical regression results among subjects in the southern sample. Overall, the model accounted for 36% of the variance in academic achievement. After age and gender of participants were taken into account, other individual factors (Step 2) accounted for less than one percent of the variance in academic achievement. Also, none of the individual factors was correlated with achievement. Family factors (Step 3) accounted for an additional three percent of the variance in achievement. Similar to personal factors, the incremental change was not statistically significant and no family factor was significantly associated with achievement.

Finally, community factors (Step 4) and the interaction terms (Step 5) accounted for eight percent and five percent respectively of the variance in academic achievement. Neither of these increments was statistically significant. Neighborhood cohesion and collective efficacy was inversely correlated with achievement. Interestingly, the interaction term of parental social support by social capital was significantly related to academic achievement suggesting that the positive relationship between social capital and grades was moderated by students’ positive perception of their parents’ network of relationships.
Table 15

**Summary of Hierarchical Regression Analysis for Subjects in Southern Ghana**

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<td>-.356*</td>
<td>.020</td>
<td></td>
</tr>
<tr>
<td>Internalizing behavior</td>
<td>- .075</td>
<td>.090</td>
<td>-.356*</td>
<td>.104</td>
<td></td>
</tr>
<tr>
<td>Family economic stability</td>
<td>- .066</td>
<td>.196</td>
<td>-.356*</td>
<td>.039</td>
<td></td>
</tr>
<tr>
<td>Parental social support</td>
<td>.220</td>
<td>.124</td>
<td>.186</td>
<td>.219</td>
<td></td>
</tr>
<tr>
<td>Harsh parenting practices</td>
<td>.071</td>
<td>.110</td>
<td>.186</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>School mentor</td>
<td>- .277</td>
<td>.278</td>
<td>-.356*</td>
<td>.134</td>
<td></td>
</tr>
<tr>
<td>Neighborhood cohesion</td>
<td>- .195</td>
<td>.091</td>
<td>-.356*</td>
<td>.247</td>
<td></td>
</tr>
<tr>
<td>Poor neighborhood safety</td>
<td>- .028</td>
<td>.104</td>
<td>-.356*</td>
<td>.033</td>
<td></td>
</tr>
<tr>
<td>Social capital</td>
<td>- .023</td>
<td>.055</td>
<td>-.356*</td>
<td>.057</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>.355</td>
<td>.053</td>
<td>- .509</td>
<td>.322</td>
<td>-.228</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td>- .509</td>
<td>.322</td>
<td>-.228</td>
</tr>
<tr>
<td>Gender</td>
<td>.478</td>
<td>1.041</td>
<td>-.228</td>
<td>.057</td>
<td></td>
</tr>
<tr>
<td>Optimism</td>
<td>- .226</td>
<td>.225</td>
<td>-.228</td>
<td>.139</td>
<td></td>
</tr>
<tr>
<td>Physical beauty</td>
<td>.041</td>
<td>.151</td>
<td>-.139</td>
<td>.033</td>
<td></td>
</tr>
<tr>
<td>Internalizing behavior</td>
<td>.349</td>
<td>.270</td>
<td>-.139</td>
<td>.486</td>
<td></td>
</tr>
<tr>
<td>Family economic stability</td>
<td>- .287</td>
<td>.216</td>
<td>-.139</td>
<td>.167</td>
<td></td>
</tr>
<tr>
<td>Parental social support</td>
<td>- .531</td>
<td>.391</td>
<td>-.139</td>
<td>.528</td>
<td></td>
</tr>
<tr>
<td>Harsh parenting practices</td>
<td>.821</td>
<td>.462</td>
<td>-.139</td>
<td>.893</td>
<td></td>
</tr>
<tr>
<td>School mentor</td>
<td>- .381</td>
<td>.276</td>
<td>-.139</td>
<td>.185</td>
<td></td>
</tr>
<tr>
<td>Neighborhood cohesion</td>
<td>- .099</td>
<td>.099</td>
<td>-.139</td>
<td>.125</td>
<td></td>
</tr>
<tr>
<td>Neighborhood safety</td>
<td>- .029</td>
<td>.101</td>
<td>-.139</td>
<td>.034</td>
<td></td>
</tr>
<tr>
<td>Social capital</td>
<td>- .329</td>
<td>.160</td>
<td>-.139</td>
<td>.772*</td>
<td></td>
</tr>
<tr>
<td>Internalizing behavior x harsh parenting</td>
<td>- .038</td>
<td>.023</td>
<td>-.139</td>
<td>1.113</td>
<td></td>
</tr>
<tr>
<td>Parental social support x social capital</td>
<td>- .031</td>
<td>.015</td>
<td>-.139</td>
<td>1.302*</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001; n = 90
Findings from the qualitative methods used in the study are reported below.

**Qualitative study findings.**

Focus group interviews were systematically analyzed using a grounded theory approach (Charmaz, 2006; Corbin & Strauss, 2008). The emergent themes were organized into a matrix where relationships between the constructs and data were linked. Demographic information and results of the focus group discussions will be presented in this section.

**Focus group participants.**

The non-random, purposive sample of first-year university students (n = 20) were made up of 50% (n = 10) females and 50% (n = 10) males from diverse backgrounds. The first focus group (n = 10) was selected from the south while the second from the north. The age of participants ranged from 19 to 24 years with an average age of 22 years. Subjects were purposively selected from the group that had completed the quantitative surveys. Participants came from eight of the ten regions with majority 60% (n = 12) from northern Ghana. Student came from different ethnic and religious backgrounds reflecting the diverse ethnic and religious groups in the country. Each participant signed an informed consent form and the researcher informed them that their involvement in the study was voluntary and their rights to discontinue the interview any time they felt uncomfortable.

**Ghanaian young adults’ perception of risk, protection, and resilience.**

Both focus groups used similar words to describe what they believe were healthy outcomes and obstacles to their educational success in the family and the larger
community. Participants also described their understanding of resilience in relation to academic achievement. Other themes are directly related to focus group questions about students’ perception of success, a successful person, family, or community, and strengths in these social systems. Participants were also asked to identify events and circumstances in their families and communities they perceived as obstacles to academic success. Table 16 presents the emergent constructs and their links to the focus group interviews. Definitions of the constructs within the context of Ghana and the focus groups are also presented. As shown in Table 16, eight dimensions of risk, protection, and resilience emerged from the data. A wide range of risk and protective factors were identified by the focus group participants that are perceived to influence academic achievement. These included family, individual, and environmental characteristics. Students’ definitions of resilience and characteristics of successful people or families are useful in understanding these concepts in the Ghanaian context. It is also obvious from Table 16 that the themes are interrelated and overlap with one another. This suggests that multiple factors may have a cumulative effect on individual student’s achievement rather than a single factor.
Table 16

*Dimensions of Risk, Protection, and Academic Achievement among Ghanaian Youth*

<table>
<thead>
<tr>
<th>Dimension of construct of Risk and Resilience</th>
<th>Supporting quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family</strong></td>
<td></td>
</tr>
<tr>
<td>Definition: Family included parents,</td>
<td>“My father was an educated person even though my</td>
</tr>
<tr>
<td>grandparents, siblings, and extended</td>
<td>mother is an illiterate. Because my father had the</td>
</tr>
<tr>
<td>family members. Family is being referred</td>
<td>benefit of education, he decided that all his</td>
</tr>
<tr>
<td>to here as a system of support for</td>
<td>children must be educated”,</td>
</tr>
<tr>
<td>educational achievement</td>
<td>“Because my father is an educated man so he wanted</td>
</tr>
<tr>
<td></td>
<td>to make sure that his children get an education”.</td>
</tr>
<tr>
<td></td>
<td>“my mother supported me financially and everything”</td>
</tr>
<tr>
<td></td>
<td>“He [my father] helped me with many physical needs</td>
</tr>
<tr>
<td></td>
<td>such as clothing and food as I’m here”,</td>
</tr>
<tr>
<td></td>
<td>“she [my mother] helped me with food and bought my</td>
</tr>
<tr>
<td></td>
<td>clothing and paid my school fees”,</td>
</tr>
<tr>
<td></td>
<td>“She pays my school fees, she buys books and other</td>
</tr>
<tr>
<td></td>
<td>things”,</td>
</tr>
<tr>
<td></td>
<td>“It is my mother who has made me who I am and where</td>
</tr>
<tr>
<td></td>
<td>I am today…she supported me financially and</td>
</tr>
<tr>
<td></td>
<td>everything, she pays my school fees”</td>
</tr>
<tr>
<td></td>
<td>“most of my inspirational support came from my</td>
</tr>
<tr>
<td></td>
<td>dad…and some inspiration came from my grandparents”</td>
</tr>
<tr>
<td></td>
<td>“my mother advised on what to do to help myself like</td>
</tr>
<tr>
<td></td>
<td>get a job to support myself”</td>
</tr>
<tr>
<td></td>
<td>“Having the patience and understanding that every</td>
</tr>
<tr>
<td></td>
<td>obstacle that comes your way you can overcome it</td>
</tr>
<tr>
<td></td>
<td>and achieve what you want”,</td>
</tr>
<tr>
<td><strong>Internal locus of control</strong></td>
<td></td>
</tr>
<tr>
<td>- Definition: Being hopeful for the future</td>
<td>“nobody cared about me anymore, so I put in a lot</td>
</tr>
<tr>
<td>and taking control of your life and</td>
<td>of effort and decided that I will make it and go</td>
</tr>
<tr>
<td>future.</td>
<td>back to school, and I did it”,</td>
</tr>
<tr>
<td>- Ability for impulse control, delay of</td>
<td>“I knew that he [my father] couldn’t take care of</td>
</tr>
<tr>
<td>gratification (Lynch, Hurford, &amp; Cole,</td>
<td>me so I decided to look for work and for about six</td>
</tr>
<tr>
<td></td>
<td>years now I have been taking care of myself”,</td>
</tr>
</tbody>
</table>
“That’s how I made it and I’m here today”

“hope for the future”,

“In our school, for example, in our hostels, sometimes you hear your colleague telling you that you never wore any expensive textile. One doesn’t have to think that you should follow what others are saying because we’re from different homes”,

“We came here individually but we came for a purpose so we shouldn’t feel discouraged by other people’s behavior or attitudes.”

“I wanted to travel [abroad] but I didn’t succeed, so I decided to rewrite the exams. By then I had spent seven years at home…That’s how I made it and I’m here today”,

**Not giving up**

- Definition: Refusing to accept failure as an option
- Keep on trying

“Like when you complete SSS and the results are out, you realize that you passed only 2 subjects out of 8, you don’t have to think that you can’t make it. If others can, why can I?”

“The time my father was alive I was getting a lot of support from him. After he died I experienced abject poverty. My mother was a trader but she lost her job and it became very difficult for her to take care of me and the rest of my brothers”,

“Resilience means the challenges you can withstand”.

“Like when you complete SSS and the results are out, you realize that you passed only 2 subjects out of 8, you don’t have to think that you can’t make it. If others can, why can I?”

“Like when you complete SSS and the results are out, you realize that you passed only 2 subjects out of 8, you don’t have to think that you can’t make it. If others can, why can I?”

**Culture**

Definition: Culture in the Ghanaian context has many dimensions

- Gender – early marriage expectations and domestic roles vs. professional roles
- Tradition – resources used to glorify and honor the dead instead of support for education
- Polygamy – marriage of multiple wives by men

“I’ll be general. Muslims have a perception that as a lady if you’re 15 years or older you’ve to get married and not to be in school. The belief is that education is not for women because the men have to work hard to support them”,

“Some family members will give you something like food but not money. The things that the family will come together to contribute is funerals. When there is funeral, they contribute a lot”,

My father had two wives and everything changed, he was looking after all of us but now he decided to change”
Death of a parent

Definition:
- Loss of a parent or primary care provider
- Disruption in personal life and education
- Customary issues relating inheritance after the death of a parent particularly the father.

“On my part, the death of father was a problem. After his death things were tough because when he was alive he was a contractor so he left some property for us. I completed SSS in 2006 and even though all my requirements were not set the following year I rewrote the exams and got all my requirements but my family didn’t have the money to support me because my elder sister was already in university and I had to wait for her to finish before I could enroll”.

“Sometimes when you lose one parent or both, it’s always difficult to continue your education.”

“Sometimes living in a Zongo (slum) community for example, there is no motivation, and when you reach the level we’re in right now and you’re passing by [a group of people] somebody will say, look at this girl; is it because you’re in the university or something, we were all in this community. There is no motivation.”

“On my part, the death of father was a problem. After his death things were tough because when he was alive he was a contractor so he left some property for us. I completed SSS in 2006 and even though all my requirements were not set the following year I rewrote the exams and got all my requirements but my family didn’t have the money to support me because my elder sister was already in university and I had to wait for her to finish before I could enroll”.

Poor infrastructure

Definition:
- Lack of schools and teachers
- Bad roads and lack of transportation
- Lack of electricity and potable water

“I am from Brong Ahafo and the major problem is infrastructure. Where I am living there is only one secondary school which leads to less competition”,

“There are no enough schools and you don’t know if you’re doing well or not”, “in my place the roads are very bad which makes transportation very difficult”,

“the most competent teachers who would have come to teach students to succeed don’t to come because of the bad roads”

Unsafe Neighborhood

Definition:
- Low levels of education and lack of role models
- Drugs and poverty

“We grew up in Nigeria with a lot of Zongo [inner-city] mentality - smoking [tobacco] was very common.”
Growing up in such an area is very difficult. I had some friends who smoked and had to study with them and that was very difficult.”

“I will say successful people are disciplined and determined”,

“as a normal human being you should have goals in order to achieve them and with them you don’t have to sit down and wait for somebody to help you. You have to work hard”,

“for me successful people are heroes. Because of all these hardships they passed through and it’s very difficult to pass through difficulties unless you’re a 4x4 car”

“the person is able to achieve his educational target or goal”,

“Going through all the educational levels [successfully] in order to achieve one’s career”

“Putting what you have learned into practice. Knowledge is useless if it’s not put into practice”

“I also think about ignorance which affects education very much. This is because most parents in the villages are ignorant; they don’t know the importance of education. Sometimes they even withdraw their wards from school to heard cattle or help them on the farm”,

“In the whole of my family nobody has been educated to any level, i.e., everybody before me is illiterate and did not motivate me to put in a lot effort in my education”,

“Even though I can say that my parents had succeeded in other areas but due to lack of education there was lack of motivation and a lot of other things which created a lot of problems academically.”
Chapter Summary

This chapter presented the results of the analysis of risk and protective factors and their relationship to academic achievement among young people in Ghana. Gender and regional differences in risk conditions and systems of protection in relation to academic achievement were presented. Preliminary data analysis, which included data reduction and analytic approaches were discussed prior to the analysis. The chapter concluded with the results of the qualitative data. Chapter Five builds upon the findings presented in this chapter by discussing the implications of the differences in risk and protection between genders and between the two regions of Ghana in relation to academic achievement. Ghanaian students’ perception of risk, protection, and resilience are also presented. Implications for social work practice and policy on high-risk youth in Ghana and future directions for risk and resilience research in non-Western countries are presented.
Chapter Five: Discussion

This chapter discusses study results presented in the context of current literature on risk, protection, and academic achievement among high-risk youth. Particular reference is made to young people of Ghana. Implications of the quantitative and qualitative findings are presented separately and together in an effort to seek convergence. Implications of the study for social work policy and practice are presented. The chapter concludes with the methodological limitations of the study and directions for future research.

Summary of Major Findings

This study investigated the relationship among risk, protection, and academic achievement among Ghanaian youth who have made it to college despite low parental education, low-socioeconomic status, and numerous other risk factors. There were five major findings. First, harsh parenting practices, internalizing behavior, parental presence, poor neighborhood safety, and drug and alcohol use were the most prevalent risk factors for academic achievement among study participants. The most prevalent protective factors for academic achievement were creation of a personal myth, optimism, moral development, emotional intelligence, neighborhood cohesion and collective efficacy, and social capital. Second, male and female students differed significantly on achievement on a number of risk factor subscales indicating differences in exposure to risk based on gender. Regional differences in risk factors were not significant. Third, different
protective factors contribute to academic achievement depending on gender and region of residence. Fourth, region of residence, family economic stability, and presence of a school mentor were significantly related to achievement. Finally, family is an important source of support for youth academic achievement while poor social infrastructure and inadequate teachers inhibit educational success. Each of these findings is discussed below.

**Implications of gender differences in risk factors and academic achievement.**

One of the objectives of the present study was to determine whether or not risk factors that are known in existing literature in Western countries as having negative influences on academic achievement have the same deleterious effects on Ghanaian youth and to compare gender differences in those risk factors. Significant differences were found between females and males on the following risk factor subscales: physical presence of a parent, parental drug abuse, poor neighborhood safety, drug and alcohol use, and delinquency.

**Physical presence of a parent.**

The results of the study indicate that female and male students in Ghana experience different exposure to risk. In fact, female achievement is significantly affected by the absence of a parent. This finding contradicts previous research highlighting the effects of father absence on academic achievement of youth. For example, while Ellis, Bates, Dodge, Fergusson, Herwood, & Pettit (2003) found a relationship between father-absence and early sexual initiation and teenage pregnancy, there was no difference in the current study on academic performance scores between females and males. Hunt and
Hunt (1977) supported this view and noted that compared to boys’ academic success, achievement among girls is less likely to be associated with household presence of fathers. In the same manner, Booth (1996) found that the absence of the father in Africa has more detrimental effect on boys than girls.

It is not exactly clear how parental absence affected the females in the present study as 84% of the participants indicated living in two-parent families. One possible explanation is that economic, social, and occasionally, security reasons may lead to migratory labor in northern Ghana. As Booth (1996) observed, such movements in Africa often lead to family disruptions, marital problems, and economic insecurity but did not cause any differences in achievement between boys and girls in southern Africa. However, the general low level of parental education in this study sample could be a confounding variable that exacerbates levels of risk between parental absence and achievement for females.

**Youth and parental drug abuse.**

Prior studies have established a relationship between parental drug use and adolescent drug use (Davies, 2004; Hawkins et al., 1992; Jenson, 2004). In particular, family and environmental factors, that is, laws tolerant of drug and tobacco use (Jenson, 2004) is a significant predictor of adolescent drug abuse. This study supports these findings as significant differences were found between females and males with regard to parental drug abuse and subjects’ own drug and alcohol use. Consistent with previous research in Ghana and the United States (Bolger & Patterson, 2003; Dennis-Antwi, J., Adjei, S., Asare, J. B., & Twene, R., 2003; Hawkins et al., 1992; Mireku, 2003), males
were more likely than females to be impacted by parental drug abuse. Males were also more likely than females to abuse drugs themselves. These findings extend existing knowledge on drug abuse in Ghana as existing literature does not address parental drug use. The results also support the critical importance of familial and environmental risk factors for the development of substance abuse problems in youth and the need to develop preventive and early intervention strategies targeted at adolescents at risk of substance and drug abuse. For young people in Ghana, this has an added urgency since there is presently no policy regulating age of drinking, smoking, and sale of alcoholic drinks. These results suggest that drug and alcohol use is prevalent among parents and young people and that it should be regulated through an effective alcohol and drug use policy.

**Delinquency.**

In consonance with expectation and previous research, study results suggest that males are more likely than females to exhibit delinquent behaviors (Garbarino et al., 1992; Hawkins et al., 1992). It is generally believed that adolescents who have a history of delinquent behavior are more likely than other students to have struggles in school (Bolger & Patterson, 2003). Although delinquency among young people in Ghana is lower compared to youth in the more developed countries, this result may imply that delinquency among young people in the country is increasing. A possible explanation of this is lack of effective sanctions as noted above and poor and inconsistent law enforcement. For example, the Ghana Police Service and the justice system apply laws so
arbitrarily that they often do not deter youth against crime. A more consistent and fair law enforcement and juvenile justice system is needed to reduce youth delinquency.

**Neighborhood safety.**

Contrary to expectations, this study found poor neighborhood safety to be more detrimental to girls than boys. Given the aggressive and risk-taking nature of boys (Hawkins et al., 1992), it was expected that poor neighborhood safety would affect boys more than girls. Previous research (e.g., Cauce et al., 2003; Nettles & Peck, 1994) shows that young people who live in poor and unsafe neighborhoods in the U.S. are more likely to commit or be victims of crime, have problems with drug abuse, and lower academic achievement. The relationship among income, safe community/neighborhood, and academic achievement in Ghana is more complicated. Unlike the United States for example, where neighborhoods are demarcated by levels of income, most neighborhoods and communities in Ghana are less differentiated. In these circumstances, differences in academic achievement between genders may be explained by socio-cultural and other structural issues such as gender stereotypes, unqualified teachers, and parental education as discussed below. These conditions would make girls feel less safe and may result in low academic performance.

Other risk factors examined in this study included parental depression, harsh parenting practices, internalizing behavior, frequency of television viewing, and witnessing domestic violence. There were no significant differences between males and females on these factors. Nonetheless, it cannot be concluded that these risk factors are
not important to adolescent developmental outcomes in Ghana. A larger and more diverse sample may result in a different outcome for these factors.

**Implications of gender differences in protective factors and academic achievement.**

Findings revealed that a number of individual and environmental protective factors for academic achievement differed by the presence of a school mentor, relationship with mother, physical beauty, neighborhood cohesion and collective efficacy, parental social support, and maternal and paternal educational values.

**School mentor.**

The results indicate that student-teacher relationships tend to benefit male students more than their female counterparts. Also, the findings suggest that given gender stereotypes and discrimination in school enrollment, female students whose parents are educated are more likely to be supportive of their education and school achievement. This adds to previous research on the positive role of student-teacher relationship on academic achievement (Zimmer-Gembeck et al., 2006). The results also support existing findings that authoritarian teaching style of African teachers and teachers’ negative perception of girls coupled with sexual harassment do not support female achievement (Dunne et al., 2005). The findings of this study raise significant questions about teaching pedagogy and about the school and classroom environments in Ghana. The authoritarian and gender stereotypes by teachers results in less bonding and sense of school belonging by female students. Hence, the need for education reforms in Ghana to transcend beyond building
schools to streamlining the training of teachers for a more inclusive and participatory teaching and learning.

**Relationship with mother.**

In this study, relationship with mothers had a more positive impact on girls’ than boys’ achievement. This confirms previous findings about the importance of loving and supportive relationship between parents and children (Fraser et al., 2004; Gonzales et al., 1996; Laser et al., 2007a). Gonzales and colleagues found maternal support to contribute to better grades among students in high-risk neighborhoods in the U.S but the impact on gender was not considered. However, Laser and colleagues (2007a) suggested that poor maternal relationship was a risk factor for deviant behavior in male Japanese youth. One possible explanation of the positive effect of maternal relationship on girls’ achievement in Ghana is that Ghanaian mothers are more likely to support career aspirations of their daughters outside the home regardless of their educational background. This finding suggests that positive maternal relationship is a protective factors across cultures but more important for girls in Ghana.

**Physical beauty.**

Girls in the study sample appeared to place greater value on physical attractiveness than males. This is not surprising as physical attractiveness seems to be more an attribute for females than males in many cultures. The results also support existing evidence that documented the link between physical attractiveness and academic performance (Sparacino & Hansell, 1979; Umberson & Hughes, 1987). While previous research found that physical beauty aided male achievement rather than females, this
study found that physical beauty supported female achievement. This suggests that in the Ghanaian environment where female enrollment consistently lags behind male enrollment in all levels of the educational system, physical beauty could boost female students’ self-confidence and self-esteem, which are protective factors against adversity and promote achievement.

**Neighborhood cohesion and collective efficacy.**

The results further revealed significant differences between females and males on the neighborhood cohesion and collective efficacy subscale. The analysis indicates that neighborhood cohesion and collective efficacy support academic achievement among males more than females. While this finding supports existing literature of the protective role of the existence and use of social support on behavior outcome of at-risk youth (Fraser et al., 2004; Garmezy, 1983, 1985), the current results extend this knowledge by accounting for gender differences on the impact of existence and use of social support and academic achievement. Among Ghanaian youth, neighborhood cohesion and collective efficacy may work better for males than females due to differences in socialization. Generally, boys are socialized to be assertive and independent which enables the use of other forms of support including asking for help from neighbors. Girls on the other hand, are socialized to domestic gender roles, and only expect help from their husbands or partners (Ankomah, 1996).

**Parental social support.**

Differences in parental social support and academic achievement between females and males were examined. It was expected that there would be no differences between
perceived social support for parents and academic performance between males and females. The results show that perceived social support for parents tends to benefit boys’ academic achievement more than girls. Previous research confirms the important role of parental social support in academic achievement (e.g., Deberard et al., 2004; Gonzales et al., 1996). However, significant differences between females and males in Ghana may be attributed to the social arrangements of the society. As a result of gender preference in favor of males, girls are less likely than males to benefit from the external support received by their parents.

*Maternal and paternal educational values.*

The relationship between parental educational values and academic achievement is well established (e.g., Davies, 2004; Spera et al., 2009; Werner, 2000). The results of this study reveal significant differences between females and males on the impact of maternal and paternal educational values on academic achievement. It was found that parental educational values appear to promote female achievement. Consistent with existing literature, parental educational values in Ghana are associated with academic achievement. Among Ghanaian youth, family educational values may be more relevant to females because girls are less likely than boys to be enrolled and supported in school if their parents are uneducated. This suggests that similar to the Western world, parental educational background is a protective factor for academic achievement for high-risk youth in Ghana.
Implications of regional differences in risk and protective factors.

Since the colonial period, regionalism has remained one of the most important sources of variation in educational participation and achievement in Ghana (Bening, 1990; Saaka, 2001). Historically, northern Ghana has consistently lagged behind the south in all levels of educational participation and achievement. Differences in risk and protective factors and academic achievement between the regions of the country were examined to identify specific risk and protective factors that may be more prevalent in a particular geographic area. The analysis revealed that young people in Ghana regardless of their place of residence are affected in the same manner by many risk factors. The only significant difference between the regions was on the harsh parenting practices subscale. Students from northern Ghana reported experiencing harsher parenting practices than their peers from the south. This is not surprising as northern Ghana is more traditional and collectivistic (Tietjen, 1989) relative to southern Ghana and the combined effect of stress associated with general low socio-economic status of many parents may manifest in authoritative parenting styles and practices.

In prior research, Cauce and colleagues (2003) found that harsh parenting practices were used in response to violence and fear of safety for children and adolescents in U.S. inner cities and poor neighborhoods. However, McLoyd (1990) noted that lack of financial resources was related to harsh punishment, inconsistency, stress, and general lack of happiness. The latter is more consistent with the situation in northern Ghana and could offer possible explanations for the difference. The general low socio-economic situation of northern Ghana relative to the south may be an additional stress to parents of
the region resulting in inconsistent and harsh parenting practices. Also, as is the case in poor neighborhoods in the United States, harsh parenting practices may be used as a social control strategy to deter children and youth from deviating from the traditional practices in this collectivistic society.

With regards to protective factors, several family and environmental support systems were found to promote academic achievement of young people in Ghana. Specifically, significant differences were found in three subscales between the regions that enhanced students’ achievement. These included relationship with father, neighborhood cohesion and collective efficacy, and family sense of economic stability.

**Relationship with father.**

Students’ relationship with father was associated with higher academic performance. This is consistent with prior research that emphasizes the importance of the family as an important source of support for adolescents and young adults (Davies, 2004; Masten et al., 1990). In the present study, relationship with father was a protective factor for academic achievement among subjects in the northern sample. Relationship with mother was only marginally significant among the same sample. A possible explanation is that as a patriarchal society, children and young adults in northern Ghana tend to identify more with their father than their mother and where this relationship is perceived by the young person to be positive may result in better academic outcomes. This suggests the need for parents to form a closer and nurturing relationship with their children in addition to the traditional socialization process.
Neighborhood cohesion and collective efficacy.

Participants in the northern sample reported higher levels of neighborhood cohesion and collective efficacy than their peers from the south. This supports prior evidence that neighborhood relationships and resources are crucial sources of support for academic achievement of young adults (Leventhal & Brooks-Gunn, 2000). This finding was not unexpected. As noted earlier, northern Ghana is less developed compared to the south and is characterized by collectivistic values (Tietjen, 1989). This enables children and young adults to draw support from not only the immediate family but also from the network of relationships within a community. According to Tietjen (1989), in cultures where the individual is not differentiated from his or her social role, social support is derived from the values of being cared for and caring for others, a value that contributes to the welfare of the entire community. In the present study, the traditional value of plurality appears to promote achievement of students in northern Ghana.

Family perceived sense of economic stability.

Participants in the southern sample reported a higher sense of family economic stability than their peers from the north. This finding supports previous research that documents the link between academic achievement and a sense of economic security (Connell & Halpern-Felsher, 1997; Davies, 2004). Poverty is a pervasive phenomenon in northern Ghana and as Davies (2004) noted, that situation tends to diminish parents’ sense of competence and self-esteem. According to Davies (2004), the risks associated with poverty for children include limited choice of schools, insufficient nutrition, low achievement, high dropout rate, low reading and verbal ability, and poor housing. This
suggests the need for government to initiate interventions to close the north-south divide in order to promote educational outcomes in the country.

However, it is important to note that the classification of the regions into southern and northern in this study may mask the spatial inequalities across the regions. In fact, some parts of the southern regions such as Central, Volta, Brong Ahafo, and Greater Accra have socio-economic characteristics comparable to those of northern Ghana. Students from those communities may not score significantly different on these measures. In addition, the fact that participants in this study were already in college extends prior research that noted a similar pattern that socio-economic status alone is not a sole predictor of youth behavior outcomes including academic achievement (Masten et al., 1990; Werner, 1993; 2000; Werner & Smith, 1992).

**Relationship among risk, protection, and academic achievement.**

This study extends previous research by identifying individual, family, and environmental or community factors that were associated with academic achievement among Ghanaian youth. There were two major findings for the relationship between test scores and support systems. First, individual, family, and community support systems that were significantly related to achievement of females were not related to achievement of males. Similarly, individual, family, and community support systems that were associated with achievement of students in northern Ghana were not related to achievement of southern students. The relationship among grades, risk, and protection were first examined in the full sample. The relationship between gender and achievement
and between region and achievement were also examined. Implications of the results of each section are presented below.

**Community and environmental influences on academic achievement.**

Community and environmental factors including region of residence, neighborhood cohesion and collective efficacy, neighborhood safety, and social capital were examined in this study. In consonance with expectations, the results show that region of residence was positively correlated with grades and was significantly related to academic achievement. This was not surprising as others have previously noted the achievement gap between the north and south of the country (GSS, 2008; Dunne et al., 2005). As the poorest region of the country, student achievement in northern Ghana was significantly different from that of southern Ghana. This finding supports prior research that documents the association between neighborhood/community characteristics and educational attainment (Brooks-Gunn et al., 1993; Laventhal & Brooks-Gunn, 2000). However, when gender was considered, region of residence did not significantly predict male achievement. This was surprising but may point to the fact that the patriarchal nature of the Ghanaian society confers more benefits and protection to males and thus makes them less vulnerable to the adversities in the environment than females.

The significant correlation between region and grades was also consistent with findings reported by Laventhal and Brooks-Gunn (2000) indicating that high income neighborhood is positively associated with youths’ chances of graduating high school, attending college, and number of years of schooling completed. This adds to existing literature in Ghana as few studies have examined the relationship between academic
achievement and environmental influences. More importantly, the findings suggest that region of residence in Ghana is both a protective factor for academic achievement and a risk factor that inhibits achievement for females.

Neighborhood cohesion and collective efficacy and social capital were not significantly related to academic achievement. This was surprising because the two factors are values of a collectivistic culture (Tietjen, 1989) where traditional values and commitment to family and community are very strong. These findings were contrary to prior work that documents an association between academic achievement and neighborhood cohesion and collective efficacy and social capital (Leventhal & Brooks-Gunn, 2000; Valenzuela & Durnsbusch, 1994; Zhou & Blankston III, 1994).

There are two possible explanations for this finding. First, evidence suggests that social capital and neighborhood cohesion are not only rooted in the social structure of the community but also are responsive to the social environment (Portes, 2000; Zhou & Blankston III, 1994). This suggests that a combination of factors such as family values, educational background of parents, and parents’ socioeconomic status act as moderators to provide buffer against adversity. Second, Portes (2000) observed that parents’ socioeconomic status and neighborhood characteristics such as income have a huge influence on social capital and neighborhood cohesion. This suggests that despite the strong family and community values in Ghana, the general low socioeconomic status makes collective socialization less relevant to educational achievement. However, this must be interpreted with caution as this is not sufficient conclusion that social capital and collective efficacy are not protective factors for Ghanaian youth. In fact, these factors
may manifest themselves in other forms of protection such as social control and social learning as children and young people model the behaviors of family and community members and their behavior regulated by sanctions embedded in the belief systems of the culture.

As expected, poor neighborhood safety had a significant but inverse relationship with achievement for the full sample. When females and males were considered separately, poor neighborhood safety was negatively correlated with male achievement; no relationship was found for female achievement. This extends prior research indicating that poor neighborhood safety is related to lower academic achievement (Cauce et al., 2003; Nettles & Pleck, 1994). Prior findings are based on youth educational outcomes and neighborhood concepts measured in the United States. The concept of neighborhood in Ghana is quite different from the U.S. As Tietjen (1989) noted, neighborhood in a small traditional society such as Ghana may be the same as an entire community. In addition, neighborhood safety has different dimensions. Unlike the United and other developed countries where inner-city neighborhoods are often characterized by gangs, drugs, gun violence, safety in Ghanaian neighborhoods has more to do with inter- and intra-ethnic conflicts that affect the entire community. Schools may be destroyed or closed for months in affected communities which in turn has a negative effect on students’ achievement.

*Family influences on academic achievement.*

Parental social support was significantly related to academic achievement among females in the study. The lack of significance for the family status variables was contrary
to evidence presented in prior research suggesting that parental involvement and parental social support are protective factors against stress and promote academic achievement (Deberard et al., 2004; Gonzales et al., 1996). Also, lack of association between family structure and school performance is not a noble finding but is worth replicating as it extends a growing body of literature that refutes the “father absence” theory of low achievement (Gonzales et al., 1996). It was surprising that perceived sense of family economic stability was not related to students’ academic performance given the income gap between the northern and southern regions as discussed earlier.

This adds to prior research indicating that socioeconomic status alone is not a determinant of academic achievement and other behavior outcomes (Cauce et al., 2003; Fraser et al., 2004). While the main effects of parental social support, harsh parenting practices, and perceived sense of family economic stability showed no relation to grades, interaction effects revealed significant differential impacts on achievement. The positive impact of region was moderated by family economic stability. Similarly, whereas the main effects of social capital had no correlation with grades, a combined effect with parental social support in the regression model showed a significant relation to grades of females and the southern sample. In the same vein, the combined effect of region and optimism predicted male achievement. Lastly, harsh parenting practice and internalizing behavior showed no relationship with grades but when combined showed a significant inverse relationship to grades. These findings highlight the importance of ecological models that include multiple contexts and that test for moderation as well as for main effects (Gonzales et al., 1996). Without the interactive and contextual effects, personal
and family influences on academic achievement of Ghanaian youth will be underestimated.

**School factors and academic achievement.**

The presence of a school mentor was the only school factor that was examined in the regression analysis. The relationship was significant but negatively correlated with grades. This is contrary to existing research (Gutman & Midgley, 2000; Rutter, 1979; Werner, 2000) that reveals an association between academic achievement and positive relationship with the teacher and a sense of school belonging. A possible explanation is that schools in Ghana from elementary through college are highly structured and authoritative. This arrangement may not encourage students’ participation as teachers maintain a distant position from students. It may not be surprising that participants in this study did not want to be like their teacher or felt they could say anything they wanted in class.

**Personal factors and academic achievement.**

Three personal factors were included in the regression analysis – optimism, physical beauty, and internalizing behavior. Only optimism was positively correlated with grades suggesting that students who were more optimistic about the future obtained higher grades. This finding extends prior research that finds a link between optimism and individual success including academic performance (Noris & Wright, 2003; Yates, 2002). This also suggests that optimism may be a protective factor for academic achievement across different cultures.
Discussion of Qualitative Findings

The qualitative component of this study examined individual, family, and community resources that enabled young people in Ghana to succeed in school. Ghanaian youths’ understanding of risk and resilience were also examined. Eight interweaving themes of the constructs “risk”, “protection”, “resilience”, and “achievement” emerged from the qualitative analysis as shown in Table 16. These broad interweaving themes represent personal traits and support systems as well as perceived obstacles within the family and the larger social environment that provide or inhibit opportunities for young people in Ghana to achieve educational success. In addition, the emergent themes demonstrate that young adults in the present study draw both tangible and emotional support from their families and other resources within the environment to support their educational achievement. Problems are also identified in relation to inadequate schools, lack of teachers in remote communities, bad roads, and ineffective transport system that inhibit educational success. As shown in Figure 4, the themes are interrelated and overlap in a number of areas. This is a further application of the ecological and the risk and resilience frameworks on the influence of the family and the larger socio-cultural environment on behavior outcomes of young people in Ghana.
Figure 4. Interrelationships between Academic Achievement and Social Factors

As shown in Figure 4, Ghanaian youth academic achievement is influenced by a combination of personal, family, and socio-cultural circumstances. This implies that youth behavior outcomes including academic achievement are not determined by a single factor. Figure 4 shows that cultural values and practices, death of a parent, poor neighborhood safety, and poor infrastructure are insignia for poor behavior outcomes including low academic achievement. Cultural values and practices and death of a parent interact as a risk factor for youth achievement. As a collectivistic culture (Tietjen, 1989),
death of a parent is not an issue for the nuclear family alone but involves members of the extended family and the entire community or neighborhood. Customary practices related to inheritance may leave surviving children impoverished for the rest of their lives. Figure 4 also shows that death may result from motor accidents due to bad roads and living in an unsafe neighborhood or community as a result of conflicts or diseases. These communities lack essential social services such as potable water, health care facilities, and reliable system of transportation.

However, other cultural practices and family values may contribute to youth academic resilience. For example, when a parent dies, younger children may be taken care of by the extended family. Also, because of the collective values, individual achievement means little unless it is beneficial to the entire family or community. This is a motivation for young children not to give up under difficult circumstances including educational pursuits. Unlike individualistic societies where internal locus of control is an internal resource for individual achievement, in a collectivist culture such as Ghana, internal locus of control is derived from both extenuating factors and support systems. These family and cultural values nurture internal locus of control in youth which helps to achieve educational success. Details of the themes are discussed below in relation to academic achievement of young people in Ghana.

**Family.**

Participants were asked to describe what has helped them to reach their present level of schooling. Family relationships were both supportive and strenuous for the focus group participants in this study. The extent to which family was a significant resource is
more fully appreciated when considered from the types of support that aided academic achievement of participants. Family support is categorized according to whether they are tangible or intangible (Berndt, 1989; Tietjen, 1989). According to Berndt (1989), the types of social support received by young people can be categorized as esteem support, informational support, instrumental support, and companionship support. Esteem and instrumental support were both salient among focus group participants and are described below.

**Esteem support.**

Esteem support is defined as “statements or actions that convince people of their own worth or value” (Berndt, 1989, p. 310). Words of encouragement from parents and other family members were important sources of support that helped young people to cope in times of difficulty. As a 21-year-old female participant noted “When you write the final exams and didn’t make it, family members will tell you to rewrite it and that since others have done it you also can do it.” The family constellation in Ghana includes grandparents, uncles, and aunts from whom some student found support:

Most of my inspirational support came from my dad because my mom didn’t have much time to go through my academic performance and everything. It was almost like I was always on my own and some inspiration came from my grandparents as well.

Participants also found the support they received from their mothers helpful to reducing stress associated with loneliness and unemployment during the transition from secondary school to college. As observed by a female participant, “my mother advised on what to do to help myself like get a job to support myself.” This is consistent with prior research
that identified the important role of emotional support in the adjustment of at-risk youth and academic outcome (Davies, 2004; Werner, 2000; Werner & Smith, 1992).

**Instrumental support.**

Resources or tangible goods that are provided and are necessary to solve practical problems are referred to as instrumental support (Berndt, 1989; Tietjen, 1989). Many subjects explained how payment of school fees and provision of daily needs of food and clothing by their parents were important to their present achievement. “She [my mother] helped me with food and bought my clothing and paid my school fees.” Another student added “she pays my school fees, she buys books and other things”, “It is my mother who has made me who I am and where I am today…she supported me financially and everything, she pays my school fees.” The role of the mother in the lives of these students is worth noting. While many participants indicated their mothers had no formal education, their instrumental role in their children’s education is surprising. This is contrary to existing research findings in the United States where low maternal education is a risk factor for youth behavior outcomes (Cobbs, 2007; Gonzales et al., 1996; Werner, 2000). However, further research is needed to understand the full impact of family influences on Ghanaian youth achievement and other behavior outcomes.

Participants’ description of the father’s support in their achievement was more implicit: “My father was an educated person and even though my mother is an illiterate. Because my father had the benefit of education, he decided that all his children must be educated.” Another student supported this view of the father support: “Because my father is an educated man so he wanted to make sure that his children get an education.” Both
maternal and paternal support of the Ghanaian youth extend existing research on the important role of parents or caring adult in the lives of young people (Masten et al., 1990; Werner 1993; 2000; Werner & Smith, 1992).

**Internal locus of control.**

Participants were asked to describe how they coped with difficulties in their lives and made it to college. Participants in the study expressed hope for the future and their ability to delay gratification in order to accomplish their educational goals. As a male student demonstrated “Having the patience and understanding that every obstacle that comes your way you can overcome it and achieve what you want.” Another student added “nobody cared about me anymore, so I put in a lot of effort and decided that I will go back to school, and I did it.” Students also demonstrated their control over their own situation instead of attributing it to environmental forces they have no control over. A male participant demonstrated this when he observed: “I knew that he [my father] couldn’t take care of me so I decided to look for work and for about six years now I have been taking care of myself. That’s how I made it and I’m here today.” These statements are demonstrations of what is described in resilience literature as internal locus of control which is defined as an individual internal attribute where young people have confidence in their control over circumstances in their environment (Luthar & Zigler, 1991; Werner & Smith, 1992) and ability for impulse control and delay of gratification (Luthar 1991; Lynch et al., 2002).

Furthermore, students demonstrated their resilience by noting that effective coping is not limited to hope for the future and exercising control over life’s
circumstances. Effective coping also includes self-discipline; that is, one’s ability to resist peer pressure and recognize the uniqueness of their circumstances. A 24 year old female student demonstrated self-discipline when she noted:

In our school, for example, in our hostels, sometimes you hear your colleague telling you that you never wore any expensive textile. One doesn’t have to think that you should follow what others are saying because we are from different homes.

Another student added: “We came here individually but we came for a purpose so we shouldn’t feel discouraged by other people’s behavior or attitudes.” The implication of this is that internal locus of control is a protective factor for academic achievement across cultures.

“No giving up.”

Participants were also asked to describe the concept of resilience and what it means to them with regards to academic achievement. “Not giving up” is how one participant defined resilience. Their definitions also center on refusing to accept defeat or failure and being strong in the face of challenges or obstacles. As a 24 year old male student noted, “I wanted to travel [abroad] but I didn’t succeed, so I decided to rewrite the exams. By then I had spent seven years at home…That’s how I made it and I’m here today.” Another student supported this view “Like when you complete SSS and the results are out, you realize that you passed only 2 subjects out of 8, you don’t have to think that you can’t make it. If others can, why can’t I?” Resilience to the focus group participants also meant “ability to withstand a difficult situation” in the presence of adversity. As a 22 year old male student who made it to college remembered:

The time my father was alive I was getting a lot of support from him. After he
died I experienced abject poverty. My mother was a trader but she lost her job and it became very difficult for her to take care of me and the rest of my brothers.”

The Ghanaian students’ definitions are consistent with Western conceptualizations of resilience (Garmezy, 1983; 1985; Masten et al., 1990; Rutter, 1993; Ungar et al., 2007; Wright & Masten, 2005) and demonstrate the universality of resilience and coping patterns across different cultures. It is also important to note how closely these definitions are related to their coping mechanisms described earlier under locus of control.

**Culture.**

In this study, culture is defined as distinct aspects of gender, family, and community practices that are related to patterns of interaction and use of resources. This definition presupposes gender roles, traditional norms and customs, and family processes. Focus group participants perceived local culture (ethnic, religion, tradition) as both a protective factor and a risk factor. For example a female student noted:

“I’ll be general. Muslims have a perception that as a lady if you’re 15 years or older you’ve to get married and not to be in school. The belief is that education is not for women because the men have to work hard to support them.

In this instance, culture inhibits educational access and achievement of females. Presently in Ghana, there is an expectation for everybody to get married and for females in certain subcultures, marriage may take precedence over education for adolescent girls, increasing their risk for low educational attainment and marginalization.

Obsession with funerals and the practice of polygamy are traditional and family practices within certain cultures in Ghana which some participants identified as risk factors for academic achievement. In many Ghanaian cultures, family and community members will rather save toward giving a departed kin a “deserving funeral” rather than
for the education of children as a participant noted “Some family members will give you something like food but not money. The things that the family will come together to contribute is funerals. When there is funeral, they contribute a lot.” Another student explained how his father’s marriage to a second wife affected him: “My father had two wives and everything changed, he was looking after all of us but now he decided to change.” Having many wives is associated with having many children and expanded responsibilities. It is documented in Western literature that having many children, four siblings or more is a risk factor for low academic achievement and other behavior problems (Franklin et al., 2004; Wasserman et al., 2003).

Nonetheless, participants identified some positive aspects of the local culture that support personal growth as demonstrated in this example with regards to getting support from the community:

It depends on the lifestyle you live within your family. If you live a good lifestyle, anytime you have a problem even if it is beyond their means they will do all they possibly can to support you. But if you live otherwise they have some [negative] perceptions about you and you have problems they won’t help you.

Apart from the cultural value of good behavior and lifestyle, participants identified other sources of support and protection against adversity: “If you combine your studies with bible studies it can help you. Any time you’re feeling bad you can open your bible and read and that will change your mind so you can focus on your studies.” Another student extended this view in relation to the role of religion and behavior restraint:

Religion forbids drinking alcohol and any form of hard drinks and for that matter if you’re [a] young lady or a guy you’ll not even be interested in alcohol because your religion forbids it and that will help you achieve whatever you’re doing.
It is obvious from these examples that culture is intertwined with several aspects of Ghanaian youths’ lives. In the study sample, resilience was accounted for as the capacity to effectively cope with the multiple faces of culture in ways that were culturally acceptable.

*Death of a parent.*

In this study death of a parent is defined as loss of a parent or primary care provider. It also refers to disruption of personal life of young children and their education. Death of a parent in any society is a monumental loss to the child. Within the Ghanaian society, death of a parent has several nuances and is an added layer of risk to the development of a child. Customary issues relating to inheritance after the death of a parent particularly the father can have devastating consequences on children. Death of a parent was a common denominator among the focus group participants and its impact on their education. The negative impact of death of parents was poignantly illustrated by a 23 year old participant:

In my final year in secondary school while I was waiting for my results my father died. So the results came out and I was hoping to continue my education. But here is the case that the little that my father left the [extended] family members came and scattered everything because we were young and they knew we couldn’t do anything; and my mother too, they gave her nothing.

In addition to inheritance, the death of a father who is the sole breadwinner of the family impoverishes the surviving family as one student observed:

On my part, the death of my father was a problem. After his death things were tough because when he was alive he was a contractor so he left some property for us. I completed SSS in 2006 and even though all my requirements were not set the following year I rewrote the exams and got all my requirements but my family didn’t have the money to support me because my elder sister was already in university and I had to wait for her to finish before I could enroll.
Thus, while death of a parent is a common and an inevitable occurrence in all cultures, it has a peculiar twist for young people in Ghana. One possible explanation is that currently Ghana does not have a well functioning child protection agency and current laws on child protection and inheritance are very weak and are rarely enforced. The high illiteracy rate among the general population is another factor. Many illiterate mothers have no knowledge of the current inheritance laws. Extended family members also revile wills left by deceased fathers as alien to their culture and this may alienate surviving children from the extended family forever. This can result in the disruption of children’s education.

**Poor infrastructure and unsafe neighborhoods.**

In this study poor infrastructure is defined as lack of schools, poor roads and transportation that hinder educational success of Ghanaian youth. Unsafe neighborhoods are characterized by low educational achievement, conflicts, and pervasive poverty. In response to questions about what makes it difficult to achieve educational success in Ghana, participants identified inadequate infrastructure and living in a zongo (inner-city) as factors that inhibit academic success. The impact of inadequate infrastructure is more pronounced in rural communities where teachers are unwilling to work due to lack of potable water, electricity, and reliable transportation. As one participant pointed out: “Some students have to go to neighboring towns or city to study and that affects their movement and teachers cannot also come to the village if there is a school.” The impact of bad roads and the reticence of teachers to teach in rural communities were emphasized.
by another observation “the most competent teachers who would have come to teach
students to succeed don’t want to come because of the bad roads.”

_Zongos_ are ethnic enclaves in big cities in Ghana with low educational
achievement, poverty, drugs, and few role models. A participant described the impact of
living in a _zongo_:

“We grew up in Nigeria with a lot of _zongo_ [inner-city] mentality - smoking
[tobacco] was very common. Growing up in such an area is very difficult. I had
some friends who smoked and had to study with them and that was very
difficult.”

These findings extend prior research that document the relationship between
neighborhood safety and youth behavior outcomes including academic achievement in
Ghana and the United States (Cauce et al., 2003; Dearing et al., 2006; Glewwe & Illias,
1996).

**Achievement.**

Finally, academic achievement was defined as passing exams and getting good
grades, and using knowledge and skills to help others. When participants were asked to
describe academic achievement, they identified the meaning of success as well as
obstacles to educational success in Ghana. As one student noted, “going through all the
educational levels [successfully] in order to achieve one’s career”, and another student
added “putting what you have learned into practice. Knowledge is useless if it is not put
into practice.” As noted earlier, individual achievement is linked to the collective whole
by helping other members of the group. To the focus group participants, “successful
people are heroes” because they possess unique characteristics that enable them to
overcome difficult situations. However, lack of parental education and low educational achievement in the communities were identified as obstacles to educational success. This implies that illiteracy and lack of infrastructure are risk factors for academic achievement in Ghana.

**Comparison between quantitative and qualitative results.**

Quantitative study results are useful in clarifying relationships between academic achievement and a variety of personal and environmental factors. These findings further help to delineate which protective and risk factors affect a particular gender or region. The qualitative findings add more insights into the quantitative findings by providing useful narratives from Ghanaian students’ own perspectives on risk and protective factors associated with academic achievement. This section examines areas of convergence between these findings. Areas where the study findings diverge are also examined. Similarities and differences between the findings are presented at the community, family, and personal levels of influences.

**Community influences on academic achievement.**

Findings from the two methods converged on two important macro level factors: neighborhood safety and location of residence. While the quantitative results indicate a significant inverse relationship between students’ grades and neighborhood safety, the qualitative findings add insights into the nature of safety risks in the Ghanaian context such as living in a zongo or a rural area. In addition to low literacy levels in these communities, they are also characterized by violence, drug abuse and smoking, and few role models. Quantitative results also show that the direction of influence of location of
residence on academic achievement is significant. In other words, students from northern Ghana have fewer economic and educational opportunities compared to their counterparts in the south. This was supported by the qualitative findings that identified the nuances associated with living in rural or deprived community of the country. For example, living in northern Ghana exposes students to the risk of school failure or low achievement because of a lack of teachers, bad roads, and lack of social amenities.

Furthermore, the demographic results of the survey participants revealed low parental education. Even though this is a family status variable, it is consistent with focus group findings that identified high illiteracy rate in the communities as an obstacle to educational success for young people in Ghana. Focus group results also revealed that low parental education coupled with general low literacy levels in the community does not encourage school involvement and motivation.

**Family influences on academic achievement.**

There were also convergences between the quantitative and qualitative results regarding the role of the family in promoting academic achievement of Ghanaian youth. Even though family educational values were not significantly related to academic achievement of young people in Ghana, the quantitative results revealed that it was an important source of support for female achievement. Relationship with one’s mother was also an important source of girls’ achievement. This was not different from the qualitative results. The nuances of parental relationship and the importance of family educational values were highlighted by focus group participants. Female participants consistently underscored the role their fathers’ educational background played to their present level of
achievement. The family as an ecological system was described as a source of different personal and developmental needs including physical and emotional support. Family processes that inhibited youth behavior outcome and educational success were further clarified by the qualitative results. These included low level of education of parents, polygamy, and loss of a parent particularly the father. Inheritance practices based on the indigenous customs further impoverished surviving children and their mothers.

**Personal factors and academic achievement.**

On a personal level, the results reveal similarities on factors of gender and optimism. Even though gender was not associated with the students’ grades in the quantitative results, being female was identified as a risk factor on several related variables. This was congruent with qualitative findings suggesting that the patriarchal and gendered nature of the Ghanaian society confers more benefits to males than females in terms of educational access and support. Female students also suffer discrimination based on cultural beliefs and expectations on gender roles. Finally, the individual trait of optimism which was associated with achievement in the quantitative results converged with personal efforts described in the qualitative findings. Specifically, optimism mirrors focus group participants’ demonstration of internal locus of control that was used as buffer against adversity.

Notwithstanding, the results of the two methods also diverged on several issues. First, while family processes were strongly highlighted in the qualitative study as a significant influence on educational success, the quantitative findings revealed mixed findings with maternal relationship and family educational values supporting only female
achievement. Also, the influence of drug abuse, delinquency, and the presence of a school mentor were not discussed in the focused group interviews and as a result, their influences on youth educational outcome were not fully explored.

Theoretical Implications of Study Findings

Empirical studies both in the United States and Africa of young people raised in poverty and disadvantage have often focused on similarities of risk exposure in youth growing up in high-risk environments (Brooks-Gunn, 1997; Dunne et al., 2005; Glewwe & Illias, 1996; McLoyd, 1990; White, 2004). The emergence of the risk and resilience framework has spawned interest in the role of protective factors within the environment that are important arenas for support against adversity. Researchers have identified how risk factors associated with maladaptive behavior are moderated by other factors in the family and the larger social context (Garmezy, 1983, 1985; Garmezy et al, 1984; Rutter, 1979; Werner, 2000; Werner & Smith, 1992). Yet, this understanding has historically been applied primarily to youth populations in North America and Western Europe. Little is known about the applicability of this framework on youth outcomes in non-Western countries. This study attempted to address this gap by investigating academic achievement of Ghanaian youth across multiple systems. The results are discussed in view of the existing knowledge base of risk and resilience among youth.

While the findings of this study highlight specific protective factors for academic achievement of Ghanaian youth, it is important to acknowledge the overarching layers of risk associated with youth achievement as well. Similar to evidence in the United States (Brooks-Gunn et a., 1993; Loventhal & Brooks-Gunn, 2000), neighborhood
characteristics such as concentrated poverty, lack of safety, low literacy levels, remoteness, and poor social services negatively affected students’ academic success. These risks were more evident among females and students from northern Ghana. Subjects in this study exemplified invulnerability to stress as conceptualized in resilience literature that documents the link between risk exposure and poor behavior outcomes in economically disadvantaged neighborhoods (Brooks-Gunn, 1997; Cauce et al., 2003; Dearing et al., 2006). The implication of this is that different measures and interventions are needed to help girls and youth in deprived communities and regions in Ghana.

The findings of this study are congruent with the notion of individual, familial and environmental influences on risk (Fraser, 2004; Fraser et al., 1999; Jenson & Fraser, 2006). The results indicate that optimism and internal locus of control, which are protective factors for coping with adversity in high-risk youth (Garmezy et al., 1984; Luthar, 1991; Luthar & Zigler, 1991; Lynch et al., 2002), are significant traits for youth educational success in Ghana. In spite of lack of parental education and low socioeconomic status of the family of majority of the research participants, a positive attitude and a belief that they have control over their life chances profoundly propelled them to overcome the odds and go to college. This underscores the need to identify and reinforce child and youth behavior traits that enhance adjustment.

The results also suggest that relationships, particularly, parental and community relationships are crucial in differentiating groups in relation to academic achievement. These findings extend recent investigations on risk and resilience of high-risk youth (Capella & Weinstein, 2001; Gutman et al., 2002; Gutman & Midgley, 2000). The
findings indicate that a warm, affective parent-child relationship is an important arena of support for positive child development including academic outcomes. This further implies that for youth in Ghana, academic outcomes will improve further if the positive parental relationships are combined with school involvement – a practice that is not strongly encouraged in Ghanaian schools.

From a theoretical standpoint, the ecological and risk and resilience frameworks are useful in conceptualizing layers of risk and protection among Ghanaian youth. Quantitative variables and open-ended questions used in this study were guided by these frameworks. Whereas historical accounts and a large body of recent investigation of risk and resilience have focused on youth behavior outcomes in North America, Western Europe and Australia, results from the present study indicate that youth behavior outcomes in Ghana are equally influenced by multiple systems. The top four factors that differentiated gender and regional differences were optimism and internal locus of control, parental relationships, family socioeconomic status, and place of residence. These factors are consistent with Bronfenbrenner’s ecological model and the risk and resilience framework. These factors can be classified by system level as individual/personal factors (optimism & internal locus of control), family factors (parental relationship & family SES), and community/environmental factors (place of residence). This implies that one factor cannot be isolated as the sole influence of a particular behavior outcome(s).

While the above analysis suggests a good fit between the risk and resilience model and youth behavior outcomes in Ghana, the applicability of some components of
Bronfenbrenner’s ecological model for Ghana is not very clear. The lines between microsystems and exosystems, for example, are sometimes blended and confused. For example, children and young adults who grow up in small subsistence farming communities and in households engaged in petty trading, actually grow up on the farm or the family business which is the same as their place of employment. Thus, the notion that children do not participate in their parents’ place of employment as described in the exosystem is not universally true. In addition, in small, traditional communities such as those in Ghana, where everybody knows everybody, the line between the microsystem and mezzosystem is nonexistent. Everybody is considered a part of a mega family and there is no distinction between children, their peers, place of worship, and even teachers. Tietjen (1989) suggests that community values take precedence over individual values and achievement in this type of societies. Furthermore, the inability of parents to help their children with homework due to their own limited educational achievement noted earlier results in a weak or strained relationship between home and school.

In other instances, the family, a microsystem in the Bronfenbrenner’s conceptualization, takes the place of the macrosystem in “enacting and enforcing” laws that regulate youth behavior. For example, there are currently no laws in Ghana that regulate age of drinking, smoking, and curfew for children and adolescents. Television programs are also not rated. Under these circumstances, it is the family which regulates acceptable behavior by determining when it is appropriate to drink alcohol, smoke cigarette, when to go to bed, and how frequently children should watch television, and what programs. This suggests that uneducated families who are unaware of the negative
influences of the issues mentioned above will be more tolerant of their children engaged in them than more educated parents and families.

In sum, the findings from this study suggest that youth academic achievement in Ghana in the study sample is influenced by a number of protective factors as well as context-specific risks. While all youth live under similar conditions, the results suggest that girls and youth from northern Ghana experience risk and protection differently. The results also suggest that risk and protective mechanisms that interact with youth academic success can be investigated and understood using theoretical lenses from the West if properly adapted. The differences in risk and protection between genders and regions are interesting from a theoretical perspective. They also have very important social policy and social work practice implications for youth academic achievement in Ghana. The next section discusses the policy and practice implications of these findings.

Implications for Social Work Practice and Policy

Findings in this study have several implications for prevention, intervention, and social policy. In the United States and other Western developed countries, risk and resilience is yet to be fully integrated into a youth policy framework (Jenson & Fraser, 2006; Schoon, 2006). As noted in Chapter One, risk and resilience are little studied constructs in Ghana and these findings will be an important starting point to begin the process of integrating risk and resilience assessment and implementation.

It was also noted earlier that current assessments of youth needs in Ghana are based on the deficits of school failure, dropout, lack of teachers, and classrooms. Limited attention is given to specific needs of high-risk populations and how these populations
can be best served. This method of assessment tends to portray children’s needs as universal without regard to gender-specific and regional differences. This suggests the need for change in assessment tools like those used in this study to identify and delineate general environmental needs facing every student and specific, gender, family, and environmental issues facing high-risk youth.

As a poor developing country, inadequate resources is a risk factor facing all students in Ghana with regards to quality education. Limited resources inhibit government’s ability to train new teachers, provide school supplies, and build new schools in many communities. These circumstances often compel educational administrators to prioritize which communities and regions should benefit from which resource. Lack of knowledge and understanding of risk and resilience can lead to arbitrary and wrong priorities that are not based on needs of populations most at risk of low academic achievement. The findings in the present study address this gap between research and practice which will enable the development of assessment tools on risk and protection that can be easily used at the community level.

As noted earlier, present methods of assessment and intervention in Ghana focus on symptoms of low educational achievement rather than identifying and treating the causes. This is not to say that school buildings, qualified teachers, and school supplies are less important. Evidence from the developed countries reveals that the existence of these factors is no guarantee for school success. When interventions are not based on risk and protection that identify multiple systems that impact youth behavior outcome, they are less likely to be effective. As demonstrated in this study, a holistic look at the internal
resources within the individual and support systems in the ecological environment are critical in identifying risks and the resources that reduce vulnerability.

At the policy level, limited resources calls for prioritizing the allocation of state resources to the regions and district assemblies in Ghana for development projects including those described above. Even though targeting specific behaviors and problems for policy intervention in Ghana is a little bit problematic because part of the development budget is financed by international financial institutions and donor partners, identifying children and youth with the greatest needs is a noble idea. As Zimmerman and Arunkumar (1994) observed, prevention programs are designed to alleviate risk conditions that are associated with negative outcome. They further noted that such interventions are fundamentally different in the sense that they build capacity instead of addressing the symptoms.

This study corroborated prior research that documented gender differences in academic achievement in favor of males in Ghana (Dunne et al., 2005; GSS, 2008; White, 2004). The government of Ghana has in the last ten years taken several steps to close the gender gap in achievement and improve the conditions of women in general. Part of this commitment was the establishment at the policy level, a ministry of women and children’s affairs dedicated to promote Ghanaian women’s well-being and achievement of children especially girls. As noted earlier, female to male parity in school enrollment has been achieved in many regions of the country.

However, this balance is not maintained beyond junior high school as girls begin the developmental transition into puberty. An ecological perspective may be employed to
identify individual, family, and environmental risk factors that interfere with female education at this level. Similarly, the finding that school factors do not support female achievement is worrisome and deserves policy attention. Policy interventions should aim at changing school climates with supportive, nurturing environments that emphasize parental involvement and high expectations of teachers for all students. Finally, policy efforts that discourage teacher harassment and low expectation for female students are critical. Methodological limitations and directions for future research are presented below.

**Limitations and Directions for Future Research**

Before discussing the methodological limitations of this research, it is important to acknowledge a few strengths. First, the study assessed the relationship between academic achievement and youth internal and environmental resources in Ghana. Only few studies have applied the risk and resilience model outside North America and Western Europe. Second, the use of mixed methods allowed for the gathering of richer data. Qualitative results provided more personal “in their own words” perspectives on risk, protection, and resilience. The principal investigator and all the research assistants are natives of Ghana which allowed for greater cultural sensitivity and ease of flow of discussion particularly in the conduct of the focus group interviews.

Nonetheless, several limitations must be considered when interpreting the results of this study. First, the study relied on correlational data which limits the extent to which conclusions about causality can be drawn based on the findings. For example, it could be reasonably argued that high academic achievement contributes to feeling of optimism and
not as a result of being optimistic. The use of longitudinal data analyses would provide more support for causal hypotheses than would data collected through a cross-sectional design. As Zimmerman and Arunkumar (1994) suggest, resiliency as a developmental construct is not immutable and needs to be studied longitudinally to observe not only how it develops but also whether it deteriorates over time.

Second, because this was a retrospective survey, self-report- and recall-bias might have resulted in the manner data were gathered. This was particularly important for the student grades. Because of lack of administrative support and a complex bureaucracy associated with obtaining grades, students’ final grades could not be directly obtained from the schools or the examining body. Participants were asked to report their final secondary school exam grades in the last six months. Students who wrote the exams more than six months ago might not accurately have remembered the grades they received for individual subjects or the aggregate score. This was evident in the data as many students failed to report specific grades or the total grade. A strong collaboration between researchers and educational institutions is needed to access students’ final grades to enhance confidence in research on Ghanaian students’ achievement.

Some of the limitations are related to measurement. Some students might have had some difficulties answering questions as a result of their lack of familiarity with surveys. This was observed as a potential barrier during data collection when students frequently asked for clarification of questions and certain terms used in the survey even when they were told at the beginning that it was not an exam and there were no right or wrong answers. Moreover, even though English is the language of instruction in schools
in Ghana, many students’ English language ability is limited and this might have limited their understanding of the questions. Future research should consider reviewing the language in the instrument with Ghanaian teachers and local researchers to conform to Ghanaian students’ reading ability and norm unfamiliar concepts to the local culture. 

Further, the majority of the measures on individual, family, and environmental risk and protective factors did not perform as anticipated. Evidence from the qualitative results suggests that the quantitative instrument might not have captured all the cultural nuances regarding risk and protection in Ghana. In future research, Western-based instruments need to be pilot-tested to validate compatibility and relevance of measures to the behaviors or problems being studied before they are used. The length of the questionnaire was another issue that affected the data integrity. The time required to complete the survey made many participants to omit some questions. Lack of familiarity with surveys needs to be considered in future research so that surveys can be shortened or implement data collection in two phases in order to reduce the time for completing surveys and minimize the amount of missing data.

Another limitation concerns generalizability of the results. The sample was large enough for the quantitative analyses and represented mainstream Ghanaian students but students were not selected randomly. Because of this, students who chose to participate in the study might have had confidence in the way they coped with difficulties in the past or were high achievers. For these reasons, I believe the results are applicable to other Ghanaian students with similar characteristics. However, a larger, more comprehensive studies based on random representative samples are needed to determine whether these
results are true for all Ghanaian students. Lastly, the qualitative interviews were based on
two focus groups purposefully selected for this study and might have produced bias data
because it was based on their subjective opinions.

Conclusion

This investigation extended existing research about the relationship among risk,
protection, and academic achievement of economically disadvantaged youth. Little
attention has been given to the relevance of ecological theory and the risk and resilience
framework in non-Western countries. The study highlighted internal resources and
environmental support systems that enhance student achievement in Ghana. Potential
barriers to educational success were noted. The study corroborated many existing
findings about risk, resilience, and academic achievement. The development and testing
of interventions based on risk, protection, and resilience should be the guiding principle
for social work practice and policy for children and youth in Ghana. Study results should
be used to fill in the missing link between investigations of youth academic resilience in
the West and the general negative perception of Africa as a continent of danger and
despair for youth development and achievement.
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Appendix A

Focus Group Interview Guide

This protocol contains thirteen qualitative questions designed to obtain information about how young adults in Ghana define the concepts of risk and resilience, strategies adopted during their early life to cope with stress and other adversities. The questions also address individual experiences and understanding of academic achievement in Ghanaian context.

1. What has helped you to reach the level of schooling you are in now?
2. What does the word resilience mean to you?
3. Are there things in your community that make it difficult for you to be successful in your schooling?
4. What kinds of hardships did you face growing up?
5. How did you deal with those hardships?
6. How do you deal with hardships you face now?
7. How do you describe people who grow up well here despite the difficulties they encounter?
8. How do you describe strength in a person, family, and community?
9. How do you describe success in a person, family, and community?
10. Describe educational success or academic achievement
11. How do you celebrate success?
12. When a person has a hardship (or challenge) how do their families help them?
13. When a person has a hardship (or challenge) how do their communities help them?