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Protective and Risk Factors for Adolescents in a Residential School Setting

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PROTECTIVE AND RISK FACTORS FOR ADOLESCENTS IN A RESIDENTIAL SCHOOL

SETTING

BY

BETH JOANN SHAW

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

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Abstract

Approximately 50% of all American children and adolescents are currently at risk for developing personal and social problems (Weissberg, 1990). As a nation, how are we responding to this situation? Under the large umbrella of educational reform one option being debated is removing at-risk children living in poverty from their homes and placing them in residential educational facilities. Despite the rhetoric being exchanged, little empirical evidence exists that directly investigates the effects of removing children and adolescents from their homes.

This study investigated the protective and risk factors associated with the resiliency, achievement, and adjustment of adolescents from low income home environments attending a residential school. The first question examined what combination of protective/risk factors predict adolescent achievement. The second question explored the ability of various protective/risk factors to predict membership into an academic/behavioral protective or at-risk group. The third question examined the relationship among intraindividual factors and perceived adjustment to the residential school. Content analysis of two survey questions also revealed themes relevant to the adjustment process and feelings about being at a residential school.

Results of the study supported the resiliency literature that attributes the adolescent resiliency trajectory to the combination and interaction of various intraindividual, familial, and contextual factors. Gender-difference findings suggest that possibly male and female adolescents are differentially affected by the interactions of various protective/risk variable combinations. The female students performed better than their male classmates on general cognitive ability, and academic achievement, effort, and conduct. Conversely, male students experienced significantly more difficulty across behavioral

categories; they accumulated more residential disciplines and more academic detention points in comparison to their female classmates.

Another finding addressed the value of relationships and the necessity of familial and school supportive systems to promote adolescent achievement, adjustment, and resiliency. Results revealed the importance family plays in adolescent resiliency. Attending a residential school appeared to be related to other familial and contextual factors, the students who attend the school for a longer period of time visit more frequently with family members.

The most salient theme that emerged was the importance of familial and contextual factors on the adjustment, achievement, and resiliency of adolescents, particularly as related to relationships and supportive systems. Clearly, adolescents respond in the direction of resiliency when the protective factors of family and school supportive systems are a part of the adolescents' lives. In combination with other protective factors influencing their development, adolescents who have supportive systems appear to be on a trajectory toward resiliency.

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INTRODUCTION

Statement of the Problem

Researchers estimate that currently 50% of all American children and youth are at moderate to high risk for developing personal and social problems, such as school drop out. Being at risk for these types of problems jeopardizes child and adolescent potential to lead productive, successful adult lives (Weissberg, 1990). Additionally a recent U.S. Census Bureau report estimates that approximately 11 million children live at or below the poverty line (Barona & Garcia, 1990; U.S. Bureau of the Census, 1989). These two alarming statistics provide the impetus for national attention focused on our educational systems and call for the creation of alternatives to counter current bleak educational and social trends. Lower academic performance is one of many factors associated with children growing up in poverty, as Jessor (1993) and Garmezy (1991) both identify multiple risk factors associated with children and adolescents raised in poverty.

Research that investigates the contribution of protective and risk factors to one's resiliency or vulnerability provides empirical evidence in the identification of proposed educational reforms. One educational reform currently being debated is the removal of children living in poverty from their homes and placing them in residential educational facilities; however, empirical evidence has not yet been generated to explore the efficacy of this particular proposed reform. The current project provides some initial empirical evidence surrounding that very question--is the placement of adolescents in a residential school setting a protective or risk factor?

Justification for and Significance of the Study

Today in the United States nearly 11 million children under the age of 15 live in poverty (Barona & Garcia, 1990; U.S. Bureau of the Census, 1989). This figure translates to one in five children in our country living at or below the poverty line. The Task Force on Education of Young Adolescents estimates that as high as 50% of all American children and youth under the age of 18 are currently at moderate to high risk for the development of a variety of personal and social problems. These problems include drug abuse, teenage pregnancy, delinquency, AIDs, and school dropout (Weissberg, 1990). The dropout rate, in particular, is receiving much national and local attention. Every year 700,000 adolescents leave school without ever returning to graduate (Casas, Furlong, Solberg, & Carranza, 1990). Visually this figure can be pictured as 80 busloads of students leaving school each day and never returning. From a demographic perspective the dropout rate is an even greater concern for certain socioeconomic and racial/ethnic groups (Hahn, Danzberger, & Lefkowitz, 1987). Numerous studies suggest that schools with large racial/ethnic student populations who come from low-income families have the highest dropout rates (Alva, 1993; Hahn et al., 1987; Reyes & Jason, 1993). Garmezy (1991) describes the cyclical nature of being raised in impoverished conditions, separating poverty from other risk factors and allowing it to stand as an independent potential risk factor. Many dropouts eventually find their way into prison and various other rehabilitative programs (Ahrens, Evans, & Barnett, 1990), which has direct social and economic relevance for all members of our society.

Researchers across disciplines are channeling efforts in an attempt to address the state of crisis in which the United States finds its children and

adolescents, particularly as related to educational achievement and the concomitant factors that seemingly confound attainment of educational milestones. Prevention science is a new research discipline that uses an interdisciplinary approach, combining the fields of psychopathology, education, human development, criminology, and psychiatric epidemiology in an effort to identify the risk and protective factors which contribute to any type of human dysfunction (Coie, Watt, West, Hawkins, Asarnow, Markman, Ramey, Shure, & Long, 1993). The conceptual framework outlines the relation of risk and protective factors to disorders or dysfunctions as well as a set of principles to be taken into consideration as one defines the science of prevention. Coie et al. (1993) suggest that any national program of prevention research, which includes the developmental fluctuations of risk and protective factors, should be targeted at the school level because 90% of all children in the United States are enrolled in the public school system.

The antithesis of human dysfunction is that of psychosocial adaptation, the outcome when an individual uses mechanisms at one's disposal to successfully cope with stressors encountered throughout life. This is frequently referred to as resiliency. Richmond and Beardslee (1988) conceptualize a child's psychosocial adaptational capacity as the interaction among biological, social, and psychological factors throughout the course of a child's development. Each of the three factors is multifactorial, and interaction of the factors is not static; it changes across stages of development (Richmond & Beardslee, 1988). Therefore, adaptation and resiliency can be studied in terms of the interconnections among interpersonal factors such as self-esteem, self-perception, and locus of control (Luthar, 1991; Rhodes & Jason, 1990) and familial and contextual factors such as peer and family relationships (Richmond & Beardslee, 1988). Rice, Herman, and Petersen

(1993) propose a model for coping with challenges in adolescence across several levels: the individual, family (including the demographic changes in family structure), schools, and communities (including nature and distribution of resources). Their current model of developmental transition in early adolescence is based on recent theories of life-span development, developmental psychopathology, and stress and adjustment. The model developed by Rice et al. considers the impact of life stressors, identifies these challenges (or life stressors) inherent during adolescence as normative and non-normative life events, and describes the adolescent's ability to cope with the challenges as influenced by moderating factors such as family support and interpersonal factors such as intelligence and perceived control over social success. Risk and protective factors are among the moderating and interpersonal variables. Rice et al. also indicate concern for the current failure rate within our secondary school system noting that many of today's adolescents drop out of school, suggesting that variety of intra-personal, interpersonal, contextual, and systematic variables all contribute to the adolescent risk status.

Despite the alarming figures which place many children at risk, some of these "at-risk" youth succeed in our educational institutions and live productive, happy lives. Studies of specific risk groups are needed which will identify and describe protective factors that facilitate effective coping in individuals who, in spite of exposure to major stress, thrive in their development (Coie et al., 1993). Researchers investigating this population of children attempt to distinguish between vulnerable children who are at-risk and those who are resilient by overcoming their childhood environmental risk factors (Werner & Smith, 1992; Wolin & Wolin, 1993). Much credit is attributed to Werner and Smith for their longitudinal research on the at-risk

cohort on the island of Kauai. Their contribution of identifying "at-risk" and "protective" factors as they relate to the development of vulnerable and resilient children has been used extensively in studies of resiliency and vulnerability (Beardslee, 1989; Luthar, 1991; Richmond & Beardslee, 1988; Rutter, 1985; Rutter, 1987; Werner, 1989; Werner & Smith, 1992). Vulnerability denotes an individual's susceptibility to a negative outcome, and risk factors are considered to be biological and psychosocial hazards that increase the likelihood of a negative developmental outcome (Werner, 1990). According to Werner, resilience and protective factors are considered to be positive counterparts to the concepts of vulnerability and risk. Numerous studies have investigated relationships among resiliency and vulnerability factors and suicidal behavior in adolescents (Rubenstein, Heeren, Housman, Rubin, & Stechler, 1989), delay of gratification in adolescence (Funder & Block, 1989), interparental conflict (Neighbors, Forehand, & McVicar, 1993), parental psychiatric disorders (Beardslee & Podorefsky, 1988), adolescent sport injuries (Smith, Smoll, & Ptacek, 1990), and major life stress events (Wyman, Cowen, Work, Raoof, Gribble, Parker, & Wannon, 1992).

Research typically delineates protective and risk variables into three categories: (a) variables within the child, such as temperament, behavioral styles, intelligence and academic achievement potential, locus of control, and self-esteem (Block, Block & Keyes, 1988; Compas, 1987; Funder & Block, 1989; Luthar, 1991; Rutter, 1987; Werner, 1989; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992); (b) variables within the family context such as family cohesion, family size, bonding with alternate caregivers, parental education levels, poverty, incidence of parental pathology and alcoholism, socialization practices, and structure and responsibilities within the home (Beardslee, 1989; Beardslee & Podorefsky, 1988; Block et al., 1988; Compas, 1987; Luthar, 1991;

Neighbors et al., 1993; Rubenstein et al., 1989; Rutter, 1985; Rutter, 1987; Werner, 1989; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992); and (c) variables within the community such as external support systems, friendships, teachers and school (Beardslee, 1989; Beardslee & Podorefsky, 1988; Compas, 1987; Luthar, 1991; Rubenstein et al., 1989; Rutter, 1985; Rutter, 1987; Smith et al., 1990; Werner, 1989; Werner, 1990; Werner & Smith, 1992). Many of the variables in each of these three broad categories can be classified as either risk or protective, dependent on the specific quality of the variable. As an example consider the factor of family size; it is considered a protective factor if there are no siblings born during a given child's first four years of life (Werner & Smith, 1992), whereas a family with numerous siblings born with abbreviated time periods between each sibling is considered more of a risk factor (Werner, 1990). Another example is a child's temperament. Generally children who were described as cuddly, affectionate, and active as infants are considered to have temperamental characteristics which are protective (Richmond & Beardslee, 1988; Werner, 1989, Werner, 1990, Werner & Smith, 1992). However, children who as infants experienced distressful feeding and sleeping habits and were overactive have temperamental characteristics which contribute to their at-risk status (Werner, 1989; Werner, 1990; Werner & Smith, 1992) and were found to be related to subsequent drug usage in adolescence (Block et al., 1988). An objective of this study was to explore the relationship among numerous intraindividual, familial, and contextual protective/risk factors, and their relationship to adolescents from low income home environments attending a residential school. This is an attempt to expand the knowledge base about adolescent resiliency by including a not previously researched factor and determining the nature of its relationship to the protective/risk factors currently used in research.

Review of Theory and Research

Theoretical Models and Implications

Coie et al. (1993) identify several implications as researchers document "the processes by which risk and protective variables influence life patterns of individuals and families (p. 1015)." The first theme, or implication, is that human adaptation is best understood in terms of Person X Environment interactions. This requires researchers to investigate such contributing variables as personal history, cultural context, and life stage of the individual (Coie et al., 1993). As an extension of the Person X Environment tenet, prevention research should consider the importance of the social and cultural contexts. Studies should include, according to Coie et al. (1993) both males and females from diverse ethnic and cultural backgrounds. Both clinicians and researchers in psychology are calling for the development and use of culturally appropriate intervention strategies (Sue, Arredondo, & McDavis, 1992).

General systems theory is used by Coie et al. (1993) to describe the next theme which emphasizes that the interaction of multiple systems has varying influence at different stages across the course of human development. Coie et al. (1993) state that the explanatory models of development must include the contextual factors of family, community, and other social variables as well as individual variables in order to represent the true complexity of the interactions among these systems which influence human development. Taken one step further, Coie et al. (1993) also maintain that variables within each system have differential impact at various points, or stages, of development, thereby making timing a critical issue for the influence of each

system. The timing of challenges, or stressors, is also a major component of the model of developmental transition in early adolescence proposed by Rice et al. (1993). This particular model provided a theoretical basis for this study.

Coie et al. (1993) offer directions for research strategies and theoretical models: incorporate dynamic developmental processes in predictors, outcomes, and mediators; emphasize the complex transactions between individuals and their environments; include of both continuous and categorical variables; and advance our knowledge of risk variables as well as protective variables such as psychological resilience, strength and environmental advantages.

The model of developmental transition in early adolescence proposed by Rice et al. (1993) contains many of the suggestions outlined by Coie et al. (1993). This particular model provides a framework for investigating transition into adolescence and the challenges one faces as a result of this developmental transition. The model includes trajectories of mediator variables from earlier points of development which assume prior impact on the adolescent's mental health (Coie et al., 1993).

Adolescence is a period of development which involves numerous changes (Santrock, 1992), thereby providing a tremendous opportunity to study stress and its consequences. Rice et al. (1993) identify challenges as normative life events, non-normative events, and hassles. Normative life events are experienced by most individuals at approximately the same point in the course of development. Examples include age of school entry, puberty and marriage (Rice et al., 1993; Santrock, 1992). Non-normative life events are less commonly experienced and are less predictable. Examples include death of a parent for a child (Rice et al., 1993; Santrock, 1992) and other forms of parental separation, such as being sent to a private, residential school. Hassles are more frequently-occurring stressors which are often present, and with

increasing numbers, affect the adjustment to normative and non-normative life events (Rice et al., 1993). This model also includes longitudinal trajectories that allow for the consideration of prior adjustment from earlier points during development in determining the impact of present life events and hassles. According to Compas (1987), the characteristics of one's psychosocial environment and daily hassles provide more insight into the understanding of the development of distress and coping in adolescents than the occurrence of major events.

The number of challenges and their timing are additional components to this model (Rice et al., 1993). An increased number of challenges as well as deviant timing of normative events, such as early onset of puberty, can affect the adolescent's coping and subsequent mental health status. Finally, the synchronicity of challenges, the simultaneous occurrence of several changes, can also adversely affect adolescent coping (Rice et al., 1993).

Risk and protective factors are included in the external resources and internal resources which moderate both the effects of major life events and the effects of all the different types of challenges on adjustment. As an individual begins the transition into early adolescence the apparent effects of risk variables such as low SES, low IQ, and absent parent can have direct, detrimental impact on adolescent mental health and subsequent academic success (Compas, 1987; Funder & Block, 1989; Luthar, 1991; Rice et al., 1993; Rutter, 1987). The external resource of peer and family social support is also typically identified as a moderating variable for the relationship between adolescent challenges and mental health status (Rice et al., 1993). Rhodes and Jason (1990) report that consistent and caring parents and teachers act as buffers for the impact of adolescent stress, providing greater opportunity for adolescents to develop the appropriate social competencies that may facilitate

the development of resiliency. Neighbors, Forehand, and McVicar (1993) also identify adolescent relationships with parents as important family factors that can differentiate between resilient and nonresilient teens. Additionally, poor relationships with parents have been associated with deficits in academic functioning and cognitive competence, and conversely, parental support had been found to decrease adolescent stress in response to a non-normative life event of unexpected economic hardship (Neighbors, Forehand, & McVicar, 1993). Another external resource beyond family is that of community resources. Rutter (1987) states that during adolescence involvement in co-curricular activities provides a protective mechanism for resiliency against stressors.

The Rice et al. (1993) model of developmental transition in early adolescence provided a conceptual framework for this study. Given the high percentage of adolescents at-risk for high school drop-out and other vulnerable outcomes such as drug abuse, teenage pregnancy and delinquency it is reasonable to assume that, when applied to this theoretical model, many of the adolescents' internal and external moderating variables have already taken a directional path toward risk or protection by the time the adolescent has entered ninth grade. For this current study, many external moderating risk and protective family characteristics (levels of parent education, family structure, number of siblings) were identified in students' records. Additional external moderating family and community resources (family income, daily homelife structure, school characteristics) were held constant across students. Internal moderating variables investigated in this study were the student's self-perception profile, level of school ability functioning, self-reported levels of stress for positive and negative life events, level of involvement in co-curricular activities, and measures of standardized academic achievement.

The one non-normative life event that was consistent across the sample is the enrollment in a residential school setting. Typically leaving home occurs as a normative life event in later adolescence usually after high school graduation, and a delay in leaving home until early twenties is an emerging pattern due to economic circumstances (Santrock, 1992). Therefore, the synchronicity of enrollment in a residential school along with the numerous normative challenges facing adolescents could certainly affect the mental health trajectory, identified as academic success for the purposes of this study.

Risk and Protective Factors

Protective and risk factors are generally used in current psychological research and literature to describe and discriminate between individuals who are resilient and those who are vulnerable over the course of their life-span. It is important to clearly define resilient and vulnerable before one can isolate the contributing risk and protective factors. Vulnerability describes an individual's susceptibility to a negative outcome (Werner, 1990), and resilience is considered to be an ability to respond to life hazards and overcome negative life stressors (Rutter, 1986). According to Coie et al. (1993) and Werner (1990), risk variables are considered to be biological and psychosocial hazards that increase the likelihood of a negative developmental outcome, whereas protective variables are biological and psychosocial conditions that interact with risk variables to modify an individual's response to a situation that, without the protective variable, may otherwise lead to a negative outcome (Coie et al. 1993; Werner & Smith, 1992). There is a trend in the literature that suggests the use of "factor" in relation to "protective" and "at-risk" may be inaccurate as "factor" indicates a constant, limited value (Richmond & Beardslee, 1988; Rutter, 1985; Rutter, 1986; Werner & Smith, 1992). Instead some

researchers prefer to view the protective variables as protective mechanisms which individuals use to negotiate risk or stressful situations (Richmond & Beardslee, 1988; Rutter, 1985; Rutter, 1986). According to Rutter (1985, 1986) as each risk situation an individual encounters varies so does the individual's response, thereby altering the process of negotiating the risk circumstance as well as the protective mechanism.

Werner and Smith (1992) identified prenatal risk and protective factors in their cohort and continued following the course of development of their cohort for the next thirty years. At each data collection point various tools and methodologies were used to identify subsequent risk and protective factors. Werner and Smith findings, in conjunction with other resiliency research, have identified three broad categories of factors which are consistently used as a basis for describing risk and protective factors (Luthar, 1991; Rutter, 1987; Werner, 1989; Werner, 1990; Werner & Smith, 1992). The three categories are: factors within the child (Block, Block & Keyes, 1988; Funder & Block, 1989; Luthar, 1991; Rutter, 1987; Werner, 1989; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992), factors within the family context (Beardslee, 1989; Beardslee & Podorefsky, 1988; Block et al., 1988; Luthar, 1991; Neighbors et al., 1993; Rubenstein et al., 1989; Rutter, 1985; Rutter, 1987; Werner, 1989; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992), and factors within the community (Beardslee, 1989; Beardslee & Podorefsky, 1988; Luthar, 1991; Rubenstein et al., 1989; Rutter, 1985; Rutter, 1987; Smith et al., 1990; Werner, 1989; Werner, 1990; Werner & Smith, 1992). Numerous studies have investigated each of these categories of protective and risk variables and have generated volumes of information pertaining to the most salient protective and risk variables.

Protective variables within the child that have been consistently cited in research include: affectionate, adaptable to change, more outgoing and active temperamental qualities with no feeding or sleeping regularity difficulties as infants (Block et al., 1988; Richmond & Beardslee, 1988; Rutter, 1985; Werner, 1989; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992); achievement orientation and intellectual potential, well-developed problem-solving and communication skills, and an interest in a variety of activities during childhood years (Funder & Block, 1989; Masten, Garmezy, Tellegen, Pellegrini, Larkin, & Larsen, 1988; Richmond & Beardslee, 1988; Rutter, 1985; Werner, 1989; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992); and internal locus of control, autonomy, positive self-concept, and personal responsibility in adolescence (Alva, 1993; Beardslee, 1989; Beardslee & Podorefsky, 1988; Block et al., 1988; Luthar, 1991; Neighbors et al., 1993; Rubenstein et al., 1989; Rutter, 1985; Werner, 1989; Werner, 1990; Werner & Smith, 1992).

Protective variables within the family context include an affectionate, stable caregiver-child relationship which can be an individual other than the mother or father (Neighbors et al., 1993; Rubenstein et al., 1989; Rutter, 1987; Werner, 1990; Werner & Smith, 1992; Wyman et al., 1992); parent education level (Werner, 1990; Werner & Smith, 1992); presence of rules and structure within the home (Alva, 1993; Block et al., 1988; Reyes & Jason, 1993; Werner, 1990; Werner & Smith, 1992); and parenting which includes support and motivation for school achievement success (Masten et al., 1988).

Protective variables within the community or greater social context include a mentor or caring adult outside the family (Smith et al., 1990; Werner, 1990; Werner & Smith, 1992), positive school and academic experiences (Alva, 1993; Casas, 1990; Reyes & Jason, 1993; Smith et al., 1990; Werner, 1990; Werner

& Smith, 1992), and association with friends who are from more stable home environments (Reyes & Jason, 1993; Werner, 1990).

Although it is helpful to distinguish among the three categories of protective and risk variables for purposes of analysis, the interaction among these variables is also important to consider when discussing the influence of each protective/risk variable (Richmond & Beardslee, 1988; Rutter, 1985; Rutter, 1986).

The focus of this project explored the impact of a change in the adolescents' home environment, therefore, it was important to take a closer look at the variety of at-risk familial variables that are experienced by students. According to Garmezy (1987) there are six familial risk variables that are related to childhood psychiatric disorders: severe marital distress, low social status, overcrowding or large family size, paternal criminality, maternal psychiatric disorders, and admissions of children into foster home placement. Coie et al. (1993) provided a list of generic risk variables which includes numerous family and ecological context variables which may be associated with the students of this project. The relevant family circumstance variables included low social class, large family size, family disorganization, and poor bonding to parents. Ecological context variables were neighborhood disorganization, racial injustice, unemployment, and extreme poverty (Coie et al., 1993).

Being placed in a residential school may have a negative impact on children and adolescents similar to those placed in foster care, as these children and adolescents are essentially leaving their home environments in order to have better educational opportunities. Handford et al. (1986) identified a relationship between depressive symptoms and separation from or loss of one or both parents in children and adolescents who experienced

difficulty adjusting to a residential school. According to Wiehe (1986) female adolescents who were placed in foster care subsequent to becoming pregnant reflected a more external locus of control orientation as compared to the pregnant adolescents who remained in their home environments. Another study that links depression with loss revealed that children, ages eight through 16, who experienced death of a parent presented with greater degree of depressive symptomatology than children who experienced parental divorce, asthma, or no major life stressors (Sandler, Reynolds, Kliever, & Ramirez, 1992). Rutter (1971) noted the relationship between an increased incidence of anti-social behavior during later childhood and the separation from both parents for an extended period of time (more than four weeks) when separation was a result of family discord. This collective evidence suggests that children and adolescents who experience a major life stressor of being separated from one or both parents as a result of attending a residential school are at risk for initially developing depressive symptomatology and other intra-individual risk variables. The question remains if these intra-individual risk variables are long-term and pervade the chance for children and adolescents to take advantage of the academic opportunities of a residential school, or, do the protective variables associated with a residential school environment have a greater influence and contribute to academic success?

Adolescent Resiliency Research

The amount of research on resilience and vulnerability in adolescence and adulthood is considerably less than that which use infant, early, and middle childhood samples (Werner, 1990). It is important to study adolescent resiliency and vulnerability, because many longitudinal studies indicate that

positive psychological functioning in childhood and adolescence is the best predictor of positive adult life (Beardslee, 1989). From a developmental perspective adolescence is a period of tremendous psychological, social, and biological change (Rice et al., 1993). Adolescence is a transition between childhood and adulthood during which an individual is creating one's self-identity (Santrock, 1992). The normative and non-normative life events during adolescence create stressors with which adolescents need to cope. The concept of resiliency has evolved as a the potential positive outcome of an individual's response to stress and adversity (Compas, 1987; Garmezy, 1987; Rutter, 1987). For example, Rubenstein et al. (1989) state that suicidal adolescents have experienced more life stressors in the form of family disruption through separation, divorce, or death, parental emotional disorders, or severe family discord over the course of their development than their nonsuicidal counterparts. Adolescence is a tumultuous time during which there may be an unique pattern of protective and risk variables as well as unique interactions among these variables.

Alva (1993) investigated the relationship of sociocultural variables, personality factors, and adolescent perceptions of school and social events in explaining patterns of academic achievement among Asian-American tenth graders. Results indicated that students' social and educational experiences provide a strong connection among school responsibilities, social integration, and subsequent academic achievement (Alva, 1993). This is one example of the interaction among intrapersonal, familial, and social contextual protective/risk variables.

Other studies have examined the relationship of one or more broad categories of protective/risk variables with academic success/difficulty. Reyes and Jason (1993) conducted a comparison study of high- and low-risk

tenth grade Hispanic students from a large, predominately minority and low-income high school. High- and low-risk groups were identified on the basis of attendance rates and course failures. Results revealed that membership in social groups free of gang members and positive ratings of school satisfaction were most predictive of academic success (Reyes & Jason, 1993).

Another study investigated the individual factors associated with academic success/failure of Mexican-American and Anglo students (Casas, Furlong, Solberg, & Carranza, 1990). Results described low-achieving students as having poor social skills, self-discipline and study habits (Casas et al., 1990), which are all considered intrapersonal variables. An additional outcome of interest was that the majority of students, regardless of being from an academic success or failure orientation, all expressed an awareness of the value of graduation and requisite skills necessary for achieving the goal of graduation. The difference among students was that students who experienced academic failure were more likely to select an alternative activity over academic responsibilities when the opportunity presented itself (Casas et al., 1990). This certainly suggests a distinction between cognition and behavior and the resulting outcome of academic success/failure.

The development of one's identity is a major developmental task of adolescence (Santrock, 1992; Schweitzer, Seth-Smith, & Callan, 1992), which suggests the importance of understanding the relationship between self-concept and resiliency during adolescence (Beardslee, 1989; Brooks, 1992; Schweitzer et al., 1992). The construct of self-concept has been given numerous labels in research; "self-worth," "self-understanding," "self-perception," "self-esteem," and "self-image" are some examples which some researchers use interchangeably, and other researchers argue that differences in definition separate each of these labels. For the purposes of

this study self-perception will be defined as an internal process through which an individual makes judgments of competence in specific skill domains (cognitive, affective and interpersonal efficacy) in order to function in society, and, is evident in actions of self perception as well as responsibility and caring for others (Beardslee, 1989; Brooks, 1992; Schweitzer et al., 1992; Witt, Heffer, & Pfeiffer, 1990). As a measurable construct it is desirable that self-concept be relatively stable over time, however, many intervention studies investigate changes in self-concept (Marsh, Richards, & Barnes, 1986). The dilemma surrounding the "self-concept" construct is that it cannot be stable and still be responsive to life events or systematic interventions (Marsh et al., 1986).

As a protective factor, it would be desirable for a positive self-concept to be a stable constitutional factor (Beardslee, 1989; Schweitzer et al., 1992). However, interventions targeted for "at-risk" populations generally have a component designed to change one's self-concept in a more efficacious direction (Brooks, 1992; Marsh et al., 1986; Schweitzer et al., 1992). Beardslee (1989) states that individuals with positive self-concept are able to make causal connections between experiences and their inner feelings. This level of self-understanding requires not only awareness of thought and reflection about self and events, but also behaviors consistent with this awareness (Beardslee, 1989). Ideally a positive self-concept would become more stable over the course of an individual's development, however, life events can have a negative impact on adolescent's self-concept. Ortiz and Farrell (1993) demonstrated that economic deprivation, subsequent to father's job loss, had a negative impact on adolescents' self-concepts through its negative effect on the parent/adolescent relationship. Schweitzer et al. (1992) revealed that quality of family functioning and peer relationships also have negative

implications for adolescents' self-concept. Conversely, researchers have found that effective interventions can change dimensions of self-concept in a positive direction. Marsh et al. (1986) reported that participation in an Outward Bound Program produced increases in multiple dimensions of self-concepts in a sample of adolescents and young adults.

Protective factors within the individual identified during adolescence and related to resiliency include at least average levels of cognitive functioning (Masten et al., 1988); positive self-esteem and psychological adjustment (Schweitzer et al., 1992); self-esteem, motivation/performance in school, and quality of friendships (Brooks, 1992); internal locus of control and social problem-solving ability in adolescents whose parents have bipolar affective disorders (Beardslee & Podorefsky, 1988; Pellegrini, Kosisky, Nackman, Cytryn, McKnew, Gershon, Hamovit, & Cammuso, 1986); positive self-esteem and self competence in resilient adolescents experiencing high interparental conflict (Neighbors et al., 1993); and ego-resiliency and intellectual potential in delay of gratification (Funder & Block, 1989).

Protective/risk variables within the family context during adolescence have also been the focus of various studies. Rhodes and Jason (1990) investigated the protective and risk variables which contribute to adolescent substance abuse. Findings reveal that higher levels of drug usage are related to risky family environments. Specific risk familial variables include weak sibling and parental relationships, lack of perceived support and encouragement, and high degree of family problems (Rhodes & Jason, 1990).

Additional familial protective/risk variables identified in research as being salient during adolescence include the development of effective coping strategies to deal with stressful events and family social support (Rice et al., 1993; Shulman, 1993), family cohesion and suicide ideation (Rubenstein et al.,

1989), father-adolescent relationship and adjustment to divorce (Thomas & Forehand, 1993), caregiver-adolescent relationships and developmental outcomes under conditions of high stress and (Wyman et al., 1992).

Research that isolates protective/risk variables within the community context is not as extensive as in the other two categories. As previously reviewed, Reyes and Jason (1993) reported a relationship between academic success among Hispanic high school students and involvement in a social group that does not include gang members. Smith et al. (1990) revealed some interesting results that identified a relationship that adolescent athletes who have both low coping skills and minimal social support have a higher incident rate of athletic injuries.

In addition to the current research literature that points to the need for new studies targeting adolescent risk/protective variables, it is important to consider what adolescents view as important concerns. Adwere-Boamah and Curtis (1993) summarized the results of two studies that surveyed white middle-class adolescents' and African-American urban low SES adolescents' current concerns. Both samples have similar concerns along four factors: social self issues, personal self issues, health and drug issues, and future and career issues (Adwere-Boamah & Curtis, 1993). Both groups of adolescents reported similar most serious concerns: career issues, grade issues, future schooling issues, and appearance issues; and similar least serious concerns: sexual impulse issues, drug issues, smoking issues, and alcohol issues (Adwere-Boamah & Curtis, 1993). Results of this study suggest that adolescents are aware of and concerned about academic and future career issues. Therefore, the identification of protective/risk variables and proposed interventions to encourage promotion of protective variables may be more readily accepted by

adolescents who understand the connection between their current at-risk status and future goals.

Stress in Adolescence

Stress is the result of an imbalance between demanding environmental stimuli and the individual's evaluation of their resources and ability to cope with these demands (Lazarus & Launier, 1978). Typically stress is viewed from an adult orientation, and research has focused on the impact stressors, such as divorce, career advancement, and economic hardship, have on adult populations. During the past decade researchers have expanded their focus to include the impact, both direct and indirect, of these stressors on children (Colton, 1985). All children experience stress and the impact can interfere with their ability to function in school, at home, and in social relationships (Colton, 1985). Any individual's response to a stressor will be influenced by the appraisal of the situation, ability to process the experience, and attach meaning to it (Rutter, 1985). In other words, there is an interaction between the individual and the environment, and the stress experienced results from the individual's perception of the given stimulus in connection with the environmental interaction (Colton, 1985). Therefore, a child's appraisal of the situation will have tremendous determination on the intensity of stressfulness for any life event (Luthar, 1991). Most early findings of childhood stress were reported by adults (Colton, 1985; Dise-Lewis, 1988; Elwood, 1987; Yamamoto, 1979; Yamamoto & Felsenthal, 1982). Researchers have found discrepancies between adult and child perceptions of stressors-experienced during childhood (Chandler, 1981; Colton, 1985; Dise-Lewis, 1988; Elwood, 1987; Yamamoto, 1979; Yamamoto & Felsenthal, 1982). The focus of this study was to determine the risk/protective nature of the contextual variable, a residential school setting.

Therefore, it was valuable to investigate the perceptions of the student population, from their perspective, to ascertain if they even consider it a stressor. The student-perceived nature of the residential school setting should be identified before one can discern uses of the various coping skills by the student population to deal with the residential school setting as a stressor.

The developmental time period known as adolescence has its unique set of potential stressors, normative, non-normative, and daily hassles (Neighbors et al., 1993; Rice et al., 1993; Smith et al., 1990). Smith et al. (1990) found that adolescents with low coping skills and low social support exhibited a significant stress-injury relation, and that negative major life events accounted for up to 30% of the injury variance. According to Rhodes and Jason (1990), their social stress model indicates that adolescents initiate substance use as a means of coping with a variety of stressors and influences that occur within family, school, peer group, and community contexts. Zitzow (1992) developed an instrument to measure the intensity of stress that high school students perceive in areas of academic, personal, social, and family-home environments. No significant differences found between students from urban and rural communities (Zitzow, 1992). Death of siblings and death of parents were the two most reported stressful items, indicating that loss of family members is a stressful non-normative event for adolescents. Karr and Johnson (1991) report that students from nontraditional or divorced families had significantly higher school environment stress than children from intact families. In addition to family structure, this study also investigated the effects of gender, ethnicity, and type of classroom placement with no significance identified. Cole and Sapp (1988) investigated the relationship between locus of control and stress in high- and low-achieving high school seniors. Results revealed that students with an external locus of control had

greater difficulty with school-related stress (Cole & Sapp, 1988), providing supportive evidence to explore the connection among the intra-individual variable of locus of control, perception of life events as stressors, and the status of academic achievement.

Adolescence is a time that presents individuals with developmentally unique stressors including identity development, negotiating family relationships in an attempt to balance striving for independence while remaining connected, and the increasing importance of peer and other social relationships (Patterson & McCubbin, 1987; Santrock, 1992). Confound these normative stressors with known risk variables such as low SES, family discord, and substance abuse (Compas, 1987; Garmezy, 1987; Neighbors et al., 1989; Rutter, 1987; Wyman, Cowen, Work, Raoof, Gribble, Parker, & Wannon, 1992), and the levels perceived stress for normative life events during adolescence are likely to change (Karr & Johnson, 1991; Rhodes & Jason, 1990; Zitzow, 1992). The present study, using a sample of adolescents identified on the basis of an environmental variable of low income, included an additional non-normative life event of being enrolled in a residential school.

Residential School Setting

Little empirical information pertaining to the effect a residential school setting has on economically disadvantaged children and adolescents is available. Typically the research surrounding residential settings focused on residential treatment facilities for children and adolescents who have a variety of psychopathological diagnoses or on private schools for students from economically advantaged home environments. The literature for both of these residential conditions does not discuss resiliency or adjustment of their student populations. Literature found that discusses adjustment to residential

settings used student samples other than adolescents from economically disadvantaged home environments. For example, Cornell et al. (1991) investigated the socioemotional adjustment of gifted adolescents girls who were enrolled early into college through an acceleration program.

This study used a sample of racially mixed, male and female adolescents from low income home environments attending a residential high school for the purpose of exploring the potential of the residential school setting as a protective/risk factor in adolescent academic success/failure. The specific residential school was located in a suburban area in south central Pennsylvania. The mission of the school is "...to seek financially needy boys and girls of character and ability from diverse backgrounds and to prepare them through education and support for successful and meaningful lives" (School Handbook, 1993, p. i). The Admissions Program of the school provides open house informational sessions throughout the mid-Atlantic and New England regions for families and local public school district personnel. Students and families apply for admission. Public school districts and public service agencies, such as children and youth service organizations, can also make referrals for applications for their students. The primary entrance criteria is financial neediness of the family. The Financial Screening Test is used to determine family financial need. This is the same procedure used by several federal programs which provide aid for low-income families and students. A candidate's prior academic record, including grades, standardized testing, and behavior information, are also taken into consideration.

The residential school educates students from pre-kindergarten through grade twelve. Students are eligible to enroll from age four until their sixteenth birthday. The School is divided into three divisions: junior program (pre-kindergarten through grade four), intermediate program (grades five

through eight), and senior program (grades nine through twelve). Students live in student homes which are supervised by married couples. Each junior program student home has an approximate total of eight students, both males and females. Intermediate and senior division student homes have 12 to 14 students in each home, either female or male students. The School's residential program is governed by a set of guidelines which include student conduct, student chores and responsibilities, study hours, clothing and hair standards, meal time structure and television restrictions.

The School's academic program is similar to that of public school systems in length of day, student schedules, required and optional subjects as well as availability of co-curricular activities. However, the School has smaller class sizes and has a smaller student to counselor ratio than most public school systems. Additionally intermediate and senior academic programs have technology equipment and course offerings which surpass many public school systems. In addition to academic materials, the residential school provides all students with housing, food and clothing needs as well as medical, dental, and psychological services, at no cost to the student or family.

The Research Questions

Three research questions were designed to investigate intraindividual, familial, and contextual protective/risks factors that have been identified in the past literature as being significantly linked to adolescent resiliency. The additional variable of adolescent attendance at a residential school setting, not previously identified in the literature, is included to extend adolescent resiliency research. This study is crafted to explore the relationship among intraindividual, familial, and contextual protective/risk factors, and to

examine their connections to the academic success/difficulty of adolescents from low income homes attending a residential school.

The primary question of this study is to explore the influence of a residential setting on adolescents from low income home environments. It was predicted that length of time in a residential setting would be one of several significant predictor variables contributing to students' academic success/difficulty. No previous studies investigating this particular hypothesis were found, therefore, predicting the residential setting as a contributing risk or protective factor presents a dilemma. Masten, Garmezy, Tellegen, Pellegrini, Larkin, and Larsen (1988) state that when researching resiliency it is necessary to assess multiple attributes and multiple dimensions of adaptation, as it is the interactions among these variables that become indicators for resiliency/vulnerability. Their research indicates that children from lower levels of SES, with lower IQs, and less positive family qualities are generally less academically and socially competent as well as more susceptible to high levels of stress. Therefore, if one considers that home environments with consistent rules, appropriate discipline, adult monitoring and supervision, child/adolescent responsibilities, and social support are identified as protective variables (Coie et al., 1993; Compas, 1987; Masten et al., 1988; Richmond & Beardslee, 1988; Rutter, 1985; Werner, 1989; Werner, 1990; Werner & Smith, 1992), then a residential setting with a structured student home environment could possibly be considered a contributing protective variable.

However, it is also possible that placement in a residential setting creates for adolescents a tremendous upheaval in their familial context contributing to prolonged feelings of abandonment, separation anxiety, and isolation, thus making length of time in a residential setting a contributing

risk factor. This is consistent with a body of research that reveals the prolonged difficulty children and adolescents have with familial issues of separation and divorce (Borrine, Handal, Brown, & Searight, 1991; Hetherington, Stanley-Hagan, & Anderson, 1989; Thomas & Forehand, 1993), change in parent work status (Flanagan & Eccles, 1993), and parental loss or separation (Handford, Mattison, Humphrey, & McLaughlin, 1986; Rutter, 1971; Rutter, 1985; Wiehe, 1986). The difficulty children and adolescents experience is evident in levels of self-reported depression (Handford et al., 1986), adjustment difficulty (Borrine et al., 1991), and academic difficulty (Flanagan & Eccles, 1993; Goldstein, 1986). Therefore, the specific classification of length of time in a residential setting as a predictor variable for academic success/difficulty remains open-ended.

The second question explores the relationship of membership in an academic/behavioral protective or at-risk group to several intraindividual, familial, and contextual variables. This question has a broader definition of resiliency than the first question. This definition includes several academic and behavioral indicators of resiliency. This question is designed to relate group membership to the intraindividual variables of self-concept, general school achievement ability, and perceived level of stress as a result of life changes; the familial variables of spacing of siblings in relation to the student, and maternal/paternal education levels; and the contextual variable of number of years enrolled in the residential school. The two groups are an academic/behavioral protective group and an academic/behavioral at-risk group. Group membership is determined by the use of several academic and behavioral performance variables. Specific academic performance variables are mid-year achievement and effort grades for each major subject and a composite of minor subject grades. Behavioral performance variables include

conduct grades for each major subject and a composite of minor subject grades, academic detention point standing, and residential discipline standing. This question attempts to identify the variables that relate to group membership in the academic/behavioral protective or at-risk group.

The third question explores the relationship among the adolescents' intraindividual variables and perceived adjustment to a residential school setting. Intraindividual variables include self-concept, general school achievement ability, and perceived level of stress as a result of life changes. Due to the exploratory nature of this question the null hypothesis is assumed.

The direction for potential significance of each research question remains open-ended because of the unpredictability of including an unknown variable, a residential school environment, into a group of intraindividual, familial, and contextual protective/risk factors. Patterns of relationships among these factors are identified throughout the literature. However, the specific nature of their associations for each of the current study's questions are difficult to discern given the unique setting. Stated throughout resiliency literature is the importance of the relationship among multiple protective/risk factors. Therefore, the inclusion of an unknown variable, and the potential effect it may have with the previously identified protective/risk factors, generates research questions without prior empirical evidence to support directionality.

METHOD

Subjects

A total of 120 students enrolled in the ninth grade for the 1994-95 academic school year at a residential school located in the south central region of Pennsylvania participated in this study. The students' age range is from 13 to 16 years, and all are from the lower income home environments as this is one of the primary admissions criteria for enrollment into the school. Students are of ethnically diverse backgrounds and come from a variety of geographic locations across the United States. Fifty-eight females and 62 males participated. See Table 1 and Table 2 for additional student demographic and familial variables, respectively.

Measures

Records Review

The following demographic variables were collected via an individual student record review: maternal and paternal education levels; subject's urban-rural residence; number of siblings; number of years between subject and siblings; number of years subject has attended the residential school; number of documented disciplines accumulated within the residential program during the first two marking periods of the ninth grade; academic detention point accumulation during the first two marking periods of the ninth grade; academic marks from the first two marking periods of ninth grade including achievement, effort, and conduct grades; and ninth grade results of the Comprehensive Testing Program III (CTP III) general verbal and general quantitative scores.

Table 1.
Demographics of Students

<u>Category</u>		<u>N</u>	<u>%</u>
Age	13	3	2.5%
	14	83	69.2%
	15	26	21.7%
	16	8	6.7%
Gender	Male	62	51.7%
	Female	58	48.3%
Race	Asian	2	1.7%
	Black	35	29.2%
	Hispanic/Latino	19	15.8%
	White	63	52.5%
	Arabic	1	0.8%
Residency	Rural	24	20%
	Suburban	34	28.3%
	Urban	62	51.7%
Years In Residential School			
	1	25	20.8%
	2	13	10.8%
	3	26	21.7%
	4	10	8.3%
	5	14	11.7%
	6	16	13.3%
	7	5	4.2%
	8	2	1.7%
	9 +	9	7.5%

N= 120

Comprehensive Testing Program III (Educational Testing Service, 1994)

The residential school conducts standardized achievement testing on all

Table 2.
Student Familial Demographics

Category		
	N	%
Maternal Education Level		
Up to 9th Grade	6	5.2%
9th-12th Grade	21	18.3%
H.S. Graduate	52	45.2%
1-3 Yrs. College	27	23.5%
College Degree	8	7%
Some Grad. Work	1	0.9%
(N = 115)		
Paternal Education Level		
Up to 9th Grade	5	5.6%
9th-12th Grade	17	18.9%
H.S. Graduate	51	56.7%
1-3 Yrs. College	7	7.8%
College Degree	7	7.8%
Some Grad. Work	2	2.2%
Graduate Degree	1	1.1%
(N = 90)		
Number of Siblings		
0	21	17.5%
1	32	26.7%
2	30	25%
3	17	14.2%
4	14	11.7%
5	5	4.2%
6	0	0%
7	1	0.8%
(N = 120)		
Spacing (in yrs.) Between Subject and Siblings		
Only Child	21	17.5%
> 4 yrs.	30	25%
< 4 yrs. With 1 Sibling	50	41.7%
< 4 yrs. With 2 Siblings	19	15.8%
(N = 120)		

ninth grade students in the fall of each academic year. CTP III provides the school with standardized test scores in general verbal ability, reading, writing,

and general quantitative ability. Scores are reported in the form of percentiles, stanines, normal curve equivalents, and scale scores (ETS, 1994). In addition to national norms, independent school norms and suburban public school norms provide further comparison for the residential school's student population. The CTP III is a norm-referenced test of academic achievement with emphasis on linguistic, logical, and mathematical skills (ETS, 1994), and is an appropriate standardized achievement measure for this population as it allows the residential school to compare current student academic achievement with scores from other independent schools. The Educational Testing Service provides the scoring and reporting services.

This particular achievement testing tool is in the third year of a three-year standardization plan by the ERB (Educational Records Bureau), an organization comprised of over 1,000 independent and suburban public schools. The CTP III was first tried out during the 1992-93 school year. The preliminary edition of the technical manual provides initial validity and reliability data. A criterion-related validity study, using 1,597 ninth grade students, compared the CTPIII and the NAT (National Achievement Test series) and revealed the following correlation coefficients: Mathematics = .83, Reading Comprehension = .68, Writing Mechanics = .80, Quantitative Ability = .68, and Verbal Ability = .67. A construct validity study compared the intercorrelations among the CTPIII tests and school ability tests on 6,134 ninth grade students and reported adequate correlation findings. For example, Quantitative Ability correlations with Vocabulary, Mathematics, Reading Comprehension, Writing Mechanics, Writing Process, and Verbal Ability were .53, .79, .57, .60, .57, and .60, respectively. An alternate forms reliability study revealed the following correlations for 2,764 eighth and ninth grade students: Vocabulary = .75, Mathematics = .80, Reading Comprehension = .82, Writing

Mechanics = .77, Writing Process = .81, Quantitative Ability = .80, and Verbal Ability = .81. An intra-test reliability study using the Kuder-Richardson formula reported reliability coefficients of at least .70 and most were in the high .80's.

The Otis-Lennon School Ability Test, Sixth Edition (Psychological Corp, 1990)

The Otis-Lennon School Ability Test (OLSAT) measures student achievement ability in relation to the learned or developed skills brought to school learning situations in grades kindergarten through twelfth (Swerdlik, 1992). Level G, for grades nine through twelve, is a group-administered paper-and-pencil, multiple-choice format which takes approximately 60 minutes to complete. The OLSAT provides standardized scores ($M=100$, $SD=16$), identified as School Ability Indexes (SAI), for Total, Verbal, and Nonverbal scores. However, the Total Score SAI is considered the best overall indicator of school-learning ability (Anastasi, 1992; Swerdlik, 1992). SAIs can be converted into percentile ranks and stanines for each age group (Anastasi, 1992).

The OLSAT was normed on approximately 35,000 students from 65 schools, including nonpublic and Catholic schools. School systems were selected according to a stratified random sampling with regard to socioeconomic status, urbanicity, region, and ethnicity (Anastasi, 1992; Swerdlik, 1992). Internal consistency estimates of reliability for Total, Verbal, and Nonverbal scores range from the low .70s to low .90s across all grade levels suggesting the OLSAT is an internally consistent measure of general ability (Swerdlik, 1992). Test-retest reliability estimates were not available at the time of technical manual publication. The content, criterion-related, and construct validity data sections presented in the Technical Manual are also adequate suggesting that the OLSAT measures similar abilities to other group-

administered school ability tests. Results of criterion-related validity studies between the OLSAT and tests of academic achievement, such as the Stanford Achievement Test, the Iowa Test of Basic Skills, and the California Achievement Tests, for total test battery and subtests across various grade levels are reported in the OLSAT technical manual. For example, one criterion validity study, comparing the OLSAT and the Stanford Achievement Test with a sample of 2,450 ninth grade students, revealed the following correlation coefficients: Complete Battery $r = .82$, Total Reading, $r = .73$, Total Mathematics, $r = .78$, Total Language, $r = .70$, and Thinking Skills, $r = .78$. The OLSAT has two forms appropriate for each grade, with some overlapping with adjacent grades. Concurrent validity estimates were reported across grades to assess the relationship between adjacent levels for total, verbal and nonverbal subscales scores. Ninth grade correlation coefficients ($N = 709$) for levels F and G were .79, .76, and .76 for total, verbal and nonverbal scales, respectively. Construct validity was also approached through the correlation of the OLSAT with other measures which also assess broad cognitive abilities. For example, correlations between the OLSAT SAI and the Verbal and Mathematical batteries in the Scholastic Aptitude Test were .72 and .63. One critique of the OLSAT is that the manual does not clearly describe the unique attributes of the OLSAT (Swerdlik, 1992).

The Piers-Harris Children's Self-Concept Scale (Piers, 1984)

The Piers-Harris Children's Self-Concept Scale (CSCS) is an 80-item self-report inventory which is designed to assess how children and adolescents feel about themselves by focusing on conscious self-perceptions rather than interpreting individual behavior or the attributions identified by others (Cooley & Ayres, 1988; Epstein, 1985; Jeske, 1985; Piers, 1984). The CSCS, "The

Way I Feel About Myself" inventory, appropriate for ages 8 through 18 (4th through 12th grade students), consists of first-person declarative statements to which the adolescent responds "yes" or "no." The scale provides an overall total self-concept score in addition to six cluster scores of: Behavior, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity, and Happiness and Satisfaction (Epstein, 1985; Jeske, 1985; Piers, 1984). (See Appendix A for a copy of the CSCS.) All raw scores can be converted into T-scores, percentile scores, and an overall stanine score. The Total Self-Concept score is considered to be the single most reliable measure and the one with the most research support (Piers, 1984). The CSCS was standardized on 1,183 school-age children and subsequent research data indicate that the CSCS has adequate psychometric properties (Epstein, 1985; Jeske, 1985). Reliability studies are generally acceptable and confirm the results of the original studies. Internal consistency estimates for the total score range from .88 to .93 and cluster scores reveal internal consistency estimates of .73 to .81. Test-retest reliabilities of numerous studies range from .42 to .96. Sample size for the test-retest reliability studies ranged from 40 to 244 subjects. Criterion validity studies have compared the relationship of the CSCS to numerous teacher and peer ratings of subject self-concept, as well as other self-concept, behavioral, and personality measures. One study with 97 sixth through ninth grade students revealed correlations between the CSCS and teacher and peer self-concept ratings of .42 and .43, respectively. The correlation between the CSCS and the Lipsett's Children's Self-Concept Scale (N = 98), the Personal Attribute Inventory for Children (N = 75), and the Coopersmith Self-Esteem (N = 215) were .68, .67, and .85, respectively. Additional estimates of content, criterion-related, and construct validity from

numerous studies are reported in the manual as being acceptable (Jeske, 1985; Piers, 1984).

The Piers-Harris Children's Self-Concept Scale (CSCS) is considered to be one of the better measures of child and adolescent self-concept that is currently available (Jeske, 1985). The CSCS was developed for three primary uses: as a screening tool in classrooms or in high-risk settings; as a portion of an individual psychological assessment; and as a research tool to provide a quantitative, self-report measure of child and adolescent self-concept (Epstein, 1985; Jeske, 1985; Piers, 1984). Developers of the scale view self-concept as a relatively stable set of attitudes reflecting both a description and critique of one's behavior and attributes (Piers, 1985). The CSCS has been used to investigate the self-concept of children and adolescents who have experienced parental divorce and remarriage (Glover & Steele, 1988; Parish, 1987), depression (Hammen, 1988; McCauley, Mitchell, Burke, & Moss, 1988), and sexual abuse (Powell & Wagner, 1991; Tong, Oates, & McDowell, 1987). Blass and Bauer (1988) examined the relationship between adolescent self-concept and participation in extra-curricular activities. Nunn and Parish (1992) investigated psychosocial characteristics of at-risk high-school students, using the CSCS as one of several measures. Results indicate that students who are at-risk for academic failure report a less than positive self-concept in comparison to a control group of peers not at academic risk (Nunn & Parish, 1992). Wood, Hillman, and Sawilowsky (1992) have also used the CSCS in studying African-American at-risk adolescents. Numerous studies using the Piers-Harris Children's Self-Concept Scale suggest that the CSCS is a suitable measure of self-reported self-concept and contributes valuable information relative to adolescents' perception of self-worth. The manual reports additional studies of the CSCS with specific populations and is clear in

delineating use and limitations of the CSCS with specific populations. Generally, the CSCS is considered to be a measure of adolescent self-concept appropriate for research.

The Life Events Checklist (Johnson, 1986)

The Life Events Checklist measures life changes and their impact on older children and adolescents. It is a 46-item scale that was developed as a result of a combination of selected items from the Coddington Life Events Record, items from adult life changes scales (modified for use with children and adolescents), and interviews with black and white children and adolescents from varying socioeconomic backgrounds (Johnson, 1986). The first 18 items represent events over which adolescents are likely to have little personal control and are unlikely to be confounded with indices of health and adjustment. Items 19 to 46 reflect events that are likely to serve as stressors when experienced but are viewed as potentially under the adolescent's control (Johnson, 1986). (See Appendix A for a copy of the Life Events Checklist.) Two values are obtained from the Life Events Checklist: a positive life change score and a negative life change score. A total life change score can also be obtained by summing the impact ratings of all events experienced.

Validity studies found significant correlations between negative life change scores and depression, anxiety, emotional maladjustment, and external locus of control. Positive life event change scores were significantly related to internal locus of control (Johnson, 1986). Another validity study compared the LEC scores obtained from a group of adolescent sex offenders to those from a group of adolescents from the general population matched for sex and age. Negative change scores for the clinical group were roughly three times higher than those reported by the comparison group (Johnson, 1986).

In a test-retest reliability study using 50 subjects of ages 10-17, correlations for positive and negative life change scores were .69 and .72, respectively. The interval between checklist completion was two weeks. This is considered to be adequate reliability, in that during the two-week interval some of the life event changes were experienced by subjects (Johnson, 1986). Interrater reliability between adolescents, children, and their mothers was calculated for the LEC. The resulting correlations for the positive and negative change scores were .48 and .60, respectively. This is considered adequate as some research evidence indicates that there is discrepancy between adolescent and adult views on adolescent stressors (Johnson, 1986).

Ten-Item Questionnaire

See Appendix B for a copy of the 10-item questionnaire completed by each student. The first four items requested student demographic information: age, gender, racial group, and ethnic group identification. A brief explanation of the difference between race and ethnicity was provided, and students' questions were answered on an individual basis. Items five through seven required students to list activities with which they were involved during the ninth grade, number of visits with parent(s)/sponsor(s) during the ninth grade year, and to rate on a five-point Likert-type scale the encouragement they receive from parent/sponsor(s) for academic achievement. The next two items were open-ended, and requested students to describe their adjustment to attending school away from home, and feelings about being at a residential school. The last item requested students to rate their overall adjustment to being at the residential school on a scale of one to ten.

Qualitative Data

Justification for Use of Qualitative Data

The use of qualitative methodology assisted in addressing the third question of this project, an attempt to gain in-depth understanding of the students' perceptions about their adjustment to and feelings about attending a residential school setting. Quantitative researchers deal with objective, measurable phenomena, whereas qualitative researchers believe that the subjective reality of participants within environmental context is critical to unlocking the mysteries of science. According to Strauss (1987), one of the underlying assumptions of the qualitative research paradigm is that implicitly-stated guidelines for qualitative research can contribute to the extension and depth of information about quantitatively-developed theories. Qualitative research adds a contextual dimension that is generally lacking in quantitative data (Strauss, 1987). The thematic analysis of qualitative data provides information about the meaning of an event or concept and how it is experienced (Van Manen, 1990). The qualitative analysis component of this project provided a detailed, subjective description of the adolescents' adjustment to residential school which complemented the quantitative analyses. The complementary relationship to be achieved between qualitative and quantitative methodologies is desirable. The qualitative data provided specific, sophisticated, rich details, unique to this project's population and hypotheses, which compensates for the limitations of quantitative data (Marshall et al., 1991).

However, it is to be made clear that not all researchers agree on the appropriateness of combining qualitative and quantitative methodologies (Hatch, 1986). The value of qualitative research methodology is a

controversial issue among researchers in psychology and education (Manen, 1990; Strauss, 1991), and the combined use of quantitative and qualitative methodologies is certainly a basis for argument as the researcher is selecting two paradigms from which to operate, each generating its own criteria for an acceptable framework of epistemological assumptions and scientific practices (Hatch, 1986). According to Hatch (1986), each view uses different methodologies for data collection which should not be combined in a complementary model for research.

A central emphasis within qualitative methodology is the collection of data from students directly involved in the situation being studied. According to Louis and Turner (1991), qualitative methodology is appropriate for the analysis and evaluation of components within an institutional context. Additionally, researchers need to expand beyond the more widely-accepted quantitative analysis of a social phenomena such as adolescents' subjective experience of enrollment in a residential school. This current project's primary focus was the quantitative analysis of individual, familial, and contextual risk/protective factors in relationship to academic success/difficulty in a residential school setting. The inclusion of a qualitative component provides subjective insight into adolescents' perceptions of their experiences from a global perspective, a valuable component that complements the quantitative analysis of identified risk/protective factors.

Collection of Qualitative Data

Qualitative data were obtained from student completion of two descriptive questions included in the ten-item questionnaire. Qualitative analyses for this project were designed to provide descriptive information and identify possible themes detailing student feelings about being at a residential

school and adjustment to the residential school lifestyle. All 120 students completed the questionnaires, and student responses on each of the two descriptive questions were content analyzed into coding categories. The coding categories for the adjustment description included: (a) positive statements about adjustment, (b) resources (including people, activities) used to assist in adjustment, (c) proactive attempts for adjustment demonstrating involvement in the adjustment process, (d) roadblocks or obstacles to adjustment, and (e) statements of acquiescence about adjustment. Coding categories for student feelings about attending a residential school included: (a) positive statements, (b) statements of acquiescence, (c) comparison to other living environment options, (d) opportunities current and future, and (e) roadblocks or obstacles to more positive feelings. Student responses were coded by gender, and student self-rating of adjustment to the residential school (based on a scale of one to ten) was also indicated for each individual. Categories were evaluated for linkages and reoccurring themes consistent across student responses. The common themes were integrated to generate overall student descriptions to the adjustment to a residential school lifestyle and feelings about attending a residential school. (See Appendix C for the coding system and student responses.)

Treatment

The residential school used for data collection is located in a suburban area in south central Pennsylvania. The school provides educational, residential, and health service programs to racially mixed, male and female students from low income home environments. The mission of the school is "...to seek financially needy boys and girls of character and ability from diverse backgrounds and to prepare them through education and support for

successful and meaningful lives" (School Handbook, 1993, p. i). The Admissions Program of the school provides open house informational sessions throughout the mid-Atlantic and New England regions for families and local public school district personnel. Information pamphlets and admission applications are circulated throughout the country by the admissions program and alumni organizations. Students and families apply for admission. School alumni, public school districts and public service agencies, such as children and youth service organizations, can also make referrals for applications for students. The primary entrance criteria is financial neediness of the family. The Financial Screening Test is used to determine family financial need. This is the same procedure used by several federal programs which provide aid for low-income families and students. A candidate's academic record, including grades, standardized testing, and behavior information, are also taken into consideration.

Procedure

All data from individual students and record reviews were collected at the conclusion of the second marking period during the winter of the 1994-95 academic school year. During a 90-minute double class block of time, usually devoted to American Cultures and American Literature, the researcher for this project presented the ninth grade classes with an overview of the project, reviewed the informed consent letter, obtained signatures from those students willing to participate, and collected student-completed measures. Each class size ranged from 15 to 30 students, and all materials were collected in the same sequence across data collection sessions: OLSAT, Piers-Harris Children's Self-Concept Scale, Life Events Checklist, and the 10-item questionnaire. A break was given at the conclusion of the OLSAT portion of the data collection

sessions. A total of five data collection sessions over the course of three days were required to obtain the 120 sample size. The total ninth grade cohort has an enrollment of 136 students, and of the 136 potential subjects, 16 students declined to participate. These students were excused from the classrooms to avoid distractions for the study participants. The 16 students who declined to participate were not from one class session; they were spread across three of the five data collection sessions. Individual student record reviews were completed after students signed the informed consent letters.

Assignment to Groups

Protective/At-Risk Groups

Two groups were to be identified for the discriminant function analyses, an academic/behavioral protective group and an academic/behavioral at-risk group. Group membership was pre-determined by the use of several academic and behavioral performance indices. The 12 academic indices were mid-year achievement and effort grades for five major subjects and a cumulative averages in achievement and effort for the minor subjects. The eight behavioral indices were mid-year conduct grades for each major subject and a cumulative average for the minor subjects, academic detention point standing, and residential discipline standing.

A student received one point for each academic and behavioral performance variable for which he/she was considered at-risk. For the academic variables a student received one point for each grade category in which a student had a mid-year cumulative average of below 2.0.

The behavioral variable of mid-year conduct grade point averages across major subjects and an average of minor subjects was scored similarly to

the achievement and effort variables; a student received one point for each mid-year cumulative average of below 2.0. A student received one point if, at mid-year, the total number of academic detention points was between the 10-25 range. A student received two points if the mid-year detention point total was above 25. A student received no points if, at mid-year the total detention point range was between one and nine. Academic detention points are earned by students for numerous reasons; examples of behaviors which earn students points include being late to class, forgetting homework, being disruptive, smoking during school hours, and being disrespectful to a teacher. When a student earns ten points, he/she has a meeting with the residential school's disciplinarian. At the 25-point level a letter is sent home to the student's parent/sponsor. At the 50-point level a mandatory conference is held at which the parent/sponsor must attend. As of mid-year, no students had reached 50 points.

Residential disciplines that have serious consequences are listed on a student's residential record. Similar to the academic detention point rating, a student received one point if one residential discipline was listed at mid-year for ninth grade. A student received two points if two or more residential disciplines were listed on a student's record. Residential disciplines recorded on a student's file are for serious behaviors such as running away, possession and/or use of alcohol or other drugs, and physical violence.

For each student all points received from academic and behavioral performance variables were totaled. A student was placed in the academic/behavioral protective group with a total score of zero or one. A student was placed in the academic/behavioral at-risk group with a total score of two or more. The total possible score range was from zero to 20.

Adjustment Groups

Students rated their overall adjustment to attending a residential school on a scale of one to ten; one being the lowest score and ten being the highest score. This continuous rating score was dichotomized into two groups; a score of one through five placed a student in the group identified as having difficulty adjusting, and a score of six through ten placed a student in the group as having an overall positive experience adjusting to the residential school setting. Twenty-seven students rated their adjustment within the one to five score range, and 93 students rated their adjustment within the six to ten score range.

RESULTS

Quantitative analyses of risk and protective variables, identified throughout the literature, were used with the inclusion of a relatively unknown risk or protective variable, the length of time adolescents from low income home environments live in a residential school setting, to address the first two questions of this study. The first question examined, through the use of multiple regression analysis, a set of variables that could relate to adolescents' academic achievement at a residential school setting. The second question explored the relationship of various intraindividual, familial, and contextual variables to membership in either an academic/behavioral protective or at-risk group using standard discriminant function analysis. Group membership was determined by several academic and behavioral indicators, creating a broader description of resiliency.

The third question examined the relationship among intraindividual variables and perceived adjustment to a residential school setting. Students were assigned groups according to their self-reported adjustment rating. A combination of the correlation findings among various intraindividual variables for each of the adjustment groups and the qualitative content analyses of two open-ended survey questions completed by students provided the data to address this question. Through content analysis, themes relevant to adjustment and feelings about being at a residential school were also identified. All three questions explore the relationships among intraindividual, familial, and contextual variables and their associations with adolescent resiliency. However, each question has a different focus on resiliency ; and each focus will predictably result in a variation among the specific relationships identified among the intraindividual, familial, and contextual variables.

First Question: The Relationship of a Residential School Setting to the Academic Achievement of Adolescents from Low Income Home Environments

Descriptive Statistics

Frequency distributions, means, and standard deviations for the total sample, and for female and male students, across the intraindividual, familial, and contextual variables are located in Tables 16, 17, and 18 in Appendix D.

A Pearson product-moment correlation matrix is presented in Table 19 in Appendix D. This correlation matrix included 31 of the 37 variables from data collected for this study. Variables, such as gender, race, and urban-rural location, were excluded from the matrix as these are categorical variables. The verbal and quantitative achievement scores were converted into standardized scores ($M = 100$, $SD = 15$) to allow for a more direct comparison with students' school ability index standardized scores.

Preliminary One-Way ANOVA's

Prior to performing the multiple regression analysis to identify the variables that relate to the mid-year academic achievement for the ninth grade year of adolescents attending a residential school setting, preliminary one-way ANOVA's were performed to compare the means of each of the intraindividual, familial, and contextual variables across groups identified by gender and by race. Any significant differences identified among the students across the categorical variables of gender or race could have potential impact on the results of the multiple regression analysis. The familial, contextual, and intraindividual variable mean scores used in the ANOVA's were maternal and paternal education levels, number of siblings, years of spacing between siblings, number of years enrolled in the residential

school, number of activities during student's ninth grade year, number of residential disciplines accumulated during the first half of ninth grade, number of academic detention points accumulated during the first half of ninth grade, general school ability index, global self-concept, rating of stress in response to life events, self-report rating of encouragement by parents/sponsors, self-report adjustment rating to the residential school, ninth grade mid-year cumulative effort grade point average, and ninth grade mid-year cumulative conduct grade point average. A one-way ANOVA was also performed on the criterion variable identified for the standard multiple regression: mid-year cumulative achievement grade point averages for the ninth grade academic year.

Groups Identified by Race

Table 3 presents the frequency distribution of students according to race. See Table 20 in Appendix D for the frequency distributions, means, and standard deviations of the 15 independent variables and the achievement

Table 3.
Frequency Distribution of Students According to Race

Race	Frequency	Percent
Asian	2	1.7
Black	35	29.2
Latino/Hispanic	19	15.8
White	63	52.5
Arabic	1	0.8

N=120

GPA variable across the five groups identified by race. Given the small number of Asian (N = 2) and Arabic (N = 1) students, these two groups were not

included in the preliminary ANOVA's. A summary of the one-way ANOVA results for groups identified by race are presented in Table 21, Appendix D. The one-way ANOVA results for groups identified by race revealed several significant findings. Table 4 reviews the significant one-way ANOVA results.

Table 4.

Summary of One-Way ANOVA's on Three Significant Independent Variables for Groups Identified by Race

VARIABLES	DF	SS	MS	F
Paternal Ed. Level				
Between Groups	2	12.61	6.31	5.82 * *
Within Groups	85	92.1	1.08	
Total	87	104.72		
Encouragement Rating				
Between Groups	2	6.89	3.44	4.16 *
Within Groups	114	94.31	0.83	
Total	116	101.2		
Global Self-Concept Total				
Between Groups	2	802.74	401.37	5.46 * *
Within Groups	112	8231.92	73.50	
Total	114	9034.66		

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

Levels of paternal education revealed significant differences among the races, $F(2,85) = 5.82$, $p < .005$. The Tukey post hoc test revealed the following significant pairwise mean differences between specific groups identified by race: Hispanic/Latino ($M = 2.21$, $SD = 0.80$) and Black ($M = 3.38$, $SD = 1.24$), mean difference is 1.17; and Hispanic/Latino ($M = 2.21$, $SD = 0.80$) and White ($M = 3.15$, $SD = 1.01$), mean difference is 0.94; Tukey $F(85) = 3.37$, $p < .05$. These findings indicate that Black and White student groups had higher reported levels of paternal education attainment in comparison to the Hispanic/Latino student group.

The parental/sponsor encouragement rating revealed a significant difference among the groups, $F(2,114) = 4.16, p < .05$. The Tukey post hoc test revealed the significant pairwise mean difference between specific groups identified by race: Black ($M = 4.63, SD = 0.60$) and White ($M = 4.14, SD = 1.11$), mean difference is 0.49; Tukey $F(114) = 3.36, p < .05$. This finding indicated that Black students felt more encouragement from their parents/sponsors than the White students did.

Total self-concept scores revealed significant differences among the races, $F(2, 112) = 5.46, p < .01$. The Tukey post hoc test revealed the following significant pairwise mean differences between specific groups identified by race: Hispanic/Latino ($M = 58.74, SD = 7.12$) and White ($M = 52.39, SD = 8.04$), mean difference is 6.35; and Black ($M = 56.88, SD = 8.04$) and White ($M = 52.39, SD = 8.04$), mean difference is 4.50; Tukey $F(112) = 3.36, p < .05$. These findings indicate that Black and Hispanic/Latino students reported higher global self-concepts in comparison to their White peers.

Groups Identified by Gender

Tables 16, 17, and 18 in Appendix D summarizes the frequency distributions, means, and standard deviations of the 15 individual, familial, and contextual variables as well as the achievement GPA variable for both genders. See Table 22 in Appendix D for a summary of the one-way ANOVA results for groups identified by gender. The significant results of the ANOVAs performed on gender-difference groups provide valid information as the cell sizes for each group are large and approach being equal; typically the female group cell size is $N=58$ and the male group cell size is $N=62$. There are a few exceptions to these cell sizes in cases of missing data.

Table 5 summarizes the significant one-way ANOVA findings for

Table 5.

Summary of One-Way ANOVA's on Achievement GPA and Five Significant Independent Variables for Groups Identified by Gender

VARIABLES	DF	SS	MS	F
Achievement GPA				
Between Groups	1	4.45	4.45	9.76 * *
Within Groups	118	53.86	0.45	
Total	119	58.32		
# of Resd. Discpl.				
Between Groups	1	3.38	3.38	5.83 *
Within Groups	118	68.48	0.58	
Total	119	71.87		
# of Academic Det.				
Between Groups	1	600.99	600.99	5.62 *
Within Groups	118	12617.81	106.93	
Total	119	13218.80		
School Ability Index				
Between Groups	1	1210.01	1210.01	4.70 *
Within Groups	117	30104.92	257.31	
Total	118	31314.92		
Effort GPA				
Between Groups	1	2.44	2.44	7.94 * *
Within Groups	118	36.20	0.31	
Total	119	38.64		
Conduct GPA				
Between Groups	1	1.55	1.55	6.48 *
Within Groups	118	28.26	0.24	
Total	119	29.81		

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

gender-difference groups. Significant gender differences were found across two contextual behavioral variables: number of residential disciplines, $F(1,118) = 5.83$, $p < .05$; and number of academic detention points, $F(1,118) = 5.62$, $p < .05$. For the number of residential disciplines, females ($M = 0.29$, $SD = 0.59$) were significantly lower than males ($M = 0.63$, $SD = 0.89$). For the number of

academic detention points, females ($M = 6.59$, $SD = 8.08$) also scored lower than males ($M = 11.06$, $SD = 12.08$).

Several of these ANOVAs identified significant gender differences on intraindividual intellectual/academic variables: general school ability, $F(1,117) = 4.70$, $p < .05$; mid-year cumulative conduct GPA, $F(1,118) = 6.48$, $p < .05$; and mid-year cumulative effort GPA, $F(1,118) = 7.94$, $p < .01$. On general school ability females ($M = 96.35$, $SD = 12.09$) scored higher than males ($M = 89.97$, $SD = 18.96$). For mid-year cumulative conduct GPA, females ($M = 3.53$, $SD = 0.45$) earned higher grades than males ($M = 3.30$, $SD = 0.52$). For mid-year cumulative effort GPA, females ($M = 3.24$, $SD = 0.52$) earned higher averages than males ($M = 2.95$, $SD = 0.59$).

A final one-way ANOVA was performed on student mid-year cumulative achievement GPA, the criterion variable identified for the standard multiple regression analysis. A significant gender difference was revealed for this particular variable, $F(1,118) = 9.67$, $p < .005$. Females ($M = 2.70$, $SD = 0.70$) earned higher achievement GPA's than males ($M = 2.31$, $SD = 0.65$).

Results on the one-way ANOVAs for gender-difference groups reveal an important trend. Significant findings suggest a consistent pattern of gender differences across academic and behavioral variables. According to the findings, female students are performing better than their male classmates on the intellectual ability and achievement variables of a generalized school ability index and earned grades in achievement, conduct, and effort. At the same time, male students are experiencing more difficulty within the behavioral categories; they are accumulating significantly more residential disciplines as well as more academic detention points in comparison to their female classmates. These findings have implications for the standard multiple regression analysis.

Standard Multiple Regression Analysis

Predictor and Criterion Variables

Standard multiple regression analysis was used to explore the set of protective/risk variables that relate to adolescents' academic achievement at a residential school setting. A combination of protective/risk intraindividual, familial, and contextual variables, identified in resiliency literature, were used as predictor variables in a standard multiple regression analysis. A relatively unknown protective/risk variable was also included among the variables, number of years attending a residential school. A standard multiple regression analysis was selected as it is the appropriate statistical tool to identify the amount and significance of the contributions of a set of predictor variables to the total variance. The Pearson product-moment correlation matrix among this study's variables, including those identified for the multiple regression analysis is reported in Table 19, Appendix D. Additionally, there is no theoretical basis or intuitive hunch to support a stepwise or hierarchical ordering of the set of predictor variables, particularly with the inclusion of a relatively under-researched variable.

The criterion variable identified for the standard multiple regression was the mid-year cumulative achievement GPA for the ninth grade academic year. The familial, contextual, and intraindividual variables that were entered into the standard multiple regression analysis included: maternal and paternal education, number of siblings, years of spacing between siblings, number of years enrolled in the residential school, number of activities during student's ninth grade year, number of residential disciplines accumulated during the first half of ninth grade, number of academic detention points accumulated during the first half of ninth grade, general

school ability index, global self-concept, stress rating in relation to life events, self-report encouragement rating by parents/sponsors, self-report adjustment rating to the residential school, ninth grade mid-year cumulative effort GPA, and ninth grade mid-year cumulative conduct GPA.

Results of the Standard Multiple Regression

Table 6 displays the results of the standard multiple regression analysis. R for regression was significantly different from zero, $F(15, 81) = 31.98$, $p < .001$. Results reveal that a significant proportion of the variance of student achievement GPA was related to by the set of identified intraindividual,

Table 6.

Unstandardized Regression Coefficients (B), Beta Weights (β), t-values, R^2 , Adj R^2 , and R for the Standard Multiple Regression of Achievement GPA on 15 Variables, Including Paternal Education

VARIABLES	B	β	t
Maternal Ed. Level	.05	.07	1.49
Paternal Ed. Level	-.01	-.02	-0.44
Number of Siblings	.08	.16	2.68 * *
Yrs. Btwn. Siblings	-.11	-.15	-2.43 *
Yrs. Enrolled	-.01	-.03	-0.71
Number of Activities	.01	.03	0.63
# of Residential Dscpl	.09	.11	2.07 *
# of Academic Det.	.00	-.04	-0.54
School Ability Index	.00	.00	-0.06
Global Self-Concept	-.01	-.12	-2.29 *
Life Events Checklist	.00	-.04	-0.84
Encouragement Rating	.10	.13	2.54 *
Adjustment Rating	.01	.05	1.05
Effort GPA	.98	.82	12.87 * * *
Conduct GPA	.13	.10	1.31
			$R^2 = .88$
			Adj $R^2 = .85$
			$R = .94$

* $p < .05$, ** $p < .01$, *** $p < .001$

familial, and contextual variables, $R^2 = .88$. Of the 15 variables, the following six variables contribute a significant amount of variance to mid-year grade point averages as indicated by the Beta weights and significant t-test results: mid-year effort grades, $\beta = .82$, $t(81) = 12.87$, $p < .001$; number of siblings, $\beta = .16$, $t(81) = 2.68$, $p < .01$; years of spacing between student and siblings, $\beta = -.15$, $t(81) = 2.42$, $p < .05$; self-report encouragement rating of parental/sponsor academic support, $\beta = .13$, $t(81) = 2.53$, $p < .05$; global self-concept, $\beta = -.12$, $t(81) = 2.28$, $p < .05$; and number of residential disciplines, $\beta = .11$, $t(81) = 2.07$, $p < .05$.

Standard Multiple Regression Results Excluding Paternal Education

A second multiple regression was performed using the same set of predictor and criterion variables, with the exception of the paternal education variable. The number of cases missing for this variable was 30, therefore, deleting it from the multiple regression analysis provided for an increase of 28 student cases. Table 7 displays the results of this standard multiple regression analysis. R for this regression was also significantly different from zero, $F(14, 109) = 35.09$, $p < .001$. Results reveal that a significant proportion of the variance of student achievement GPA is predicted by the set of identified intraindividual, familial, and contextual variables, $R^2 = .84$. Despite the inclusion of 28 additional cases and the decrease of one predictor variable, the R^2 value decreased, and the number of variables relating significantly to student achievement also decreased to three. Of the 14 original variables, three contribute significantly to student mid-year achievement GPA as indicated by the Beta weights and significant t-test results: mid-year cumulative effort GPA, $\beta = .87$, $t(109) = 15.61$, $p < .001$; global self-concept, $\beta = -.13$, $t(109) = 2.58$, $p < .05$; and number of residential disciplines, $\beta = .11$, $t(109) = 2.33$, $p < .05$.

Table 7.

Unstandardized Regression Coefficients (B), Beta Weights (β),
t- Values, R^2 , Adj R^2 , and R for the Standard Multiple Regression of
Achievement GPA on 14 Variables, Excluding Paternal Education

VARIABLES	B	β	t
Maternal Ed. Level	.01	.02	0.39
Number of Siblings	.04	.10	1.60
Yrs. Btwn. Siblings	-.07	-.10	-1.56
Yrs. Enrolled	-.02	-.07	-1.52
Number of Activities	.03	.08	1.79
# of Residential Dscpl	.10	.11	2.33 *
# of Academic Det.	.00	-.04	-0.58
School Ability Index	.00	.01	0.33
Global Self-Concept	-.01	-.13	-2.58 *
Life Events Checklist	.00	-.02	-0.41
Encouragement Rating	.04	.06	1.17
Adjustment Rating	.01	.05	1.15
Effort GPA	1.09	.87	15.61 ***
Conduct GPA	.00	.00	0.05
			$R^2 = .84$
			Adj $R^2 = .81$
			$R = .92$

* $p < .05$, ** $p < .01$, *** $p < .001$

Standard Multiple Regression Results By Gender

Preliminary one-way ANOVA results revealed significant differences for several variables as a result of students being divided into gender groups. Additionally, there was a significant difference between gender groups for the criterion variable of mid-year achievement GPAs. For exploratory purposes, two additional standard multiple regression analyses were performed using the same set of predictor variables, with the student cases divided according to gender. Results of the following multiple regressions are to be interpreted with caution as the number of cases in each analysis is small for the number of predictor variables. The analyses are for exploratory

purposes only, in an attempt to further explain gender differences of this sample.

Standard Multiple Regression Results of Female Students. Table 8 displays the results of this standard multiple regression analysis. R for this

Table 8.

Unstandardized Regression Coefficients (B), Beta Weights (ß), t-Values, R², Adj R², and R for the Multiple Regression of Achievement GPA on 15 Variables, Including Paternal Education, for Female Students

VARIABLES	B	ß	t
Maternal Ed. Level	.04	.05	0.59
Paternal Ed. Level	.01	.02	0.19
Number of Siblings	.11	.23	2.08*
Yrs. Btwn. Siblings	- .13	- .18	- 1.45
Yrs. Enrolled	.01	.04	0.40
Number of Activities	.01	.02	0.21
# of Residential Dscpl	.07	.04	0.52
# of Academic Det.	.01	.08	0.56
School Ability Index	.00	.09	0.95
Global Self-Concept	- .01	- .08	- 0.79
Life Events Checklist	- .01	- .11	- 1.25
Encouragement Rating	.04	.07	0.61
Adjustment Rating	.01	.02	0.24
Effort GPA	1.09	.81	7.57***
Conduct GPA	.14	.09	0.62

R² = .87

Adj R² = .78

R = .93

* p < .05, **p < .01, ***p < .001

regression was also significantly different from zero, $F(15, 40) = 10.67, p < .001$. Results reveal that a significant proportion of the variance of female student achievement GPA is associated with the set of identified intraindividual, familial, and contextual variables, $R^2 = .87$. Of the 15 variables only two variables relate significantly to female student mid-year achievement GPA as indicated by the Beta weights and significant t-test results: mid-year

cumulative effort GPA, $\beta = .81$, $t(40) = 7.57$, $p < .001$; and number of siblings, $\beta = .23$, $t(40) = 2.08$, $p < .05$.

Standard Multiple Regression Results of Male Students. Table 9 displays the results of this standard multiple regression analysis. R for this regression

Table 9.

Unstandardized Regression Coefficients (B), Beta Weights (β), t-Values, R^2 , Adj R^2 , and R for the Standard Multiple Regression of Achievement GPA on 15 Variables, Including Paternal Education, for Male Students

VARIABLES	B	β	t
Maternal Ed. Level	.05	.08	1.16
Paternal Ed. Level	- .05	- .09	- 1.23
Number of Siblings	.04	.08	0.93
Yrs. Btwn. Siblings	- .06	- .08	- 0.93
Yrs. Enrolled	- .02	- .07	- 0.91
Number of Activities	- .00	- .00	- 0.07
# of Residential Dscpl	.09	.14	1.93
# of Academic Det.	- .00	- .05	- 0.53
School Ability Index	- .00	- .02	- 0.34
Global Self-Concept	- .01	- .10	- 1.54
Life Events Checklist	- .00	- .05	- 0.72
Encouragement Rating	.12	.15	2.06*
Adjustment Rating	.03	.10	1.39
Effort GPA	.94	.89	9.09***
Conduct GPA	.17	.09	0.90

$R^2 = .92$
Adj $R^2 = .87$
 $R = .96$

* $p < .05$, ** $p < .01$, *** $p < .001$

on male students was also significantly different from zero, $F(15, 40) = 19.40$, $p < .001$. Results reveal that a significant proportion of the variance of male student achievement GPA is related to the set of identified intraindividual, familial, and contextual variables, $R^2 = .92$. Of the 15 variables, only two relate significantly to mid-year achievement GPA for male students as indicated by

the Beta weights and significant t-test results: mid-year cumulative effort GPA, $\beta = .89$, $t(40) = 9.09$, $p < .001$; and self-reported encouragement rating of parental/sponsor academic support, $\beta = .15$, $t(40) = 2.06$, $p < .05$.

Second Question: Factors Related to Student Membership in Academic/Behavioral Protective or At-Risk Groups

Standard Discriminant Function Analysis

Predictor Variables

The second question explored the relationship of several intraindividual, familial, and contextual variables to student membership in either an academic/behavioral protective or at-risk group. Group membership was determined using several academic and behavioral indices, creating a broader dimension of resiliency. The composite of academic and behavioral indices used to determine group membership included: twelve academic indices of achievement and effort GPAs for the five major subjects and cumulative averages for the minor subjects, and eight behavioral indices of conduct GPAs for the five major subjects and cumulative averages for the minor subjects as well as academic detention point and residential discipline accumulations. Students received one point for each achievement, effort, and conduct grade for which the student had below a 2.0; and one or two points dependent on the total accumulation of academic detention points and residential disciplines.

Nine intraindividual, familial, and contextual variables were used as predictor variables in the discriminant function analysis. Intraindividual variables included general school ability index, global self-concept, rating of stress in relation to life events, and student adjustment rating to attending a residential school setting. Familial variables included maternal and paternal

education levels, spacing of siblings in relation to the student, and student rating of perceived academic encouragement from parent(s)/sponsors(s). The one contextual variable was number of years enrolled in the residential school.

Two separate discriminant function analyses were performed, one with the inclusion of paternal education, and one without. As previously noted, the total number of cases missing paternal education data from the entire sample was 30. Given the additional random missing data from the entire sample (See Tables 16, 17, and 18 in Appendix D for a review of the frequency distributions of the sample's variables), the total number of cases entered into the first discriminant function analysis, including paternal education, was 82. The total number of cases entered into the second discriminant function analysis, excluding paternal education, was 110. The purpose of performing two discriminant function analyses was for comparison. Throughout the literature, as well as results from this study's multiple regression analyses, paternal education is consistently identified as an important protective/risk variable. Therefore, the comparison was for exploratory purposes, in an attempt to clarify the importance of this particular familial variable.

Discriminant Function Analysis with Inclusion of Paternal Education

A standard discriminant function analysis was performed on a total of nine variables in an attempt to understand the relationship of each variable to membership in either an academic/behavioral protective or at-risk group. The nine variables included: general school ability index, global self-concept, stress rating of life events, adjustment rating to attending a residential school setting, maternal and paternal education levels, spacing of siblings in relation to the student, student rating of perceived academic encouragement from

parent(s)/sponsors(s), and number of years enrolled in the residential school. See Table 10 for a review of the means and standard deviations of the nine variables for the protective and at-risk groups.

The overall discriminant function was significant in classifying students into the protective and at-risk groups, $F(9,72) = 2.75, p < .01$. The proportion of variance in the discriminant function related to group membership is 26% ($r = .51$).

Two types of coefficients are reported in relation to the DFA results; the canonical structure coefficients and the standardized canonical coefficients. Each contributes valuable information in the interpretation of the discriminant function analysis results. The canonical structure coefficient is the correlation between a single variable and the discriminant function, it determines meaningfulness the relationship. The standardized canonical coefficient identifies relative importance of a variable contribution to the discriminant function score.

Table 10.
Means and Standard Deviations for Protective and At-Risk
Groups on the Nine Variables of the Standard Discriminant
Function Analysis, Including Paternal Education

VARIABLES	Protective			At-Risk		
	N	M	SD	N	M	SD
Maternal Ed. Level	42	3.26	1.11	40	3.05	0.88
Paternal Ed. Level	42	3.43	1.25	40	2.68	0.80
Yrs. Btwn. Siblings	42	1.69	0.90	40	1.63	0.95
Yrs. Enrolled	42	3.90	2.05	40	4.63	2.70
School Ability Index	42	96.71	16.08	40	90.05	17.32
Global Self-Concept	42	54.29	7.75	40	53.60	8.58
Life Events Checklist	42	18.69	11.17	40	26.60	19.60
Encouragement Rating	42	4.53	0.63	40	4.23	1.12
Adjustment Rating	42	7.62	2.37	40	7.20	2.39

Of the nine variables the following five have a meaningful relationship based on the canonical structure coefficients: paternal education ($r = .67$), perceived levels of stress as result of life changes ($r = -.48$), general school achievement ability ($r = .39$), encouragement rating of parental/sponsor academic support ($r = .33$), and number of years enrolled in the residential school setting ($r = .30$). Of the nine variables the following five have relative importance to the discriminant function as indicated by the standardized canonical coefficients: paternal education ($r = .74$), stress rating of life events ($r = -.47$), student rating of encouragement by parent/sponsor ($r = .47$), student adjustment rating to attending the residential school ($r = .36$), and number of years enrolled in the residential school setting ($r = -.32$). See Table 11 for the summary of all nine predictor variable canonical structure and standardized canonical coefficients, and F-values. Univariate F tests revealed two significant predictor variables: paternal education levels, $F(1,80) = 10.45$, $p < .01$; and stress rating of result of life events, $F(1,80) = 5.10$, $p < .05$.

Table 11.
Standardized Canonical Coefficients, Canonical Structure
Coefficients, and F-Values for the Standard Discriminant
Function Analysis of the Relationship of Nine Variables
(Including Paternal Education) to Membership in At-Risk and
Protective Groups

VARIABLES	Standardized	Structure	F
Paternal Ed. Level	.74	.67	10.45 *
Life Events Checklist	- .47	- .48	5.10 *
Encouragement Rating	.47	.34	2.34
Adjustment Rating	.36	.18	0.64
Yrs. Enrolled	- .32	- .30	1.87
School Ability Index	.27	.39	3.26
Maternal Ed. Level	.05	.21	0.92
Yrs. Btwn. Siblings	- .02	.07	0.10
Global Self-Concept	- .01	.08	0.14

* $p < .05$

When applied to the observed data the discriminant function correctly classified 72.50% (29 of 40) students in the at-risk group and 71.43% (30 of 42) students in the protective group. According to the results of the discriminant function analysis, students in the protective group are more likely to have fathers with at least a high school education (protective group paternal education $\underline{M}$ = 3.43, SD = 1.57, and at-risk group paternal education $\underline{M}$ = 2.67, SD = 0.64) and are more likely to report lower levels of stress as a result of life changes (protective group life events checklist total $\underline{M}$ = 18.69, SD = 11.17, and at-risk group life events checklist total $\underline{M}$ = 26.60, SD = 19.60).

Discriminant Function Analysis Excluding Paternal Education

A standard discriminant function analysis was performed on a total of eight variables in attempt to understand the relationship of each variable to membership in either an academic/behavioral protective or at-risk group. The eight variables included: general school ability index, global self-concept, stress rating of life events, adjustment rating to attending a residential school setting, maternal education, spacing of siblings in relation to the student, student rating of encouragement by parent(s)/sponsors(s), and number of years enrolled in the residential school. The paternal education variable was removed from this discriminant function analysis in an attempt to clarify the importance of this particular familial variable as well as increase the number of cases entered into this discriminant function analysis from 82 to 110. See Table 12 for a review of the means and standard deviations of the eight variables for the protective and at-risk groups.

The overall discriminant function was significant in classifying students into the protective and at-risk groups, $F(8,101) = 2.07$, $p < .05$. The

Table 12.

Means and Standard Deviations for Protective and At-Risk Groups on the Eight Variables of the Standard Discriminant Function Analysis, Excluding Paternal Education

VARIABLES	Protective			At-Risk		
	N	M	SD	N	M	SD
Maternal Ed. Level	52	3.23	1.10	58	3.05	0.83
Yrs. Btwn. Siblings	52	1.63	0.91	58	1.47	1.00
Yrs. Enrolled	52	3.71	2.06	58	4.24	2.81
School Ability Index	52	96.90	15.35	58	89.53	17.12
Global Self-Concept	52	53.87	9.11	58	54.34	9.30
Life Events Checklist	52	18.23	10.57	58	23.60	18.32
Encouragement Rating	52	4.35	0.90	58	4.29	1.04
Adjustment Rating	52	7.60	2.36	58	6.86	2.59

proportion of variance in the discriminant function related to group membership was 14% ($r = .37$).

As indicated earlier, two types of coefficients are reported in relation to the DFA results; the canonical structure coefficients and the standardized canonical coefficients. Each contributes valuable information in the interpretation of the discriminant function analysis results. The canonical structure coefficient is the correlation between a single variable and the discriminant function, it determines meaningfulness the relationship. The standardized canonical coefficient identifies relative importance of a variable contribution to the discriminant function score.

Of the eight variables the following three have a meaningful relationship based on the canonical structure coefficients: general school ability index ($r = .59$), stress rating of life events ($r = -.47$), and adjustment rating to attending a residential school ($r = .39$). Of the eight variables the following six have relative importance to the discriminant function as indicated by the standardized canonical coefficients: stress rating of life

events ($r = -.59$), general school ability index ($r = .56$), adjustment rating to attending the residential school ($r = .57$), years sibling spacing relative to the student ($r = .30$), global self-concept ($r = -.31$), and number of years enrolled in the residential school setting ($r = -.31$). See Table 13 for canonical structure and standardized canonical coefficients, and F-values for all eight variables. Univariate F tests revealed one significant predictor variable; general school ability index; $F(1,108) = 5.60$, $p < .05$.

Table 13.

Standardized Canonical Coefficients, Canonical Structure Coefficients, and F-Values for the Standard Discriminant Function Analysis of the Relationship of Eight Variables (Excluding Paternal Education) to Membership in At-Risk and Protective Groups

VARIABLES	Standardized	Structure	F
Life Events Checklist	- .59	- .47	3.44
Adjustment Rating	.57	.39	2.39
School Ability Index	.56	.59	5.60 *
Yrs. Enrolled	- .31	- .29	1.25
Global Self-Concept	- .31	- .07	0.07
Yrs. Btwn. Siblings	.30	.24	0.86
Maternal Ed. Level	.19	.25	0.95
Encouragement Rating	.16	.07	0.08

* $p < .05$

When applied to the observed data this discriminant function correctly classified 53.45% (31 of 58) students in the at-risk group and 67.31% (35 of 52) students in the protective group. According to the results of this discriminant function analysis students in the protective group are more likely to achieve higher scores on a measure of general school achievement ability (protective group school ability index score $M = 96.90$, $SD = 15.35$, and at-risk group school ability index score $M = 89.53$, $SD = 17.12$), and are more likely to report lower levels of stress as a result of life changes (protective group life events

checklist total score $\underline{M}$ = 18.23, SD = 10.57, and at-risk group life events checklist total score $\underline{M}$ = 23.60, SD = 18.32).

Gender differences were found in the ANOVAs and multiple regression analyses conducted on the groups identified by gender. There was also a possible disproportionate distribution of male and female students in the protective and at-risk groups identified for the discriminant function analyses. A Chi-square analysis was performed investigating the relationship between gender and group membership. Chi-square results indicate that gender and group membership status are significantly related; $\chi^2 (1) = 3.84$, $p < .05$. These findings indicate that there are disproportionately more male students identified in the at-risk academic/behavioral group in comparison to female students, and there are disproportionately more female students identified in the protective academic/behavioral group in comparison to male students.

Third Question: Student Adjustment to a Residential School Setting

Quantitative Adjustment Rating

Quantitative rating of student adjustment to the residential school setting and qualitative analysis of student responses to open-ended questions pertaining to adjustment and feelings about attending a residential school setting were used to explore the relationship among the adolescents' intradividual variables and perceived adjustment. Two groups were identified based on the adjustment ratings. A total of 27 students were assigned to the adjustment difficulty group and 93 students were assigned to the positive adjustment group. The intraindividual variables correlated within each group to explore relationships among intraindividual variables in connection to a

positive or negative adjustment rating included: global self-concept, general school ability index, global stress rating of life events, positive stress rating of life events, negative stress rating of life events, general verbal percentile from CTP III ninth grade year testing, general quantitative percentile from CTP III ninth grade year testing, mid-year cumulative achievement grade point average during ninth grade, mid-year cumulative effort GPA, and mid-year cumulative conduct GPA. See Table 14 and Table 15 for the correlations among the intraindividual variables for the group identified as experiencing adjustment difficulty and the group identified as experiencing an overall positive adjustment, respectively.

As indicated by Table 14 CTP III verbal and quantitative achievement scores are significantly related to general school ability index for students identified in the adjustment difficulty group. Additionally, the simple summative positive and negative stress ratings of life events are strongly related to the global stress rating of life events for adjustment difficulty students; providing internal consistency evidence for the use of LEC total score as a measure of reported stress in one's life experienced during the last year. As expected from previous analyses, there is a strong relationship between cumulative achievement GPA and cumulative effort GPA for students reporting adjustment difficulty. The most interesting significant correlation for the students in the adjustment difficulty group is the negative relationship between their global self-concept and their negative stress ratings for life events, suggesting an obvious connection between student's image of self-worth and negative stressors. One possible interpretation of this relationship is that one's self-concept declines as number of negative events experienced increases. The small number of students (N=27) identified within this group

Table 14.
Correlations of Intraindividual Variables for Adjustment Difficulty Group

	1	2	3	4	5	6	7	8	9
1. School Ability Index									
2. CTP III Verbal	.43*								
3. CTP III Quantitative	.23	.44*							
4. Global Self-Concept	-.06	.04	-.05						
5. Total Life Events	.31	.18	.12	-.39					
6. Positive Life Events	.21	-.14	-.34	.04	.54**				
7. Negative Life Events	.26	.28	.31	-.48*	.91***	.15			
8. Achievement GPA	-.11	.10	.27	-.35	-.01	-.05	.01		
9. Effort GPA	-.15	.09	.15	-.29	-.09	-.02	-.09	.92***	
10. Conduct GPA	-.17	.19	-.13	-.20	.20	.02	.22	.30	.35

Note. N=26-27.

*p < .05, **p < .005, ***p < .0001.

Table 15.
Correlations of Intraindividual Variables for Positive Adjustment Group

	1	2	3	4	5	6	7	8	9
1. School Ability Index									
2. CTP III Verbal	.49***								
3. CTP III Quantitative	.44***	.43***							
4. Global Self-Concept	-.11	-.07	-.03						
5. Total Life Events	-.03	-.04	-.06	-.05					
6. Positive Life Events	.03	.01	.12	.03	.72***				
7. Negative Life Events	-.06	-.06	-.14	-.08	.92***	.39***			
8. Achievement GPA	.33**	.48***	.50***	-.18	-.14	-.02	-.18		
9. Effort GPA	.33**	.45***	.39***	-.12	-.13	-.02	-.17	.89***	
10. Conduct GPA	.15	.23*	.17	.10	-.15	-.001	-.20	.43***	.46***

Note. N=91-93.

*p < .05, **p < .005, ***p < .0001.

limits the range of scores; therefore, correlation findings should be interpreted with caution.

The number of students (N=93) identified in the positive adjustment group provides a more comfortable basis for interpretation of significant correlations. There are significant relations among general school ability index, CTP III achievement verbal and quantitative scores, and cumulative achievement and effort GPA. This indicates consistency of individual cognitive ability and academic achievement for students reporting an overall positive adjustment to a residential school setting. Additionally, the strong relationship among total, positive, and negative stress ratings of life events indicates a connection between perceived stressors, both positive and negative. The lack of other significant correlations among intraindividual variables could suggest that students who perceive being well-adjusted to the residential school setting are focused on academic responsibilities in order to adjust to the exclusion of an influence of other intraindividual variables. The large discrepancy between group sizes makes comparisons of the two groups tenuous. However, there is an emerging consistency in the significant correlations as both groups demonstrate a consistent relationship between measured cognitive ability and academic achievement in standardized testing situations.

Qualitative Analysis

Content analysis of the qualitative items provides insight into the vagueness of the correlations in addressing student adjustment to and feelings about attending a residential school setting. Student responses were content analyzed into categories to identify potential themes across students. The quantitative adjustment rating of each student was recorded with each datum

piece assigned to a specific category. There were more than 120 entries for each qualitative item as responses were subdivided according to the appropriate categories for analysis. A review of the content analysis by category revealed that many students rated their individual adjustment within the overall positive range (score of six through ten) despite a negative qualitative response or indication of obstacles to a better adjustment experience.

Describe How You Have Adjusted to Attending School Away from Home

The first qualitative item to which the 120 students responded was, "Describe how you have adjusted to attending school away from home." Five categories identified through content analysis were: (a) positive statements, (b) statements of acquiescence, (c) resources used to assist in adjustment, (d) involvement or investment of time and energy, and (e) roadblocks or obstacles to adjustment.

Positive Statements. A central theme emerged from both female and male students. Most respondents described a change over time in the adjustment process. Students typically made a comparison of adjustment between their initial arrival to the residential school and their current adjustment status. For example, students described the change in adjustment over time as "I came in third grade, it was really hard at first because I was so young, everything's going well now though," "(I've) been here for four years, it's like my second home," and "adjusted a lot compared to when I first came."

A second theme evolved from the female student responses suggesting a resiliency for adaptation to their situation and a use of internal individual resources as indicated by "I adjusted very well because I'm very independent" and "I adjusted very well, (I) can endure being here." The quantitative ratings

of adjustment identified in this category were all within the seven to ten range. The only exception to this was a three rating and the response is hopeful, "I'm starting to adjust pretty good."

Statements of Acquiescence. One theme that emerged is that students are not actively attempting to deal with the adjustment process. They do not identify having the appropriate resources or lack the direction to adjust. Specifically, students described the situation as "I just deal with it, really haven't adjusted yet," "I have to live with it, I don't have a choice," "just learned to live with it," and "(I'm) used to being here and I don't like it but I'll stay anyways."

Another, more negative, theme described by both male and female students indicated no investment in the attempt to adjust. Statements such as, "I can't stand this school still and I've been here since fourth grade," "I haven't," "still hate it here (my 5th year), but I'll live," and "I'd rather be at home," indicate a sense of powerlessness in the students' current living situation with no indication of attempts to adjust. The quantitative adjustment ratings within this category ranged from one through ten, providing evidence that supports an emerging global theme of resiliency on the part of the students. That is, despite the negative or neutral statements, students rate themselves as making the adjustment.

Resources to Assist in Adjustment. The primary theme that emerged from female and male students was that relationships with other people provide the majority of assistance for adjusting. Although both male and female students identified primarily friends and friendships as an impetus for adjustment, female students identified the need for relationships in order to adjust twice as often as male students. "I adjusted by meeting new people and having new friends," "friends here and still communicate with friends at

home," "my friends and sister, I talk to them and that has helped me a lot," "my houseparents and friends have really helped to adjust," and "doing better than when I first came because of my friends old and new," describe how students value and identify the necessity of relationships, particularly friends, as support systems in order to make the adjustment. The quantitative adjustment ratings within this category ranged from six through ten, suggesting that the values and necessity of relationships and support systems is one component to an overall positive adjustment.

Involvement or Investment of Time and Energy. Two themes emerged from this category. Students described getting involved in activities available at the school as helping them to adjust. "I participate in a lot of activities," "I got involved in groups," and "try to find a hobby or something to do" are examples of individual student use of time and energy to get actively involved in order to, perhaps, make use of time outside the school day instead of having too much nonproductive time to sit around as stated by one student; "I've adjusted by trying to keep myself busy with school and at the student home."

An additional theme that emerged was that students were taking personal responsibility for individual adjustment. Students identified specific individual concerns that, when altered, would assist in better adjustment. Specifically, students described how they attempted to alter personal behaviors in order to adapt to their living environments; "I learned to share more and cooperate with others," "I work with my problems," "I began to behave myself," and "I learned to get along with people from different backgrounds." The majority of quantitative adjustment ratings within this category ranged from six to ten. This indicates that students who rated themselves within the overall positive adjustment range assumed personal responsibility for their

adjustment and engaged in proactive actions, either at an activity or personal development level, as another element to facilitate their adjustment.

Roadblocks or Obstacles to Adjustment. One critical theme emerged from male and female responses; the more difficult obstacles to adjustment were living away from home and altering a familiar lifestyle and daily routines. This central theme is subdivided into two parts. On an emotional level it is difficult for the students to be away from family and friends, "It's hard to be away from home," "easy when my family lived across town, became hard when they moved," "wish I could see my mom more often, I still miss home," "It was very hard, I'm an only child and it was upsetting for my mom and myself, I get very homesick," and "very hard I miss my mother and home boys." Students struggle with the loss of daily family contact which shakes the foundation of their familial support and the essential relationships that a critical, particularly during adolescence. Both male and female students identified with this loss, and for many students it seemed to be a difficult obstacle to overcome.

The second subdivision of the central theme was the difficulty adjusting to a different lifestyle, including the daily established routines, expectations and rules. Some examples of this obstacle to adjustment include: "I've been here for months and it's a drastic change as far as rules, regulations, and academics," "at first (it's) hard getting used to all the new rules, houseparents, and kids," and "I've been in this school for four years, when I first came didn't like the chores or being away from home, now it's easy." This category also provides support for the individual resiliency of the students as the majority of quantitative adjustment ratings within this category ranged from six to ten. Despite the qualitative identification of some difficult emotional obstacles as well as a complete restructuring of students' lifestyles and daily routines,

students still quantify their adjustment as within the positive range. For example, a female student who rated herself a ten stated "I've lived on a schedule for four years and it took getting used to as I couldn't run around at night and hang around my friends..."

Describe How You Feel about Being at (the Residential School Setting)

The second qualitative item to which the 120 students responded was, "Describe how you feel about being at (the residential school setting)." Five categories identified through content analysis were: (a) positive statements, (b) statements of acquiescence, (c) comparison to other living environment options, (d) current and future opportunities, and (e) roadblocks or obstacles to more positive feelings.

Positive Statements. The central theme that emerged from the positive statements category was further emphasis on relationships. Both male and female students acknowledged that the friendships and other relationships forged at the residential school contributed to their positive feelings about attending, however, female students identified this particular theme twice as often as the male students. Positive statements that describe the value of relationships include; "I think (the school) is fun because this is where all of my friends are at," "I like it because everybody is nice and willing to help you," "I think I do like it here, especially the people that take care of me," and "I like being at (the school). One of the things that makes me more comfortable at school are my friends. I have made really great friends here at school." Quantitative adjustment ratings for this category were in the seven to ten range with a single exception of one five rating. This demonstrates a consistent connection between perceiving a positive adjustment and describing positive feelings about attending a residential school.

Statements of Acquiescence. The primary theme that emerged is a continued focus on relationships, however, this analysis revealed that students feel alone and abandoned. They miss the people and relationships who really matter in their lives, particularly family and friends. The female students again emphasized the importance of relationships in their lives; they are more explicit about their negative feelings as they relate to others in their lives. Generally female students described their negative and neutral feelings in the context of relationships: "being at this school is alright sometimes, but sometimes I just miss my brothers and sisters so its a little hard," "I just plain hate this school and want out of this place, you have no life, relationships, nor privacy," "I feel alone, I need to be with my real friends and my mom," and "Lonely because I'm used to being around my people even though I got a lot of friends here, but I like being with Vietnamese people better." The male students also identified with feelings of being alone such as "alone, scared, worried, mad," but in general male students were vague in details surrounding the negative feeling statements and lacked a specific connection between attending a residential school and the resulting implications this life choice has on relationships in their lives.

A secondary theme was also apparent in student responses; attending a residential school is stressful, and one of their solutions is to leave. Statements such as "I don't like it here and it does cause a lot of stress on me, I am ready to leave," "I can't wait to get out of this school, I can't stand it any longer," "it is too stressful here...I feel alone," "it can be very stressful and emotional being here," and "I'm trying to hang in there, I go through the motions and do what they say." The quantitative adjustment ratings within this category ranged from one through ten, supporting the global theme of resiliency on the part

of the students. That is, despite the statements of acquiescence about their feelings, students rated themselves as making the adjustment.

Comparison to Other Living Environment Options. Males and females made comparisons between their homes and the school. The resulting theme was an acknowledgment that in comparison to their home environments the residential school provided them with a safer environment. Specifically, students described the comparison as "I know inside (the school) is the best and most stable environment for me," "this school is the best place for me, I've made a life for myself," "I feel good to be away from the streets and being safe," and "I feel great about being in (the school) because my old school which was in a black society was influenced with violence." The quantitative adjustment ratings within this category ranged from two through ten, suggesting that even though some students are struggling with adjustment, there was an objective observation that the residential school setting provides students with a safe environment they appreciate in comparison to their home and larger community environments.

Current and Future Opportunities. Students addressed primarily the educational opportunities with occasional reference to other more basic needs being met, such as food, clothing and shelter. Some students, both male and female, made the connection in general terms between current educational goals and future possibilities. "I really like it here because I'm making the best of my educational opportunities," "...it has given me a new beginning to show I can do well," "..even though it's extremely hard (grade-wise), I know in the long-run, it's better for me," "I feel I could be somebody through this school," "I am grateful for (the school) because my mom does not have enough money to support all of us," and "I wanna go to college and be more than my mother was so this is my best bet." The quantitative adjustment ratings within

this category ranged from two through ten, suggesting that even though some students are struggling with adjustment, there was an objective observation that the residential school setting provides them with current educational opportunities, and potential for achieving global future goals, and meets some of their basic needs.

Roadblocks or Obstacles to More Positive Feelings. Female and male students identified obstacles similar to those in the qualitative adjustment item. The theme re-emerged that the most difficult obstacle to feeling more positive about attending a residential school centers around the issue of relationships. The issue of relationships for this category can be divided into two components: being separated from family and friends, and the desire for development of more relationships and emotional support. Specifically students described this concern about relationships, in regards to being separated from family, with statements such as, "..I just miss home so much," "there are times when school and people stress me out and then I want to be home in NYC," "I have a problem not going home a lot seeing my mom and friends," and "I miss my sister, hopefully my sister could come." Students also described their concern about the lack of supportive relationships at the residential school with statements such as, "It 's hard to live with people who do not respect you," "people are extremely petty," and "(we) need more time with our friends and girlfriends." One student in particular, clearly articulated her concern: "...we need more people who we can talk to and simple (sic) listen and who won't just rub the other side of the coin in your face first, people who will listen and understand first. And we need to be allowed to go out more or visit our friends in other student homes." The majority of quantitative adjustment ratings within this category ranged from six through ten, providing evidence that supports the global theme of

resiliency on the part of the students that, despite the identification of obstacles to feeling more positive about attending a residential school, students rate themselves as making the adjustment.

DISCUSSION

Review of the Three Questions Addressed in the Study

Quantitative analyses of risk and protective variables, identified throughout the literature, with the inclusion of a potential risk/protective variable not previously researched, the length of time adolescents from low income homes live in a residential school setting were used, to address the first two questions of this study. The first question examined what combination of intraindividual, familial, and contextual factors is associated with adolescents' academic achievement at a residential school setting. The second question explored the relationship of various intraindividual, familial, and contextual factors to membership in an academic/behavioral protective or at-risk group.

The third question examined the relationship among intraindividual variables and perceived adjustment to a residential school setting. Students were assigned into groups according to their self-reported adjustment rating. This question was addressed by examining the relationship among intraindividual variables for each of the adjustment groups and the qualitative content analyses of two open-ended survey questions completed by students. Content analysis revealed themes relevant to adjustment process and feelings about being at a residential school.

First Question: The Relationship of a Residential School Setting to the Academic Achievement of Adolescents from Low Income Home Environments

Resiliency research is turning toward an emphasis on the relationship among multiple intraindividual, familial, and contextual factors associated with adolescent resiliency/vulnerability. The first question of this project focused on academic achievement as an indicator for resiliency. Academic

achievement is an appropriate criterion, as levels of educational achievement are indicators of future adjustment to living a productive life. Additionally, academic achievement for the students in this study has direct implications for their co-curricular activity involvement and social life as well as for receiving school scholarship money for post high school education.

Race Differences

A debate exists around the issue of race and socioeconomic status as risk/protective variables (Baldwin, Baldwin, Kasser, Zax, Sameroff, & Seifer, 1993; Garmezy, 1991). The question is one of variable overlap and confounding of results; is it socioeconomic status or race that is associated with resiliency/vulnerability, or is it an interaction between the two? Results of the first question begin to separate these two variables. Income level is held at a constant for all students attending the residential school setting of this study, because the primary admission requirement is based on financial need. Results of the study suggest, that when race is isolated and compared across intraindividual, familial, and contextual protective/risk variables, there are few practical significant differences.

Of interest are the findings on the Hispanic/Latino students and White students. Despite having fathers with less education in comparison to Black and White students, Hispanic/Latino students reported a significantly higher global self-concept in comparison to White students. This suggests that despite potential familial risk variables, Hispanic/Latino students have a resilient self-concept. White students, however, had lower global self-concepts than both Black and Hispanic/Latino student groups. Additionally, White students reported significantly less encouragement from parents/sponsors than the Black students. Despite these potential intraindividual and familial risk

factors, White students were still performing academically on par with the Black and Hispanic/Latino students. It would be interesting to research self-concept within the race variable to explore the possibility of students insulating their self-concept and maintaining it as a protective variable despite existing familial and contextual risk variables.

There are a few emerging patterns of risk and protection among the groups identified by race. However, only three of the 15 comparisons were found to be significant. It is possible that the number of significant differences found could result from chance, given the inflation of a Type I error. Although the emerging patterns suggest future research directions, further interpretation of current race-different group findings would be speculative and not adequately supported.

Gender Differences

The investigation of gender differences across intraindividual, familial, and contextual factors revealed some exciting initial findings. Significant findings indicated a pattern of gender differences across academic and behavioral factors. Female students performed better than their male classmates on general cognitive ability and demonstrated levels of academic achievement, conduct and effort. Conversely, male students experienced significantly more difficulty across behavioral categories: they accumulated more residential disciplines as well as more academic detention points in comparison to their female classmates.

Additionally, there were gender differences in the set of variables that were significantly associated with academic achievement. The variable that had largest association with academic achievement for both male and female students was a measure of effort or motivation for achievement. Although the

additional variables were not as strongly associated with academic achievement, there were some notable gender differences. Additional female variables associated with achievement were related to familial and stress domains. However, additional male variables associated with achievement were self-concept and behavioral indicators as well as familial influence. The aggregate of gender-difference results provides support for investigation into gender-specific resiliency. It is possible that male and female adolescents are influenced by different protective/risk factors, or there exist gender-different relationships among various intraindividual, familial, and contextual protective/risk factors.

This study provides some tentative findings that some variables, such as family support and motivation to achieve academically, are important for both genders. However, for this particular sample, results indicate that male adolescents are struggling; they are experiencing significantly more behavior difficulties, in both the academic and residential programs. Female adolescents, on the other hand, are achieving higher grades in areas of academic achievement, conduct, and effort, in addition to scoring higher in general cognitive ability. These initial findings suggest that behavioral indicators, self-concept, and family support are possible gender-specific factors that play a role in male adolescent resiliency; whereas stress and other familial factors are possible gender-specific factors in female adolescent resiliency. These findings are tentative, as the number of male and female students was small for the number of predictor variables used in the analyses. However, these findings do provide a direction for resiliency research to investigate gender-specific resiliency factors.

Prediction of Academic Achievement

The primary focus of the first question was the relationship of a set of intraindividual, familial, and contextual protective/risk factors to academic achievement. A relatively unknown protective/risk variable, the number of years enrolled in a residential school, was included in the set of protective/risk variables previously identified in resiliency research. Several findings are notable. First, two separate standard multiple regression analyses were performed, one with and one without paternal education as a variable. There was a greater amount of variance related to the set of variables that included paternal education, despite a decrease in the number of cases. Paternal education was not associated with academic achievement; however, the inclusion of the variable did influence the outcome of other significant variables. The set of significant variables, without paternal education, was a combination of three variables: motivation, self-concept, and behavior. Results, with the inclusion of paternal education, revealed a different and larger set of significant variables; the same three variables as indicated in the analysis without paternal education plus the addition of three familial variables. Paternal education seemed to moderate the set of significant variables, adding three variables all from the familial category of protective/risk variables. This suggests that the father's level of education plays a part in the resiliency and academic achievement of adolescents. However, it can not be ascertained from this study as to the specific role paternal education plays in adolescent academic achievement.

Regardless of the inclusion of paternal education, motivation for achievement had the largest association with academic achievement. This provides support for the inclusion of motivation as a potential intraindividual

protective/risk variable in adolescent resiliency research. Although resiliency literature identifies numerous intraindividual variables, such as autonomy, positive self-concept, internal locus of control, and personal responsibility (Alva, 1993; Beardslee, 1989; Beardslee & Podorefsky, 1988; Block et al., 1988; Luthar, 1991; Neighbors et al., 1993; Rubenstein et al., 1989; Rutter, 1985; Werner, 1989, Werner, 1990, Werner & Smith, 1992), the specific mention of motivation as a protective/risk variable is not well documented in resiliency literature. Motivation has been researched as an indicator for classroom achievement for children and adolescents (Harter, 1981). The current study's findings also support the identification of motivation as a factor in achievement. According to the adolescent transition model (Rice et al., 1993), one's academic performance has already selected a path toward resiliency or vulnerability by adolescence. Therefore, in the context of this model, motivation could be considered one of several intraindividual moderating variables that contributes to the adolescent's academic achievement. It is reasonable to assume that motivation is related to academic achievement, however, in the context of adolescent resiliency, the contribution of motivation as one of several intraindividual moderating protective/risk variables could have valuable implications for resiliency literature. One caution of this finding is that there is a strong correlation between the achievement GPAs and effort GPAs for the students in this study. This overlapping of variables could have influenced the proportion of variance accounted for by the motivation factor.

The last finding in relation to predicting academic achievement centers on the inclusion of a relatively unknown risk or protective variable, the length of time adolescents from low income homes live in a residential school setting. An investigation into the potential association of this particular

variable with adolescent resiliency was one of the primary objectives of this study. Findings revealed that number of years enrolled in the residential school was not significantly associated with academic achievement. This suggests that, as an individual contextual variable, number of years enrolled in the residential school does not have a direct relation to adolescent academic achievement. However, further investigation revealed that the number of years a student is enrolled was related to a student's adjustment; an increase in number of years attending the residential school was correlated with an increase in adjustment to being at the school. The student's adjustment to attending a residential school was explored in detail in the third question of this study. One additional relationship was identified between the years enrolled and the number of visitations with family members. From this relationship it could be suggested that students who attended the residential school for more years had more frequent contact with their family members indicating a connection between years of enrollment and the importance of family support. The importance of familial support and contact emerged throughout the findings, as it is a familial factor that appeared to be associated with the resiliency of the students in this study.

Second Question: Factors Related to Student Membership in Academic/Behavioral Protective or At-Risk Groups

Familial Variables

This particular question was designed to have a broader definition of adolescent resiliency than that used in the multiple regression analysis as indicated by the combination of academic and behavioral indicators used to classify students into the protective or at-risk group. Therefore, it is appropriate that different protective/risk variables were identified as

contributing to adolescent resiliency for the first two questions of this study.

As in the multiple regression analysis, results of the second question were also confounded by paternal education. Two standard discriminant function analyses (DFAs) were performed with and without paternal education to determine the potential relationship of this variable in classifying students into an academic/behavioral protective or at-risk group. A comparison of the two DFA results indicated that the father's education attainment is important in relation to adolescent resiliency. Despite the addition of 28 cases in the DFA that excluded paternal education, the percent predictability of group membership was only slightly better than chance. The DFA excluding paternal education correctly classified 53.45% for the at-risk group and 67.31% for the protective group, whereas the DFA including paternal education correctly classified 72.50% for the at-risk group and 71.43% for the protective group. The proportion of variance accounted for by the groups, in the DFA that excluded paternal education, was approximately 12 percent less than the DFA that included paternal education but had fewer cases. These results suggest that the father's role is a very important component to adolescent resiliency.

An additional familial variable that contributed to the classification of students into protective or risk groups was the importance of student's perception of academic encouragement given by parent(s)/sponsor(s). In combination with the findings of the value of paternal education, this suggests that an important contribution to adolescent resiliency is not only the verbal support and encouragement by parents for students to succeed academically, but also the demonstrated academic achievement on the part of the parents. One interpretation is that a combination of familial factors, parents providing students with both verbal support as well as parents being an example by

personal academic attainment, serves as an important contribution to adolescent resiliency.

Intraindividual Variables

Intraindividual variable findings indicate that student cognitive ability is another factor that consistently relates to adolescent resiliency. Students with higher reported levels of cognitive ability were more likely to use their abilities toward academic achievement, another protective factor contributing to adolescent resiliency as identified throughout the research literature (Funder & Block, 1989; Masten et al., 1988; Rutter, 1985; Werner & Smith, 1992; Wyman et al., 1992).

A second intraindividual variable that consistently related to adolescent resiliency was student perception of stress levels. Students identified as being academically and behaviorally resilient reported lower levels of stress than their counterparts who were identified as being academically and behaviorally at-risk. This is another finding consistent with previous research findings (Colton, 1985; Compas, 1987; Karr & Johnson, 1991; Luthar, 1991; Rhodes & Jason, 1990), providing support for the inclusion of stress as another intraindividual variable that relates to adolescent resiliency.

An examination of the gender differences associated with group membership revealed evidence in support of future investigation of gender-difference resiliency. There is a relationship between gender and group membership. A greater proportion of male students than female students were identified in the academic/behavioral at-risk group, and the reverse was found in the academic/behavioral protective group. Consistent with the findings of the first question, male students of this study are experiencing

greater academic and behavioral difficulties in comparison to their female classmates.

Results for the second question support the resiliency literature that emphasizes multiple intraindividual, familial, and contextual variables in relation to an adolescent's resiliency or vulnerability (Garmezy, 1991; Masten et al., 1988). In this study, it was the combination of familial education and encouragement factors, along with intraindividual factors of general cognitive ability, academic achievement, and perceived levels of stress that contributed to the resiliency or vulnerability of the students.

Third Question: Student Adjustment to a Residential School Setting

The third question explored the relationships among adolescents' intraindividual variables and perceived adjustment to a residential school setting. Data from the quantitative rating of student perceived adjustment to the residential school and content analysis of student responses to questions pertaining to adjustment and feelings about attending a residential school were used to explore this relationship. Two important findings emerged. One, students communicated a sense of resiliency and ability to adapt to living at a residential school as indicated by the quantitative adjustment ratings despite the qualitative identification of problems and concerns. Two, content analysis of student responses revealed that an essential component to the adjustment process was the availability of relationships and support systems, from both home and residential school environments.

Quantitative Results of Adjustment

The student quantitative ratings of perceived adjustment to the residential school suggest that students perceive themselves, overall, as

making a positive adjustment to the residential school environment. The unequal group sizes, with 27 students in the difficulty adjustment group and 93 students in the overall positive adjustment group, indicate that, three-to-one, students perceive themselves as adapting well to the residential school. However, the content analyses indicated that students identified several areas of concern and problems which could be potential impediments to positive adjustment. Despite these barriers to adjustment, students rated themselves relatively high on the adjustment rating. This suggests that students recognize the barriers, but, according to self-ratings, they overcome the barriers in order to make the adjustment, using personal resources and self-reliance to compensate for the potential adjustment obstacles. The ability to overcome adversity and difficult situations through the use of available resources is one characteristic of resiliency that is frequently cited (Coie et al., 1993; Rhodes & Jason, 1990; Rice et al., 1993; Rutter, 1986; Werner, 1990). These findings provide evidence that students are resilient in their adaptation to living in a residential school setting.

Qualitative Results of Adjustment

The second finding, based on content analysis of student responses, revealed that an essential component to the adjustment process was the availability and value of relationships and support systems, from both home and residential school environments. Students consistently returned to the issue of relationships and the value of support systems. Negative indicators for adjustment were noted when there was a lack of essential relationships and support systems. Conversely, positive indicators for adjustment were noted through the presence of established familial and school support systems.

Consistent with this study's findings, the contribution of familial support, as well as contextual support, to promote adolescent resiliency is frequently cited throughout resiliency literature (Fonagy, Steele, Steele, Higgitt, & Target, 1994; Garmezy, 1991). The value of supportive relationships was a particularly salient theme for the female students; the inclusion of relationships as a theme appeared twice as often in comparison to male responses. During the last decade some researchers have turned to investigating the course of women's development as it relates to current theories of human development. Gilligan (1982) described women's development as having greater emphasis on relationships in comparison to men. Findings in this study are consistent with Gilligan's findings. Male adolescents in this study also acknowledged the necessity of friendships as a component helpful for adjustment, but not to the extent of their female peers.

The importance of friendships for male and female adolescents is also consistent with descriptions of the adolescent stage of development. Developmental psychologists typically describe adolescence as a time when peer groups and peer relations are a focal point and have significant influence (Santrock, 1992).

The theme of relationships and support systems was evident throughout the content analysis. The importance students place on relationships and support systems indicates a relationship between adjustment and familial and contextual variables. Intraindividual factors, however, were not found to be related to the process of adjustment, as predicted. Instead, a few familial and contextual factors did present themselves as important in student adjustment as noted in the qualitative findings. This finding suggests that for the students in this study an investigation of familial and other contextual factors might provide greater insight into the adjustment process. This is beyond the scope

of this study; however, it is certainly a direction to be explored in future research.

Summary and Integration of Research Questions' Findings

Findings across all three questions addressed in this study indicate that a combination of intraindividual, familial, and contextual factors contribute to adolescent resiliency. This aggregate of findings is consistent with the current focus in the resiliency literature, that a combination of these three categories of protective/risk variables contributes to an adolescent's resiliency or vulnerability. The specific sets of intraindividual, familial, and contextual protective/risk variables that combined to influence resiliency differed dependent upon the the focus of the research question.

For example, the first research question, exploring the relationship of intraindividual, familial, and contextual protective/risk variables to student academic achievement, had a narrow focus for its definition of resiliency. The adolescent resiliency indicator was limited to academic achievement. Results suggest that the variable largely associated with achievement was a motivation factor, an intraindividual variable. A second interesting finding was the differences between the genders. Consistently the female students outperformed their male classmates in general school ability as well as achievement, effort, and conduct. Conversely, male adolescents were experiencing greater behavioral difficulty in both the academic and residential programs of the school. The additional gender differences associated with academic achievement also support the continuation of exploration of gender differences in resiliency research. In this study, female adolescent achievement was associated with factors of motivation, perceived stress in relation to life events, and sibling relations. Male adolescent

achievement was also associated with a motivation factor; however, the remaining variables were different. Additional male adolescent variables included behavioral indicators, global self-concept and parental encouragement. Despite the gender differences as to the specific protective/risk variables, findings indicate that adolescent academic achievement is related to a combination of intraindividual, familial, and contextual factors.

The second research question examined the relationship between academic/behavioral protective or at-risk group membership and several intraindividual, familial, and contextual factors. The resiliency focus of this question was broader as group membership was determined by using several academic and behavior performance variables. A combination of familial and intraindividual variables was associated with group membership. These findings were similar to the first question's results. However, the specific set of variables was different. Students in the protective academic/behavior group achieved higher scores on general school ability, reported lower levels of stress in relation to life events, and received more encouragement from parents/sponsors in comparison to students identified in the at-risk group. Again, findings support the resiliency literature that examines the combination of categorical protective/risk variables. For example, DuBois, Felner, Meares, and Krier (1994) describe the interaction of social support, reported stress, socioeconomic disadvantage, and behavior as well as the separate effects they have on adolescent achievement and adjustment. DuBois et al. (1994) report that higher levels of stress, minimal social support and higher incidents requiring disciplinary action are related to poorer academic performance and adolescent adjustment. DuBois et al. (1994) findings provide support for the emerging importance of familial support and contextual

support systems as contributors to adolescent resiliency, as evidenced in the current results.

The relationship of paternal education was an interesting confound in the results of the first two questions. The specific role of paternal education can not be determined by the study's findings. However, there is an indication that a father's education has an impact in an adolescent's life. Results suggest that this particular familial variable has an indirect, or moderating, relationship to other familial variables. Clearly, in this study the presence of the paternal education variable impacted the relationship among other protective/risk variables.

The third question explored the relationship among adolescent intraindividual variables and perceived adjustment to the residential school. The combination of quantitative and qualitative findings indicated that adolescent adjustment was more closely related to familial and contextual supportive systems than to intraindividual variables. This continues to provide supportive evidence for the importance of family and other support systems in adolescent adjustment. Quantitative adjustment ratings indicated that the students were resilient and were adapting to their residential school environment despite their qualitative concerns. These results also suggest gender differences. The female students placed greater emphasis on relationships and the necessity for supportive systems to assist in the adjustment process. In conjunction with additional findings, there was an emerging connection between academic achievement and the availability of relationships and support systems. This indicates a possible relation between the intraindividual factor of achievement and the familial and contextual factors of supportive relationships. It is possible, based on these findings, that the male students of this school would experience an improvement in

achievement if they became more involved with support systems, from both home and school environments. This is an important finding, as a potential intervention for the school would be implementation of more structured support programs for all students. Implementation and evaluation of programs, such as peer tutoring, could reveal an increase in male achievement as one potential outcome. Garmezy (1991) reviewed the difference among a variety of familial and contextual factors as related to high and low achievers from lower SES environments. Results identified the need for much support, nurturance, and guidelines from adults at home and in the school setting as well as frequent communication between home and school settings (Garmezy, 1991). In combination with this study's findings, adolescent academic achievement and overall adjustment to the residential school may be improved through the fostering of more support systems for adolescents, and increasing contact with parents/sponsors for both the students and school employees.

The aggregate results of the three questions support the finding that the trajectory path of adolescent resiliency is influenced by multiple intraindividual, familial, and contextual protective/risk factors.

Findings also provide some initial insight into the introduction of the new variable into resiliency research. The effects of removing children and adolescents from their low income home environments and placing them into a residential school had not been previously investigated until this study. Results did not identify this factor as a protective or risk factor directly influencing adolescent resiliency. However, it's relationship to various familial and contextual protective/risk factors, such as frequency of visitations with family and parental encouragement, support the need for further investigation as to the possible moderating role time in a residential

school setting has on adolescents from low income home environments. Qualitative findings from this study indicate that many students adjust to the residential school setting over a period of time, however quantitative results did not reveal the same findings. It is possible that length of time in a residential school has a curvilinear relationship with adolescent resiliency.

Limitations to Study Findings

A limitation of this study is the lack of ability to generalize the findings and apply the implications directly to any other samples or settings for adolescents. The residential school of this study was an initial focal point for the study design. The findings are valuable, particularly for the residential school, as it develops programs to target student adjustment needs. Study findings also support the exploration into programs designed to increase involvement of parents/sponsors and families of the students. However, given the uniqueness of the setting, the findings should be interpreted with caution as they are applied to other studies investigating adolescent resiliency. Although years enrolled in a residential school was not determined to be a significant contextual protective or risk factor, additional research is required in order to investigate its relationship to other protective/risk factors. The residential school setting as a factor for adolescents from low income home environments is still ambiguous, making direct comparison of current study's findings to other adolescent resiliency populations tenuous.

A second limitation is the lack of a control group for comparison purposes. A control group would provide an opportunity to compare the risk and protective factors of adolescents attending a residential school setting to adolescents attending a public school setting while living at home. The selection of a control group needs to be done with care as the current study's

residential school admits students from geographic locations throughout the country and from rural, suburban, and urban home environments.

A third limitation is a caution against making a direct comparison between adolescents from lower income home environments and adolescents from lower socioeconomic status environments. Research typically draws parallels between low income and lower socioeconomic status, often describing many similar associated variables with both circumstances. The students from this study were enrolled to the residential school based on financial need. However, socioeconomic status is typically determined by multiple indices, including parental education and occupation. Jessor (1993) identifies a lack of empirical information about adolescents growing up in poverty and states that research about this particular adolescent population and factors associated with overcoming chronic adversity would be a valuable contribution to theories of adolescent development. As to its independence as a factor associated with resiliency, Garmezy (1991) cites numerous risk and protective factors associated with children and adolescents raised in impoverished conditions. Garmezy also describes the cyclical nature of children raised in impoverished conditions; including poor health status, and its relationship to school dropout and subsequent limited job opportunities. Perhaps it is one objective of residential schools, such as the one in the current study, to disrupt the cycle of poverty.

Another limitation was sample size in relation to the number of predictor variables for the multiple regression analyses, particularly the multiple regression analyses performed on gender differences. Interpretation of these findings should also be done with caution as a result of the small number of students in each analysis.

A fifth study limitation is also about the multiple regression analyses. The number of predictor variables entered into the regression was too large. Resiliency research identifies multiple intraindividual, familial, and contextual variables, as well as the interaction among these variables, all contributing much explanation to adolescent resiliency. However, given the exploratory nature of this study investigating the inclusion of the residential school setting, justification for excluding specific protective/risk variables at the onset of the study's design could not be generated. Based on the current study's findings, future studies could justify the exclusion of specific protective/risk variables that did not contribute to information about adolescent resiliency.

A final limitation is that the construct validity of measures used in identifying protective and at-risk group membership, as well as the adjustment scale used for placing students into groups of positive adjustment and adjustment difficulty, need to be more carefully established. The academic and behavioral indices used for the protective/at-risk group membership were combinations of individual factors associated with resiliency research, but not researched as aggregates. Further clarification of these constructs needs to be done. The adjustment rating was simply determined by splitting the group at midpoint. Again, this needs to be validated.

Conclusion

This study has revealed several salient findings that contribute to our understanding about adolescent resiliency. First, this study supports the resiliency literature that attributes the adolescent resiliency trajectory to the combination and interaction of various intraindividual, familial, and contextual variables. Additional findings, more specific to this particular

population, provide empirical evidence to suggest future research directions. The gender-difference results indicate that resiliency research should begin to investigate the differential relationships of various protective/risk variables for male and female adolescents. It is possible that there are different combinations of protective/risk variables associated with male and female adolescents. This would be valuable information as attempts are made to provide effective interventions to promote adolescent resiliency.

Another important finding related to the role motivation plays in adolescent achievement. Consistently, motivation had the largest association with student academic achievement, in both gender-difference and total sample findings supporting the inclusion of motivation as a potential protective/risk factor in adolescent resiliency research.

The importance of relationships and the necessity of familial and school supportive systems to promote adolescent achievement, adjustment, and resiliency, are also highlighted in this research, indicating the importance family plays in adolescent resiliency, even if the adolescents do not live in their home environments. It is possible that the residential school could promote adolescent achievement and assist in their adjustment to the residential school environment by investigating programs to encourage increased parent/sponsor involvement.

The most salient theme to emerge from this study, in addition to the confirmatory evidence supporting resiliency literature, is the importance of familial and contextual variables on the adjustment, achievement, and resiliency of adolescents, particularly as related to relationships and supportive systems. Clearly, adolescents respond in the direction of resiliency when the protective factors of family and school support systems are a part of their lives. In combination with the other identified intraindividual, familial,

and contextual variables, adolescents who have supportive systems appear to be on a trajectory path of resiliency with these protective variables influencing their development.

In summary, findings revealed that multiple intraindividual, familial, and contextual factors are related to adolescent resiliency. Future research needs to examine the interaction of these three types of factors. Perhaps specific interactions will identify more clearly the nature of adolescent resiliency. A second direction for research is to investigate the construct validity of measures in identifying protective and at-risk group membership as well as the adjustment scale for placing students into groups of positive adjustment or adjustment difficulty. Both measures were arbitrarily chosen with limited supportive literature. Given the number of risk factors associated with today's adolescents, it is critical that adolescent resiliency continues to be a focus in research.

Appendix A

"THE WAY I FEEL ABOUT MYSELF"

The Piers-Harris Children's Self-Concept Scale

Ellen V. Piers, Ph.D. and Dale B. Harris, Ph.D.

Name: _____ Today's Date: _____

Age: _____ Sex (circle one): Girl Boy Grade: _____

School: _____ Teacher's Name (optional): _____

Directions: Here is a set of statements that tell how some people feel about themselves. Read each statement and decide whether or not it describes the way you feel about yourself. If it is *true or mostly true* for you, circle the word "yes" next to the statement. If it is *false or mostly false* for you, circle the word "no." Answer every question, even if some are hard to decide. Do not circle both "yes" and "no" for the same statement.

Remember that there are no right or wrong answers. Only you can tell us how you feel about yourself, so we hope you will mark the way you really feel inside.

TOTAL SCORE: Raw Score _____ Percentile _____ Stanine _____

CLUSTERS: I _____ II _____ III _____ IV _____ V _____ VI _____

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W-180A

Appendix A

1. My classmates make fun of meyes no 2. I am a happy personyes no 3. It is hard for me to make friendsyes no 4. I am often sadyes no 5. I am smartyes no 6. I am shyyes no 7. I get nervous when the teacher calls on meyes no 8. My looks bother meyes no 9. When I grow up, I will be an important personyes no 10. I get worried when we have tests in schoolyes no 11. I am unpopularyes no 12. I am well behaved in schoolyes no 13. It is usually my fault when something goes wrongyes no 14. I cause trouble to my familyyes no 15. I am strongyes no 16. I have good ideasyes no 17. I am an important member of my familyyes no 18. I usually want my own wayyes no 19. I am good at making things with my handsyes no 20. I give up easilyyes no	21. I am good in my school workyes no 22. I do many bad thingsyes no 23. I can draw wellyes no 24. I am good in musicyes no 25. I behave badly at homeyes no 26. I am slow in finishing my school workyes no 27. I am an important member of my classyes no 28. I am nervousyes no 29. I have pretty eyesyes no 30. I can give a good report in front of the classyes no 31. In school I am a dreameryes no 32. I pick on my brother(s) and sister(s)yes no 33. My friends like my ideasyes no 34. I often get into troubleyes no 35. I am obedient at homeyes no 36. I am luckyyes no 37. I worry a lotyes no 38. My parents expect too much of meyes no 39. I like being the way I amyes no 40. I feel left out of thingsyes no

Appendix A

41. I have nice hairyes no
42. I often volunteer in schoolyes no
43. I wish I were differentyes no
44. I sleep well at nightyes no
45. I hate schoolyes no
46. I am among the last to be chosen for gamesyes no
47. I am sick a lotyes no
48. I am often mean to other peopleyes no
49. My classmates in school think I have good ideasyes no
50. I am unhappyyes no
51. I have many friendsyes no
52. I am cheerfulyes no
53. I am dumb about most thingsyes no
54. I am good-lookingyes no
55. I have lots of pepyes no
56. I get into a lot of fightsyes no
57. I am popular with boysyes no
58. People pick on meyes no
59. My family is disappointed in meyes no
60. I have a pleasant faceyes no

61. When I try to make something, everything seems to go wrongyes no
62. I am picked on at homeyes no
63. I am a leader in games and sportsyes no
64. I am clumsyyes no
65. In games and sports, I watch instead of playyes no
66. I forget what I learnyes no
67. I am easy to get along withyes no
68. I lose my temper easilyyes no
69. I am popular with girlsyes no
70. I am a good readeryes no
71. I would rather work alone than with a groupyes no
72. I like my brother (sister)yes no
73. I have a good figureyes no
74. I am often afraidyes no
75. I am always dropping or breaking thingsyes no
76. I can be trustedyes no
77. I am different from other peopleyes no
78. I think bad thoughtsyes no
79. I cry easilyyes no
80. I am a good personyes no

For examiner use only

	1-20	+ 21-40	+ 41-60	+ 61-80	= 1-80 Total
I	_____	_____	_____	_____	_____
II	_____	_____	_____	_____	_____
III	_____	_____	_____	_____	_____
IV	_____	_____	_____	_____	_____
V	_____	_____	_____	_____	_____
VI	_____	_____	_____	_____	_____
Total Score	_____	_____	_____	_____	_____

Appendix A

The Life Events Checklist

Instructions: Below is a list of things that sometimes happens to people. Put an X in the space by each of the events you have experienced during the past year (12 months). For each of the events you check also indicate whether you would rate the event as a Good event or a Bad event. Finally, indicate how much you feel each event has changed or has had an impact or effect on your life by placing a circle around the appropriate statement (no effect some effect moderate effect great effect). Remember, for each event you have experienced during the past year, (1) place an "X" in the space to indicate you have experienced the event, (2) indicate whether you viewed the event as a good or bad event, and (3) indicate how much effect the event has had on your life.

To get some idea of the type of events you will be asked to rate, please read over the entire list before you begin. Only respond to those events you have actually experienced during the past.

Event	Type of Event (circle one)			Impact or Effect of Event on Your Life			
1. Moving to a new home	_____	Good	Bad	no effect	some effect	moderate effect	great effect
2. New brother or sister	_____	Good	Bad	no effect	some effect	moderate effect	great effect
3. Changing to new school	_____	Good	Bad	no effect	some effect	moderate effect	great effect
4. Serious illness or injury	_____	Good	Bad	no effect	some effect	moderate effect	great effect
of family member	_____	Good	Bad	no effect	some effect	moderate effect	great effect
5. Parents divorced	_____	Good	Bad	no effect	some effect	moderate effect	great effect
6. Increased number of arguments	_____	Good	Bad	no effect	some effect	moderate effect	great effect
between parents							
7. Mother or father lost job	_____	Good	Bad	no effect	some effect	moderate effect	great effect
8. Death of family member	_____	Good	Bad	no effect	some effect	moderate effect	great effect
9. Parents separated	_____	Good	Bad	no effect	some effect	moderate effect	great effect
10. Death of a close friend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
11. Increased absence of parent	_____	Good	Bad	no effect	some effect	moderate effect	great effect
from the home							
12. Brother or sister leaving home	_____	Good	Bad	no effect	some effect	moderate effect	great effect
13. Serious illness or injury of	_____	Good	Bad	no effect	some effect	moderate effect	great effect
close friend							
14. Parent getting into trouble with law	_____	Good	Bad	no effect	some effect	moderate effect	great effect
15. Parent getting a new job	_____	Good	Bad	no effect	some effect	moderate effect	great effect
16. New stepmother or stepfather	_____	Good	Bad	no effect	some effect	moderate effect	great effect
17. Parent going to jail	_____	Good	Bad	no effect	some effect	moderate effect	great effect
18. Change in parents' financial status	_____	Good	Bad	no effect	some effect	moderate effect	great effect
19. Trouble with brother or sister	_____	Good	Bad	no effect	some effect	moderate effect	great effect
20. Special recognition for good grades	_____	Good	Bad	no effect	some effect	moderate effect	great effect
21. Joining a new club	_____	Good	Bad	no effect	some effect	moderate effect	great effect
22. Losing a close friend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
23. Decrease in number of arguments	_____	Good	Bad	no effect	some effect	moderate effect	great effect
with parents							
24. Male: girlfriend getting pregnant	_____	Good	Bad	no effect	some effect	moderate effect	great effect
25. Female: getting pregnant	_____	Good	Bad	no effect	some effect	moderate effect	great effect
26. Losing a job	_____	Good	Bad	no effect	some effect	moderate effect	great effect
27. Making honor role	_____	Good	Bad	no effect	some effect	moderate effect	great effect
28. Getting your own car	_____	Good	Bad	no effect	some effect	moderate effect	great effect
29. New boyfriend/girlfriend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
30. Failing a grade	_____	Good	Bad	no effect	some effect	moderate effect	great effect
31. Increase in number of arguments	_____	Good	Bad	no effect	some effect	moderate effect	great effect
with parents							

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32. Getting a job of your own	_____	Good	Bad	no effect	some effect	moderate effect	great effect
33. Getting into trouble with police	_____	Good	Bad	no effect	some effect	moderate effect	great effect
34. Major personal illness or injury	_____	Good	Bad	no effect	some effect	moderate effect	great effect
35. Breaking up with boyfriend/girlfriend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
36. Making up with boyfriend/girlfriend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
37. Trouble with teacher	_____	Good	Bad	no effect	some effect	moderate effect	great effect
38. Male: girlfriend having abortion	_____	Good	Bad	no effect	some effect	moderate effect	great effect
39. Female: having abortion	_____	Good	Bad	no effect	some effect	moderate effect	great effect
40. Failing to make an athletic team	_____	Good	Bad	no effect	some effect	moderate effect	great effect
41. Being suspended from school	_____	Good	Bad	no effect	some effect	moderate effect	great effect
42. Making failing grades on report card	_____	Good	Bad	no effect	some effect	moderate effect	great effect
43. Making an athletic team	_____	Good	Bad	no effect	some effect	moderate effect	great effect
44. Trouble with classmates	_____	Good	Bad	no effect	some effect	moderate effect	great effect
45. Special recognition for athletic performance	_____	Good	Bad	no effect	some effect	moderate effect	great effect
46. Getting put into jail	_____	Good	Bad	no effect	some effect	moderate effect	great effect
Other events which have had an impact on your life. List and rate.							
47. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect

48. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect

49. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect

50. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect

Johnson, J.H. (1986). Life events as stressors in childhood and adolescence. Newbury Park: Sage.

Appendix B
Ten-Item Questionnaire

Code: _____

Please complete the following items:

1. age_____
2. male_____ female_____
3. Identify your racial group _____
4. Identify your ethnic group _____
5. List all activities you are currently in.
6. How many times have you gone on visiting privileges with your parent(s)/sponsor(s) during your ninth grade year? _____
7. Rate how much support do you get from your parent(s)/sponsor(s) to do well in school; relating to grades. Circle the number that most closely matches your rating.
(1 is low and 5 is high)

1	2	3	4	5
little encouragement		some encouragement		much encouragement
8. Describe how you have adjusted to attending school away from home.
9. Describe how you feel about being at (the residential school).
10. On a scale of 1-10 (1 is the lowest, 10 is the highest), rate your overall adjustment to (the residential school) _____

Appendix C

Qualitative Content Analysis of Student Responses

First Question female responses (n=58)

Describe how you have adjusted to attending school away from home

Categories

I. Positive Statements

- 7--just arrived; think I've done well
- 8--been here 4 yrs-like my 2nd home
- 10--adjusted well-like it better than home
- 9--fine (2) 8--fine
- 8--adjusted a lot compared to when 1st came
- 9--adjusted very well-can endure being here
- 7--very good
- 8--easily-used to moving around a lot so this was no big change
- 7--adjusted pretty well (3)
- 8--adjusted very well because I'm very independent
- 10--adjusted to (the school) very well, never got homesick adjusted right from start
- 8--took awhile but adjusted well and have the option to go home at any time
- 9--adj very well & had no problems
- 10--I'm doing great
- 8--adj quickly because came here at a young age & it was like starting school for the 1st time

II. Resources (people, time, activities) to Assist in Adjustment

- 7--made friends through 5 yrs & got involved in grps
- 7--like my second home
- 8--my friends have helped me a lot
- 8--get in lots of fights w/ mom; being here seems to be alot easier
- 10--made new friends; not doing bad things and getting into trble anymore
- 7--my friends and sister--I talk to them & has helped me a lot
- 8--have made friends and talk to my friends at home a lot
- 8--realize the school provides something for me
- 7--friends here and still communicate with friends at home
- 8--adjusted by making lot of friends & being involved in things
- 8--like SH a lot--tchrs are supportive and usually understanding
- 9--all my friends & just sticking w/ it
- 8--began to have more friends
- 8--made lots of friends
- 6--doing better than when 1st came cuz of my friends old & new
- 10--doing well made friends right away
- 8--roommate and friends have helped a lot

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III. Involvement/Investment of Time and Energy

7--involved in grps
5--adjusted by trying to keep self busy w/ school & at stdthm
5--living in a local area to go out visiting
10--easy, I live near by and get to see all my friends
8--learned to get along with people from different backgrounds
8--began to behave myself
4--fine; I've always been comfortable with new people or people I don't know because you get to know a lot of different people and that's good communication

IV. Roadblocks/Obstacles to Adjustment

10--lived on schedule for past 4 yrs-took getting used to--couldn't run around at night and hang around with friends
5--try not to spend a lot of time at stdthm so I won't have time to miss home
7--wish I could see my mom more often--still miss my home
8--kind of hard at 1st & I'm shy but I had to make friends
8--still feel separated from family even though have accepted it
8--dislike the stdthm-it really stresses me out--hps are always on my back, just because I'm a freshman
7--hard at 1st to be away from family and friends, but have dealt with it
9--at first hard getting used to all the new rules, hps and kids--gotten used to it but for one thing I respect all the adults at (the school) except my hmother
8--I live in Florida so it is kind of hard, but I've done it
6--been here for 4 mos and it's drastic change as far as rules, regulations & academics
6--it was very hard-I'm an only child & it was upsetting for my mom and myself-I get very homesick
9--adjusted well but still miss home & still feel part of the crowd
4--hardest place to adj it the stdthm-esp the hps, clothing rules & all other rules
2--love getting away from home, but not here because it's too far away and I don't know anyone here
8--at 1st it was sad because I couldn't see my mom
9--adj pretty well, hard part making friends

V. Statements of Acquiescence

5--been here 2 & 1/2 yrs in a way its been a big change
1--just learned to live w/ it--will be leaving soon
8--used to being here & I don't like it but I'll stay anyways
8--I don't like (the school) very much but I've learned to live in it--at 1st had trble but everything is fine now
7--used to it but now I am tired
6--tired my best to get used to the food; and having other people tell me what to do
8--adjusted alright but don't like it here
7--started adjusting but things would be better at home-I hate this school and want to get out--can't wait to leave
9--good but I'd rather be at home

Appendix C

8--am used to it
9--it's okay-I don't care anymore-I got used to it so I don't miss home
9--okay-it's better the longer you've been in
7--it doesn't bother me
4--adjusted okay but don't like it here
2--still hate it here (5th yr)--I'll live (but to live and not to love, that is a
real punishment)
6--even though been here 3 yrs haven't adj well
2--have to live with it-don't have a choice
8--made little friends, school is okay & stdthm don't really like the
people
6--still want to go home
2--can't stand this school still & I've been here since 4th grade--but
have no choice to get out
1--it's alright-just worried about my grades--one thing I've noticed is
there's too much prejudice in this school

Appendix C

Qualitative Content Analysis of Student Responses

First Question
male responses (n=62)

Describe how you have adjusted to attending school away from home

Categories

I. Positive Statements

9--pretty well (2) 10--adj well 7--very well (2)
9--adj a lot since first came
7--pretty good 9--pretty good
10--came in 3rd grade, it was really hard at 1st because I was so yng,
everything's going well now though
9--adged a lot and am now adjsting to SH
9--have adj very well-I learned new things from the different cultures
9--just fine
10--easily 9--easily
3--starting to adj pretty good
9--GREAT!!!
8--it's fun-less violent then back home

II. Resources (people, time, activities) to Assist in Adjustment

9--friends helped a lot
10--easily having good friends
10--at 1st going home really helped me to deal w/ feelings of being
away from hm; going hm and being w/ friends & family released a lot of
pressure
10--enjoy being away from hm cuz of my sports, friends & I like being
organized
8--my hps & friends have really helped me adj--has helped me cuz they
all went through or are going through same thing and we can talk about it
9--adj by meeting new people and having new friends
9--live a different way w/ all the other stdts in the stdthm
7--like my friends
6--made friends 9--made friends

III. Involvement/Investment of Time and Energy

10--participate in lot of activities
9--got along with other people well
6--learned to share more and cooperate with others
9--like it here-I've been friendly and nice to people and they support
me-I got active
9--I work w/ my problems
2--have adj by making friends & am trying to adj with my studies
5--now I get better grades-I put myself in more sports
9--try to find a hobby or anything to do
9--in many activities as soon as I came
9--adj by view (the school) as a job & a place to learn for my future

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IV. Roadblocks/Obstacles to Adjustment

10--at stdthm me & my hps are having problems btwn us
9--hard to be away from home
5--some of the rules I haven't adj to, but otherwise I'm doing great
6--adjed to having little privacy
10--been in this school for 4 yrs-when 1st came didn't like the chores or being away from home-now it's easy
6--fairly easy, but at 1st it was hard-I've had my ups & downs-but I don't have any real problems in the past & I'm happy now
7--very hard-miss my mother & home boys
3--I guess I am alright-they could eliminate some chores & stop worrying about girls & boys doing crazy things
8--easy when family lived across town-became hard when they moved

V. Statements of Acquiescence

1--(left blank)
10--been here since kindergarten--feel like I'm at college or camp
2--just deal w/ it-really haven't adj
5--was adj when in intermediates--now that I am in 9th grade I'm at the bottom of the pot again
8--well, except for at night
8--have been in this school since 6th grade-I thought this school really sucked when I came, and often think that. Actually, I never really disliked school that much, it was always the residential aspects...
10--at 1st there was no impact on me, and I didn't cry or anything-I forgot a lot, because I was in 2nd grade
1--I haven't adj yet 5--still haven't adj
8--I just got used to it-I been in this school for a long time so I don't really remember that much
10--adj ok, but there is a lot of things about this school that I really hate-like they say they give you privacy but they always have security or RA's breathing down your neck
7--can't say I love it-I'm in nonstop trble-I never see my mom-this place stinks-they don't know how to run this place-they don't hop off my back-I wish people would just mind their own business LEAVE US ALONE-PLEASE
8--gotten used to it
8--rather be at home
8--it's been difficult, but I've done it
10--it was hard at the beginning
5--it was kind of hard
3--it's been very hard-I haven't adj yet
1--I don't like it-it is very hard to adj
2--I haven't adj really well because I don't like the living at the school)
5--I haven't
1--haven't adj-you have to give in your spirit and self-worth; make yourself a robot-then you can survive
8--still haven't
7--haven't adj that much-the only thing that I had a hard time about is the stupid rules
7--it was hard-I've needed a lot of help

Appendix C

Qualitative Content Analysis of Student Responses

Second Question female responses (n=58)

Describe how you feel about being at (the residential school)

Categories

I. Positive Statements

- 7--I like the education they give me
- 8--I realize that this school is a good place
- 10--I like being here
- 9--fine
- 10--I like almost everything about the school
- 7--I like the school here, I'm glad of the friends that I have made, they've helped me a lot
- 7--I like it.
- 9--I love being with my friends and having something to do
- 10--I am happy here because I don't feel pressured and I have somewhat more freedom
- 10--I like being at (the school). One of the things that makes me more comfortable at school are my friends. I have made really great friends here at school
- 7--somewhat good
- 9--I don't feel anything, it is a good school
- 8--didn't feel good because I didn't like being here, but I am starting to feel much better
- 10--I feel very lucky to be here; overall I'm pretty happy
- 8--I think I do like it here, esp the people that take care of me

II. Comparison to Other Living Environment Options

- 8--I know inside (the school) is the best & most stable environment for me
- 9--I love it and it's 99.9% better than home
- 8--fine-just chillin-would rather be at home if I could
- 6--I really like it here because I get to live and interact with others more than I do at home
- 9--I know I'm getting a better education than I would in any school
- 7--I'd rather be home than here

III. Current and Future Opportunities

- 5-I like it for the free opportunities and friends
- 9--being here has gotten me probably a better education
- 8--I appreciate all this school has done for me and my family. My mom no longer struggles as much as she used to when I was home and I'm getting a better education here
- 7--I have things I can do and I have a lot of friends that I can be with
- 8--I think that the school is a great opportunity for my education, but if it weren't for that I would not be here

Appendix C

- 8--a lot of opportunities, but bad things have also occurred
- 6--I really don't want to be here but I wanna go to college and be more than my mother was so this is my best bet
- 2--good opportunities
- 6--good opportunities and safety
- 4--has a lot of opportunitys
- 8--I am grateful for (the school) because my mom does not have enough money to support all of us
- 9--I like being here for the opportunities

IV. Roadblocks/Obstacles to More Positive Feelings

- 8--hard to live with people who do not respect you
- 8--people are extremely petty
- 8--there are a lot of stupid rules that get on my nerves; & my hps get on my nerves, & the stdts in this school, some of them, get on my nerves.
- 7--the only problem is that a lot of people come to this school 'cause there sponsors made them, but since they don't want to be here they ruin stuff for other people. There's too much grp punishment.
- 8--I miss my sister, hopefully my sister could come
- 7--Its not that bad, but we need more people who we can talk to and simply listen and who won't just rub the other side of the coin in your face first; people who will listen and understand first. And we need to be allowed to go out more or visit our friends in other stdthms
- 7--I don't like how everything works, which kind of makes me mad sometimes
- 10--there are some problems with it that I have
- 9--sometimes it feels like I'm trapped and it's too stricked. I miss being away from my family
- 10--but somethings about school bug me--like waking up so early to do stupid chores
- 9--It's lonely sometimes being away from home, but with friends I don't mind that much
- 1--too much prejudice and fony people and people don't mind their business--I'm sick of everything
- 9--I am glad, but I miss being at home
- 4--I would feel good but some people dislike me for no reason and I'm guessing they want to start trouble, but I've got people I can call, and I'm not letting that faze me until somebody steps up
- 10--there are times when school and people stress me out then I want to be home in NYC
- 6--feel like my life never changes, it like living the same day over and over
- 9--I wish it was more fun and closer to home-and it wasn't so strict

V. Statements of Acquiescence

- 8--its a 50/50 thing; half the time it's the best place for me & I like it here, but school work is hard
- 8--it's okay
- 7--I feel independent, but very abandoned

Appendix C

8--don't like it here, only reasons I'm still here is because of one of my very best friends & also because of a good education

1--it is too stressful. Living in the stdthms I don't get the help I need. I feel alone

5--I just plain hate this school and want out of this place. You have no life, relationships, nor privacy

5--It's okay most of the time, but sometimes I wish I was home

10--just don't like some of the other stdts, but that's normal

8--being at this school is alright sometimes, but sometimes I just miss my brothers and sisters so its a little hard

8--I feel I would want to go home

7--I really don't want to be here any longer. It can be very stressful and emotional being here.

7--I feel that w/out the many friends that I have made, I don't think that I would have made it through the tough times

8--I don't like it here and it does cause a lot of stress on me. I am ready to leave

5--I feel alone. I need to be with my real friends & my mom

6--sometimes I wish I can get out, but I don't because I don't want to leave all my friends

2--It's boring and I just don't like it

6--In a way I hate it, you can't do anything you want. It's boring--need more better parties

8--I really do not like this school. I'm homesick. Too many phonies trying to act all cute

8--it's okay, but people are really fake (not acting like their true self).

8--I doesn't really bother me

2--Lonely, because I'm used to being around my people even though I got a lot of friends here but I like being with Vietnamese people better

2--hate it! People fake! People rude! Food terrible! Clothes terrible!

4--I don't like it

7--you get used to it after a while

9--it is ok

9--I feel o.k. but sometimes is sucks

9--Personally I think this school is a bunch of bologna, because they are trying to discipline to much, and the only reason is for, to make a good public apperance. They are trying to make the school like a prison camp and a mental institution

9--I don't wanna be here because i am to unhappy

7--I hate being at (the school). I can't wait to get out of this school. I can't stand it here any longer. Been here since 4th grade. I want to go home!

Appendix C

Qualitative Content Analysis of Student Responses

Second Question male responses (n=62)

Describe how you feel about being at (the school)

Categories

I. Positive Statements

- 8--They (the school) help me to do a lot and I like the support
- 7--I enjoy it here, I like the TV studio a lot
- 10--I feel this is the best choice my mother made. I will always love her for this
- 9--I think (the school) is fun because this is where all of my friends are
- 9--pretty good
- 9--I like it
- 10--the kids are okay, the school is good
- 9--I like it because everybody is nice and willing to help you
- 8--I like it here
- 5--good

II. Comparison to Other Living Environment Options

- 10--This school is the best place for me; I've made a life for myself
- 8--I'd be in 11th grade if I was home
- 10--I feel like I'm missing something out in the "real world". I wish I could spend a year in public school to see how it is
- 7--I really want to leave, but at home it's worst, so I would probably stay, even though I hate it
- 2--I feel great about being in (the school) because my old school which was in a black society that was influenced with violence
- 8--I'm happy here now, but that might change. I wish to be at home more than here
- 8--would like to leave here, but can't cause of problems at home
- 9--I think it is better for me than going to school at home; better environment
- 9--I feel good to be away from the streets and being safe
- 5--I feel proud to be in this school, if I wasn't here I'd probably be at a party
- 7--it's okay, but I'd rather be home
- 9--I at times don't like some of the school's rules, but when I think about it and though at home my rules would be few I might be dead

III. Current and Future Opportunities

- 10--I want the education
- 9--I really like it here because I'm making the best of my education here
- 8--I like the opportunities to have a better education
- 8--I like this school a lot, it has given me a new beginning to show I can do well

Appendix C

10--I'm glad I am, even though it's extremely hard (grade-wise). I know in the long-run, it's better for me

9--I like being here a lot. I think this school offers me a lot of opportunities

9--I like it here; I get everything

6--I like the educational benefits and how the school gives us all we need

5--I feel it's a good school, and I feel I could be somebody through this school

9--I feel lucky to be here since I almost got kicked out and I really need this school for clothing, food, shelter, & education

8--I like it, it is a good experience for me

IV. Roadblocks/Obstacles to More Positive Feelings

9--the only thing is sometimes the school (in general) make bad decisions for us as a whole

8--I often dislike (the school) very much. I usually find myself looking forward to going to school to escape my hps, because overall, (w/ a few exceptions), I hate the stdthm

8--I do not like the way the school is set up for next yr

7--but I miss my friends and family from back home

9--I just have a problem not going home a lot seeing my mom and friends

10--I really want to be here, but I don't really like the academic system

6--but I do wish I could be with my parents

5--I like the school but I don't like the stdthms

10--but some of the food is nasty

9--I think the school is great but we should be left w/ more freedom

8--I like it but it is far away from home

7--it's okay except getting up and doing chores

10--my yrs with (CH hps) I loved the school, with my new hps I really hate it

9--but lots of times it's really boring

3--sometimes I don't even want to be here it gets hassling & I just miss home to much

9--it's boring. Need more time with friends & girlfriends

V. Statements of Acquiescence

1-I don't like being here at all; this is my last yr here

10--the school has really been getting on my nerves recently though

5--I feel I wish I was not here at times, but I know I have to and I'll make the best of it

2--alone, scared, worried, mad

10--I don't really mind

10--I feel that I don't always like it here but I have to stay here so I might as well make the best of it

1--I'd rather not discuss this

9--I don't care

8--it's okay

7--different from other people

10--I feel lonely

Appendix C

6--school is okay, but it isn't all thought it would be

5--I don't mind it

10--oh, don't ask

9--it's ok

5--don't care, could be better

1--I am trying to hang in there. I go through the motions and do what they say. I give in to everyone's wishes

3--I really don't want to be hear, but im going to stick it out

2--I don't like it

1--I feel that I do not belong here

5--It's okay sometimes but I'd rather be rich

7--it's okay, I feel it's a prison term and it will end soon

7--it's alright

8--it's okay, not bad

8--the only reason I want to be here is because my sister is coming in August

Appendix D

Table 16.
Frequency Distributions, Means, and Standard Deviations of Intraindividual
Variables for the Total Sample and By Gender

	TOTAL				MALE				FEMALE			
	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>
Age			14.36	0.64			14.34	0.68			14.31	0.60
13	3	2.50			1	1.60			2	3.40		
14	83	69.20			45	72.60			38	65.50		
15	26	21.70			10	16.10			16	27.60		
16	8	6.70			6	9.70			2	3.40		
Gender												
Male	62	51.70			62	100.00						
Female	58	48.30							58	100.00		
Race												
Asian	2	1.70			0	0.00			2	3.40		
Black	35	29.20			17	27.40			18	31.00		
Hisp/Lat.	19	15.80			10	16.10			9	15.50		
White	63	52.50			34	54.80			29	50.00		
Arabic	1	0.80			1	1.60			0	0.00		
Adjust. Rating			7.14	2.49			7.18	2.64			7.10	2.35
1-5	27	22.50			16	25.80			11	18.90		
6-10	93	77.50			46	74.20			47	81.10		
Verbal Score			100.04	15.05			99.58	15.36			100.5	14.73
55-70	3	2.50			2	3.30			1	1.80		
77-85	9	7.70			5	8.20			4	7.00		
86-115	89	75.40			46	75.40			43	75.40		
116-130	12	10.20			5	8.20			7	12.30		
>130	5	4.20			3	4.90			2	3.50		
Quant. Score			100.07	14.84			98.33	16.21			101.81	13.47
55-70	5	4.20			5	8.10			0	0.00		
77-85	12	10.10			7	11.30			5	8.80		
86-115	86	72.30			42	67.70			44	77.20		
116-130	13	10.90			6	9.70			7	12.40		
>130	3	2.50			2	3.20			1	1.80		
SAI Score			93.03	16.29			89.97	18.96			96.35	12.09
< 70	9	7.60			9	14.50			0	0.00		
71-85	16	13.40			6	9.70			10	17.50		
86-115	90	75.60			45	72.60			45	79.00		
116-130	4	3.40			2	3.20			2	3.50		

Appendix D

Table 16. (cont'd)

Frequency Distributions, Means, and Standard Deviations of Intraindividual Variables for the Total Sample and By Gender

	TOTAL				MALE				FEMALE			
	Freq.	%	<u>M</u>	<u>SD</u>	Freq.	%	<u>M</u>	<u>SD</u>	Freq.	%	<u>M</u>	<u>SD</u>
P-H Total			54.48	9.04			55.65	8.77			53.28	9.23
< 30	1	0.80			0	0.00			1	1.70		
30-39	5	4.30			3	5.00			2	3.50		
40-55	56	47.40			27	45.00			29	50.00		
56-65	42	35.60			23	38.30			19	32.70		
> 65	14	11.90			7	11.70			7	12.10		
LEC Total			21.13	15.21			19.34	16.99			23.04	12.92
1-10	35	29.70			26	42.60			9	15.80		
11-20	29	24.50			12	19.70			17	29.80		
21-30	25	21.20			8	13.10			17	29.80		
31-40	19	16.10			10	16.40			9	15.80		
41-50	5	4.30			3	4.90			2	3.50		
51-60	3	2.50			1	1.70			2	3.50		
> 60	2	1.70			1	1.60			1	1.80		
LEC Positive			8.43	6.48			8.84	7.76			8.00	4.77
0	8	6.80			6	9.80			2	3.50		
1-10	74	62.70			34	55.80			40	70.20		
11-20	28	23.70			14	22.90			14	24.50		
21-30	7	6.00			6	9.90			1	1.80		
31-40	1	0.80			1	1.60			0	0.00		
LEC Negative			12.69	11.69			10.51	11.74			15.02	11.27
0	5	4.20			3	4.90			2	3.50		
1-10	57	48.30			36	59.00			21	36.90		
11-20	34	28.90			13	21.30			21	36.80		
21-30	14	11.80			6	9.90			8	14.00		
31-40	3	2.60			0	0.00			3	5.30		
41-50	3	2.50			2	3.30			1	1.70		
51-60	1	0.90			0	0.00			1	1.80		
> 60	1	0.80			1	1.60			0	0.00		
Ach. GPA			2.50	0.70			2.31	0.65			2.70	0.70
0.00 - 0.95	3	2.50			0	0.00			3	5.20		
1.00 - 1.99	26	21.70			20	32.30			6	10.30		
2.00 - 2.99	57	47.50			30	48.30			27	46.60		
3.00 - 3.99	34	28.30			12	19.40			22	37.90		

Appendix D

Table 16. (cont'd)

Frequency Distributions, Means, and Standard Deviations of Intraindividual Variables for the Total Sample and By Gender

	TOTAL				MALE				FEMALE			
	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>
Effort GPA			3.09	0.57			2.95	0.59			3.24	0.52
0.00 - 0.95	0	0.00			0	0.00			0	0.00		
1.00 - 1.99	6	5.00			5	8.10			1	1.70		
2.00 - 2.99	36	30.00			25	40.30			11	19.00		
3.00 - 3.99	78	65.00			32	51.60			46	79.30		
Conduct GPA			3.41	0.50			3.30	0.52			3.53	0.45
0.00 - 0.95	0	0.00			0	0.00			0	0.00		
1.00 - 1.99	2	1.70			2	3.20			0	0.00		
2.00 - 2.99	19	15.80			10	16.20			9	15.50		
3.00 - 3.99	87	72.50			44	70.90			43	74.20		
4.00	12	10.00			6	9.70			6	10.30		

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Table 17.
Frequency Distributions, Means, and Standard Deviations of Familial
Variables for the Total Sample and By Gender

	TOTAL				MALE				FEMALE			
	Freq.	%	M	SD	Freq.	%	M	SD	Freq.	%	M	SD
Maternal Ed.												
up to 9th	6	5.20			5	8.30			1	1.80		
9-12	21	18.30			13	21.70			8	14.50		
H.S. Graduate	52	45.20			27	45.00			25	45.50		
1-3yrs. of college	27	23.50			10	16.70			17	30.90		
college degree	8	7.00			4	6.70			4	7.30		
post-college	1	0.90			1	1.70			0	0.00		
Paternal Ed.												
up to 9th	5	5.60			1	2.30			4	8.70		
9-12	17	18.90			10	22.70			7	15.20		
H.S. Graduate	51	56.70			27	61.40			24	52.20		
1-3yrs. of college	7	7.80			1	2.30			6	13.00		
college degree	7	7.80			3	6.80			4	8.70		
post-college	2	2.20			2	4.50			0	0.00		
grad degree	1	1.10			0	0.00			1	2.20		
# of Siblings			1.93	1.47			1.73	1.42			2.14	1.52
0	21	17.50			13	21.00			8	13.80		
1	32	26.70			18	29.00			14	24.10		
2	30	25.00			16	25.80			14	24.10		
3	17	14.20			6	9.70			11	19.00		
4	14	11.70			6	9.70			8	13.80		
5	5	4.20			3	4.80			2	3.40		
6	0	0.00			0	0.00			0	0.00		
7	1	0.80			0	0.00			1	1.70		
Sib. Spacing												
Only Child	21	17.50			13	21.00			8	13.80		
>4 yrs.	30	25.00			18	29.00			12	20.70		
< 4 yrs., 1 Sib.	50	41.70			22	35.50			28	48.30		
< 4 yrs., 2 Sibs.	19	15.80			9	14.50			10	17.20		
Encouragement Rating			4.33	1.00			4.67	0.88			4.17	1.09
1	4	3.30			1	1.60			3	5.20		
2	3	2.50			1	1.60			2	3.40		
3	13	10.80			7	11.30			6	10.30		
4	30	25.00			12	19.40			18	31.00		
5	70	58.30			41	66.10			29	50.00		
# of Visitations			5.25	5.95			5.61	6.07			4.86	5.84
0	8	6.70			3	4.80			5	8.60		
1-5	81	67.50			42	67.80			39	67.30		
6-10	13	10.80			5	8.00			8	13.80		
11-20	16	13.30			11	17.80			5	8.60		
21-40	2	1.70			1	1.60			1	1.70		

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Table 18.
Frequency Distributions, Means, and Standard Deviations of Contextual
Variables for the Total Sample and By Gender

	TOTAL				MALE				FEMALE			
	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>	<u>Freq.</u>	<u>%</u>	<u>M</u>	<u>SD</u>
DFA Group												
Protective	53	44.20			19	30.60			34	58.60		
At-Risk	67	55.80			43	69.40			24	41.40		
Years Enrolled			3.93	2.49			4.00	2.72			3.86	2.24
1	25	20.80			16	25.80			9	15.50		
2	13	10.80			5	8.10			8	13.80		
3	26	21.70			12	19.40			14	24.10		
4	10	8.30			4	6.50			6	10.30		
5	14	11.70			8	12.90			6	10.30		
6	16	13.30			5	8.10			11	19.00		
7	5	4.20			5	8.10			0	0.00		
8	2	1.70			2	3.20			0	0.00		
9	9	7.50			5	8.00			4	6.90		
Residency												
Rural	24	20.00			13	21.00			11	19.00		
Suburban	34	28.30			18	29.00			16	27.60		
Urban	62	51.70			31	50.00			31	53.40		
# of Activities			2.28	1.85			2.29	1.87			2.28	1.84
0	17	14.20			8	12.90			9	15.90		
1	39	28.30			19	30.60			15	25.90		
2	22	18.30			11	17.70			11	19.00		
3	18	15.00			9	14.50			9	15.50		
4	15	12.50			8	12.90			7	12.10		
5	9	7.50			4	6.50			5	8.60		
6	2	1.70			1	1.60			1	1.70		
7	1	0.80			1	1.60			0	0.00		
8	0	0.00			0	0.00			0	0.00		
9	2	1.70			1	1.60			1	1.70		
# of Resd. Discpl.			00.47	0.78			0.63	0.89			0.29	0.59
0	79	65.80			35	56.50			44	75.90		
1	31	25.80			19	30.60			12	20.70		
2	6	5.00			5	8.10			1	1.70		
3	3	2.50			2	3.20			1	1.70		
4	1	0.80			1	1.60			0	0.00		
# of Academic Det.			8.90	10.54			11.06	12.08			6.59	8.08
0-9	80	66.70			36	58.10			44	75.90		
10-24	32	26.60			20	32.20			12	20.70		
25-50	8	6.70			6	9.70			2	3.40		

Appendix D

Table 19.
Pearson Product-Moment Correlation Matrix for Intraindividual, Familial, and Contextual Variables

Intraindividual Variables								
	1	2	3	4	5	6	7	8
1. Age								
2. Adjustment Rating	.00							
3. Ach. Verbal Stand. Score	.00	.11						
4. Ach. Quant. Stand. Score	-.02	-.11	.45****					
5. School Ability Index Score	-.08	.03	.48****	.39****				
6. Piers-Harris Total	-.10	.23*	-.04	-.07	-.08			
7. Piers-Harris Behavior	.02	.21*	.12	.13	.05	.67****		
8. Piers-Harris Intellectual	-.18	.17	.25**	.12	.11	.74****	.56****	
9. Piers-Harris Phys. Appearance	-.13	.28****	-.11	-.12	-.06	.78****	.35****	.53****
10. Piers-Harris Anxiety	-.13	.13	-.15	-.11	-.22*	.83****	.44****	.50****
11. Piers-Harris Popularity	.00	.13	-.23*	-.21*	-.25**	.78****	.37****	.47****
12. Piers-Harris Happiness	-.09	.22*	-.14	-.16	-.05	.70****	.36****	.38****
13. Life Events Chst. Total	-.05	.05	.01	-.04	.03	.11	-.19*	-.04
14. Life Events Chst. Positive	-.04	.20*	.00	.03	.07	.07	.00	.09
15. Life Events Chst. Negative	-.04	-.05	.01	-.07	.00	.17	-.24**	-.10
16. Cum. Achievement GPA	.14	.20*	.38****	.42****	.24**	-.19*	.08	.01
17. Cum. Effort GPA	.13	.24**	.34****	.31****	.23*	-.13	.14	.02
18. Cum. Conduct GPA	.20**	.10	.20*	.08	.10	.04	.25**	.09
Familial Variables								
19. Maternal Ed. Level	-.26**	.10	.13	-.05	.06	.03	.06	.06
20. Paternal Ed. Level	.05	-.07	.18	.09	.19	-.17	.05	-.03
21. Number of Siblings	.18	-.04	-.02	.14	-.05	.02	.08	-.04
22. Yrs. Bwn. Siblings	.02	-.05	-.08	.17	-.10	.01	.11	-.10
23. Encouragement Rating	-.02	.03	.00	-.07	-.03	.35****	.28**	.34****
24. Number of Visitations	.12	.17	-.08	-.08	.06	.07	.01	-.01
Contextual Variables								
25. Yrs. Enrolled	-.02	.24**	-.13	-.24**	-.17	-.04	.00	-.20*
26. Number of Activities	.09	-.04	.10	.07	.08	-.03	.02	.05
27. Number of Residential Disciplines	-.05	-.06	-.09	-.03	-.25**	.00	-.14	-.06
28. Number of Academic Detentions	-.11	-.15	-.28****	-.22*	-.18*	.04	-.15	-.06

Note. N = 118-120 except for Maternal Ed. Level, where N = 115; and except for Paternal Ed. Level, where N = 90.

*p < .05. **p < .01. ***p < .005. ****p < .001.

Appendix D

Table 19. (cont'd)
Pearson Product-Moment Correlation Matrix For Intraindividual, Familial, and Contextual Variables

	9	10	11	12	13	14	15	16	17
Intraindividual Vbls.									
1. Age									
2. Adjustment Rating									
3. Ach. Verbal Stand. Score									
4. Ach. Quant. Stand. Score									
5. School Ability Index Score									
6. Piers-Harris Total									
7. Piers-Harris Behavior									
8. Piers-Harris Intellectual									
9. Piers-Harris Phys. Appearance									
10. Piers-Harris Anxiety	.63****								
11. Piers-Harris Popularity	.69****	.71****							
12. Piers-Harris Happiness	.71****	.69****	.52****						
13. Life Events Chst. Total	.07	-.14	-.12	.02					
14. Life Events Chst. Positive	.16	.01	.03	.10	.69****				
15. Life Events Chst. Negative	.02	-.18	-.17	-.03	.92****	.35****			
16. Cum. Achievement GPA	-.23*	-.29****	-.19*	-.22*	-.11	.00	-.14		
17. Cum. Effort GPA	-.19*	-.24**	-.12	-.17	-.11	.01	-.15	.90****	
18. Cum. Conduct GPA	-.10	-.08	-.10	.00	-.10	.02	-.13	.41****	.45****
Familial Vbls.									
19. Maternal Ed. Level	-.05	.00	-.11	-.02	.04	.07	.01	.23*	.25**
20. Paternal Ed. Level	-.22*	-.18	-.28**	-.13	-.15	.11	-.13	.23*	.24*
21. Number of Siblings	.05	.04	-.01	.14	.03	.05	.01	.13	.10
22. Yrs. Btwn. Siblings	.05	-.02	.04	.06	-.01	.09	-.07	.10	.12
23. Encouragement Rating	.32****	.18*	.25**	.31****	-.03	.11	-.09	-.05	-.05
24. Number of Visitations	.17	.02	.04	.07	.09	.07	.08	-.13	-.13
Contextual Vbls.									
25. Yrs. Enrolled	.08	-.02	.04	-.02	-.01	.15	.07	-.03	-.01
26. Number of Activities	-.06	-.15	-.03	-.19*	.03	.05	.01	.21*	.16
27. Number of Residential Disciplines	.04	.11	.05	.05	.02	-.03	.04	-.19*	-.31****
28. Number of Academic Detentions	.15	.13	.14	.09	.07	-.08	.14	-.48****	-.52****

Appendix D

Table 19. (cont'd)
Pearson Product-Moment Correlation Matrix For Intraindividual, Familial, and Contextual Variables

	18	19	20	21	22	23	24	25	26	27
Intraindividual VbIs.										
1. Age										
2. Adjustment Rating										
3. Ach. Verbal Stand. Score										
4. Ach. Quant. Stand. Score										
5. School Ability Index Score										
6. Piers-Harris Total										
7. Piers-Harris Behavior										
8. Piers-Harris Intellectual										
9. Piers-Harris Phys. Appearance										
10. Piers-Harris Anxiety										
11. Piers-Harris Popularity										
12. Piers-Harris Happiness										
13. Life Events Chst. Total										
14. Life Events Chst. Positive										
15. Life Events Chst. Negative										
16. Cum. Achievement GPA										
17. Cum. Effort GPA										
18. Cum. Conduct GPA										
Familial VbIs.										
19. Maternal Ed. Level	.08									
20. Paternal Ed. Level	.23*	.30**								
21. Number of Siblings	.18*	.05	.14							
22. Yrs. Bwn. Siblings	.16	.14	.14	.73****						
23. Encouragement Rating	-.15	-.06	-.09	.05	.04					
24. Number of Visitation	.06	-.01	-.14	.00	-.01	-.06				
Contextual VbIs.										
25. Yrs. Enrolled	-.07	-.02	.02	-.06	-.08	-.15	.27**			
26. Number of Activities	.19*	.01	.15	-.06	-.11	-.08	.00	.06		
27. Number of Residential Disciplines	-.31****	-.07	-.11	.03	.10	.16	-.11	-.04	-.06	
28. Number of Academic Detentions	-.73****	-.11	-.15	-.05	-.03	.20*	-.08	-.03	-.26**	.35****

Table 20.
Means and Standard Deviations of Achievement GPA and Fifteen Independent Variables on Groups Identified by Race

VARIABLES	Black			Hispanic/Latino			White			Asian			Arabic		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Achievement GPA	35	2.48	0.85	19	2.40	0.69	63	2.51	0.61	2	2.90	0.71	1	3.20	non-rpt
Maternal Ed. Level	32	3.25	1.02	19	2.89	0.94	63	3.15	0.98	2	2.00	1.41	1	3.00	non-rpt
Paternal Ed. Level	21	3.38	1.24	14	2.21	0.80	53	3.15	1.01	1	3.00	non-rpt	1	2.00	non-rpt
# of Siblings	35	1.74	1.42	19	2.00	1.25	63	1.92	1.55	2	3.00	0.00	1	5.00	non-rpt
Yrs. Btwn. Siblings	35	1.31	0.93	19	1.84	0.90	63	1.57	0.96	2	2.00	1.41	1	3.00	non-rpt
Yrs. Enrolled	35	3.43	2.03	19	3.32	0.80	63	4.48	2.79	2	2.00	0.00	1	3.00	non-rpt
Encouragement Rating	35	4.63	0.60	19	4.63	0.60	63	1.14	1.11	2	1.50	0.71	1	5.00	non-rpt
Adjustment Rating	35	7.03	2.38	19	6.58	2.41	63	7.48	2.53	2	5.00	4.24	1	5.00	non-rpt
# of Activities	35	2.63	2.03	19	1.68	1.20	63	2.30	1.91	2	1.00	0.00	1	3.00	non-rpt
# of Resd. Discipl.	35	0.43	0.74	19	0.37	0.50	63	0.48	0.76	2	0.00	0.00	1	4.00	non-rpt
# of Academic Det.	35	9.29	12.14	19	9.47	8.13	63	8.56	10.49	2	3.00	4.24	1	18.00	non-rpt
School Ability Index	35	90.20	20.10	18	89.94	18.27	63	95.40	13.36	2	96.50	3.54	1	91.00	non-rpt
Global Self-Concept	34	56.88	10.11	19	58.74	7.12	62	52.39	8.04	2	38.50	2.12	1	54.00	non-rpt
Life Events Checklist	35	16.46	10.49	19	22.11	22.16	61	23.52	14.65	2	24.00	21.21	1	14.00	non-rpt
Effort GPA	35	3.05	0.69	19	3.03	0.53	63	3.11	0.52	2	3.41	0.66	1	3.50	non-rpt
Conduct GPA	35	3.42	0.42	19	3.30	0.46	63	3.43	0.55	2	3.90	0.13	1	3.07	non-rpt

Appendix D

Table 21.

Summary of One-Way ANOVA's on Achievement GPA and Fifteen Independent Variables on Groups Identified by Race

VARIABLES	DF	SS	MS	F
Achievement GPA				
Between Groups	2	0.19	0.09	0.19
Within Groups	114	56.78	0.50	
Maternal Ed. Level				
Between Groups	2	1.53	0.77	0.79
Within Groups	109	105.46	0.97	
Paternal Ed. Level				
Between Groups	2	12.61	6.31	5.82 **
Within Groups	85	92.1	1.08	
# of Siblings				
Between Groups	2	13.04	3.26	1.53
Within Groups	114	245.29	2.13	
Yrs. Btwn. Siblings				
Between Groups	2	6.09	1.52	1.69
Within Groups	114	103.5	0.90	
Yrs. Enrolled				
Between Groups	2	34.53	17.26	2.83
Within Groups	114	696.39	6.11	
Encouragement Rating				
Between Groups	2	6.89	3.44	4.16 *
Within Groups	114	94.31	0.83	
Adjustment Rating				
Between Groups	2	13.16	6.58	1.08
Within Groups	114	695.32	6.10	
# of Activities				
Between Groups	2	10.98	5.49	1.6
Within Groups	114	391.55	3.43	
# of Resd. Discl.				
Between Groups	2	0.18	0.09	0.18
Within Groups	114	58.71	0.51	
# of Academic Det.				
Between Groups	2	18.87	9.43	0.08
Within Groups	114	13,029.44	114.29	
School Ability Index				
Between Groups	2	804.34	402.17	1.49
Within Groups	113	30469.62	269.64	

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

Appendix D

Table 21. (cont'd)
Summary of One-Way ANOVA's on Achievement GPA and Fifteen Independent Variables on Groups Identified by Race

VARIABLES	DF	SS	MS	F
Global Self-Concept				
Between Groups	2	802.74	401.37	5.46 **
Within Groups	112	8231.92	73.50	
Life Events Checklist				
Between Groups	2	1132.09	566.04	2.49
Within Groups	112	25421.69	226.98	
Effort GPA				
Between Groups	2	0.12	0.06	0.18
Within Groups	114	37.69	0.33	
Conduct GPA				
Between Groups	2	0.27	0.14	0.54
Within Groups	114	28.91	0.25	

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

Appendix D

Table 22.

Summary of One-Way ANOVA's on Achievement GPA and Fifteen Independent Variables on Groups Identified by Gender

VARIABLES	DF	SS	MS	F
Achievement GPA				
Between Groups	1	4.45	4.45	9.76 **
Within Groups	118	53.86	0.45	
Maternal Ed. Level				
Between Groups	1	2.69	2.69	2.79
Within Groups	113	108.84	0.96	
Paternal Ed. Level				
Between Groups	1	0.04	0.04	0.03
Within Groups	88	105.78	1.20	
# of Siblings				
Between Groups	1	5.09	5.09	2.37
Within Groups	118	253.24	2.15	
Yrs. Btwn. Siblings				
Between Groups	1	1.94	1.94	2.12
Within Groups	118	107.66	0.91	
Yrs. Enrolled				
Between Groups	1	0.57	0.57	0.09
Within Groups	118	738.90	6.26	
Encouragement Rating				
Between Groups	1	2.61	2.61	2.67
Within Groups	118	115.71	0.98	
Adjustment Rating				
Between Groups	1	0.16	0.16	0.03
Within Groups	118	740.43	6.27	
# of Activities				
Between Groups	1	0.01	0.01	0.00
Within Groups	118	406.36	3.44	
# of Resd. Discl.				
Between Groups	1	3.38	3.38	5.83 *
Within Groups	118	68.48	0.58	
# of Academic Det.				
Between Groups	1	600.99	600.99	5.62 *
Within Groups	118	12617.81	106.93	
School Ability Index				
Between Groups	1	1210.01	1210.01	4.70 *
Within Groups	117	30104.92	257.31	

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

Appendix D

Table 22. (cont'd)

Summary of One-Way ANOVA's on Achievement GPA and Fifteen Independent Variables on Groups Identified by Gender

VARIABLES	DF	SS	MS	F
Global Self-Concept				
Between Groups	1	166.23	166.23	2.05
Within Groups	116	9393.24	80.98	
Life Events Checklist				
Between Groups	1	401.39	401.39	1.75
Within Groups	116	26669.70	229.91	
Effort GPA				
Between Groups	1	2.44	2.44	7.94 **
Within Groups	118	36.20	0.31	
Conduct GPA				
Between Groups	1	1.55	1.55	6.48 *
Within Groups	118	28.26	0.24	

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

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