A REFRAMING OF PROTECTIVE FACTORS IN THE CONTEXTS OF RISK, ADVERSITY AND COMPETENCE IN ADOLESCENTS

By

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CERTIFICATE OF APPROVAL

I certify that I have read A REFRAMING OF PROTECTIVE FACTORS IN THE CONTEXTS OF RISK, ADVERSITY AND COMPETENCE IN ADOLESCENTS by Daria A. Pierorazio, and that in my opinion this work meets the criteria for approving a dissertation submitted in partial fulfillment of the requirements for the Doctor in Education with an emphasis on Health Professions Education at College of Saint Mary.

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Acknowledgments

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CHAPTER I

The focus of this research was the study of adolescent resilience. While definitions of resilience vary, the construct often includes both demonstrable risk and competence (Luthar, Cicchetti & Becker, 2000; Masten, 1994; Masten, 2001; Masten & Coatsworth, 1998). The literature associated with the study of resilience delineates both protective and vulnerability factors that, in turn, influence individual response to risk. The objective of this project was to contribute to previous research by selecting identified protective factors that impact resilience and to examine these constructs with greater specificity. As an example, family influences have been shown to be associated with resilience (Blum, 1998; Garmezy, 1988), and in this study the construct of perceived social support from the family was assessed. These identified factors, in turn, provide direction to researchers striving to facilitate better outcomes in at-risk adolescents. The success of this strategy has been demonstrated via prevention outcome studies that have incorporated data from resilience research (e.g., Beardslee, Swatling, Hoke, Rothberg, van de Velde, Focht & Podorefsky, 1998; Dubas, Lynch, Galano, Geller & Hunt, 1998; Miller-Heyl, MacPhee & Fritz, 1998).

There have been multiple resources identified as contributing to resilience, which typically fall into one of three categories. These categories of protective resources include individual disposition characteristics, family factors, and external supports (e.g., friends) (Blum, 1998; Garmezy, 1988). Despite the identification of protective factors there is a consensus that the processes associated with resilience warrant increased focus (Luthar, 1999, 1993; Masten, Best & Garmezy, 1990; Masten & Coatsworth, 1998; Rutter, 1987).

As previously noted, the primary objective of this project was to study identified protective factors with increased specificity in an effort to refine the constructs associated with resilience. It was thought that a refinement of the constructs would contribute in turn to a better understanding of the processes leading to a resilient outcome (Masten, Hubbard, Gest, Tellegen, Garmezy & Ramirez, 1999).

Both social support and personal goals have been identified as having a contributing role in the establishment of resilience. Familial influences and external supports have been consistently associated with resilience (Blum, 1998; Garmezy, 1988; Werner & Smith, 1982). Similarly, theoretical observations and ethnographic interviews have identified the relevance of personal goals, or related constructs, in the establishment of a resilient outcome (Carey, Ratliff & Lyle, 1998; Freitas & Downey, 1998; Rutter, 1990). Thus, perceived social support and personal goal strivings were identified for further consideration in the current investigation.

Researchers investigating resilient youth have assessed support with alternate constructs that overlap with aspects of perceived social support. As examples, family cohesion, parent and adolescent communication, and the relationship with a significant adult have been shown to positively impact outcome (Grossman, Beinashowitz, Anderson, Sakurai, Finnin & Flaherty, 1992), as do parenting style and parenting quality (Baldwin, Baldwin & Cole, 1990; Masten et al., 1999). Few researchers investigating resilience, however, have assessed the impact of perceived social support on adolescents. Carbonell, Reinherz and Giaconia (1998) and Connell, Spencer and Aber (1994) are exceptions to this observation, becausse each have identified the relevance of perceived family support to resilience. These investigations provide an increased specificity in the

analysis of perceived family support; however, neither assessed the role of external supports.

Resilience has been noted to be associated equally with external supports such as friends or teachers (Werner & Smith, 1982), and the positive impact of support from school personnel with high-risk youth has been identified (DuBois, Felner, Meares & Krier, 1994; DuBois, Felner, Brand, Adan & Evans, 1992). Bender and Losel (1997) have studied the relationship of perceived social support of friends in relationship to resilience; however, in this study resilience was established only in terms of behavioral conduct. Thus, an analysis of multiple sources of perceived support and adaptation in relationship to resilience was intended to further previously conducted research.

Personal goals also have potential relevance in predicting resilience (Freitas & Downey, 1998; Rutter, 1990). As noted by Freitas and Downey (1998) personal goals have been neglected thus far in resilience research despite their potential import. It has equally been observed that in adolescent samples the values of the peer community may impact subsequent competencies (Cauce, Mason, Gonzales, Hiraga & Liu, 1996; Freitas & Downey, 1998). Personal goal strivings, as described by Emmons (1986), identified a means of assessing personally salient strivings. The personal goal striving construct affords the respondent the opportunity to identify unique goals and thus provides a means to assess goals and competencies within an individual's value system. The relationship between personal goal strivings and resilience also was assessed in this investigation.

In addition to the consideration of how personal goal strivings impact adaptation, the relationship between perceived social support and the strivings construct was considered. Researchers have assessed the relationship between perceived social support, personal

goal strivings and subsequent well-being (Ruehlman & Wolchik, 1988; Walker-Smith & Procidano, 1998) with college based samples; however, the relationship has yet to be assessed in younger adolescents. Alternately, there have been investigations with adolescents that assessed both perceived social support and goals (Wentzel, 1994, 1998) and meaningful instrumental activity (Maton, 1990). While these efforts provided an indication of the relationship between the identified constructs they are limited by a reliance on circumscribed goals (Wentzel, 1994, 1998) or sample constraints (Maton, 1990). An assessment of the relationship between personal goal strivings and resilience was thought to further these efforts.

As previously noted, resilience is frequently identified as a successful outcome despite experienced adversity (Masten, 1994; Masten & Coatsworth, 1998). However, as noted by Glantz and Slobada (1999), there are multiple ways of conceptualizing resilience. Resilience in the present study was conceptualized as a positive outcome despite experienced adversity (Luthar & Cushing, 1999). While resilience was the primary construct assessed in this study, it was by necessity inferred from other variables assessing risk and adaptation (Kaplan, 1999). Thus, resilience is never directly assessed as a measure of outcome, but is instead determined on the basis of the relationship between risk, adversity and competency.

Competency, as noted by Luthar and Cushing (1999), can encompass multiple domains and researchers have identified resilience based on discordant areas of competency. Not only does this limit comparability between studies, but it also overlooks potential areas of vulnerability in adolescents identified as resilient (Luthar, 1993). Given the range of potential competencies, the present study will incorporate the five domains

identified by Masten, Coatsworth, Neemann, Gest, Tellegen and Garmezy (1995) as having salience in adolescence. These domains, which were derived from Harter's (1988) Self-Perception Profile, include Social Acceptance, Scholastic Competence, Behavioral Conduct, Romantic Appeal and Job Competence. Overall Mental Health and Global Self-Worth will also be assessed as outcome variables. Thus, this study also was meant to contribute to an understanding of resilience as inferred from a comprehensive assessment of competence in the context of risk.

The objective of the research was to address the above described knowledge gaps in both the resilience and social support research. Most broadly, resilient and nonresilient youth were defined through the use of more refined constructs of perceived social support and personal goal strivings. Assessing these relationships was intended to contribute to a progressive understanding of the processes associated with resilience. Resilience research has often used overarching conceptualizations of social support or parenting characteristics, and this study examined the role of the more specific construct of perceived social support. The perceptions of external supports, such as friends and teachers, also were included. Similarly, the relationship between personal goal strivings and competency was examined to explore theoretical observations of a relationship between the constructs. Finally, a comprehensive assessment of competency that includes perceived competence (e.g., behavioral competence), overall mental health and global self-worth was assessed. This assessment thus allowed for a comparative analysis of adaptation in relationship to the varied indices of competence identified.

Purpose

There were several objectives to the current study. Most broadly, it entailed the

refinement of protective factors associated with resilience through the use of the concepts of personal goal strivings and perceived social support. It was thought that using more refined constructs would contribute to a progressive understanding of the processes associated with resilience. Perceived social support from families has been shown to be related to resilience in two studies (Carbonell et al., 1998; Connell et al., 1994), whereas, perceived social support from friends has a differential impact based on social group membership (Bender & Losel, 1997). These studies are limited by reliance on a circumscribed definition of competence. Moreover, alternate types of perceived social support, such as support from school personnel, were not equally considered. As external supports have been identified as having a role in resilience (Werner & Smith, 1982) and as a contributor to adaptation in high risk samples (DuBois et al., 1992, 1994) perceived social support of school personnel was additionally assessed in this investigation.

The role of personal goal strivings in relationship to resilience was also targeted in the present study. While researchers have highlighted the potential role of goals in resilience, the research assessing this relationship is limited (Freitas & Downey, 1998). The personal striving measure (Emmons, 1986) was selected as it affords respondents the opportunity to identify personally salient goals. The relationship between perceived social support and personal goal strivings has been identified in college sample (Ruehlman & Wolchik, 1988; Walker-Smith & Procidano, 1998); however, the relationship has not yet been assessed in adolescents. In this project the relationship between valued personal goal strivings and perceived social support was assessed with an adolescent sample, as was the relationship between goal strivings and overall mental health.

Finally, Luthar (1993) suggested that resilience is best established through the identification of multiple domains of competency. Frequently investigations rely on a limited conceptualization of competency and neglect potential areas of vulnerability in adolescents thought to be resilient (Luthar, 1993). Thus, this investigation included the five domains of competency identified as salient in adolescence (Masten et al., 1995), a measure of overall mental health and a measure of global self-worth.

Conceptual Hypotheses

The conceptual hypotheses that follow represent an effort to assess resilience; however, in reviewing the hypotheses it is important to note that the construct of resilience is typically inferred, and is based solely on the resultant pattern of associations between protective factors, stress and competence (Luthar & Cushing, 1999). Luthar and Cushing describe this process as follows: "In the context of variable-based strategies, perhaps the most perplexing issue from a measurement perspective is that resilience itself is rarely measured as a construct but is indirectly inferred. The many studies that have used this approach have been aimed not at studying resilience in itself, but at examining (vulnerability/protective) factors linked with a certain pattern of stress-competence associations. Resilience is then inferred based on a certain pattern of these statistical associations" (pp. 146-147). The two patterns assessed for both protective factors targeted in the present study include an "interactive model" and the "main effect model" (Luthar, 1993, pp. 147-148). According to Luthar (1993), the interactive effect is assessed via a statistically significant interaction term between stress and the protective factor assessed. While the interactive model clearly indicates the relationship between stress, protective factors and competencies, the main effect model is equally useful

(Luthar, 1993). As noted by Luthar (1993), "While addressing the broad issue of what makes for resilience, there is no reason to assume that main effect models are any less informative or useful than are interaction models. If, for example, intelligence were found to be related to competence among high-risk children, and was also related to (the generally higher) competence among low-risk controls, two main effects, and no interaction effect would be found. The absence of an interaction effect should not detract in any way from the protective functions of intelligence among children in the high-risk situation" (p. 448). Based on the methodology described by Luthar and colleagues, as well as that of Masten et al. (1988) and Garmezy et al. (1984), the conceptual hypotheses are below presented.

The vast majority of studies that assess resilience identify the importance of parenting, whether it be in terms of perceived social support of family, parenting quality, or family cohesion, to positive adaptation or competency (e.g., Connell et al., 1994; Grossman et al., 1992; Masten et al., 1988; Masten et al., 1999).

It was predicted that Perceived Social Support from Family would contribute significantly to the outcome variance of the following dependent variables: Social Acceptance, Global Self-Worth, Overall Mental Health and Job Competence. Further, the compensatory (i.e., additive) model of resilience was predicted for the main effect. Thus, it was anticipated that Perceived Social Support from Family would positively contribute to the outcome; whereas, Negative Life Events would negatively contribute to the outcome. The predicted relationship between Negative Life Events, Perceived Social Support from Family and each dependent variable was expected to reflect the pattern of resilience depicted in Figure 1.

Masten et al.(1988) found modest evidence for an interaction effect between parenting quality and school engagement and behavioral conduct. Equally, Cauce et al. (1992) identified an interaction effect between perceived family support, life stress and school competence.

On this basis it was hypothesized that the interaction term Perceived Social Support of Family x Negative Life Events would contribute significantly to the variance (after both Perceived Social Support from Family and Negative Life Events were partialled out) of the following dependent variables: Scholastic Competency and Behavioral Conduct. Further, it was hypothesized that the pattern of the relationship between Stress, Perceived Social Support from Family and each dependent variable would identify the pattern of resilience depicted in Figure 2.

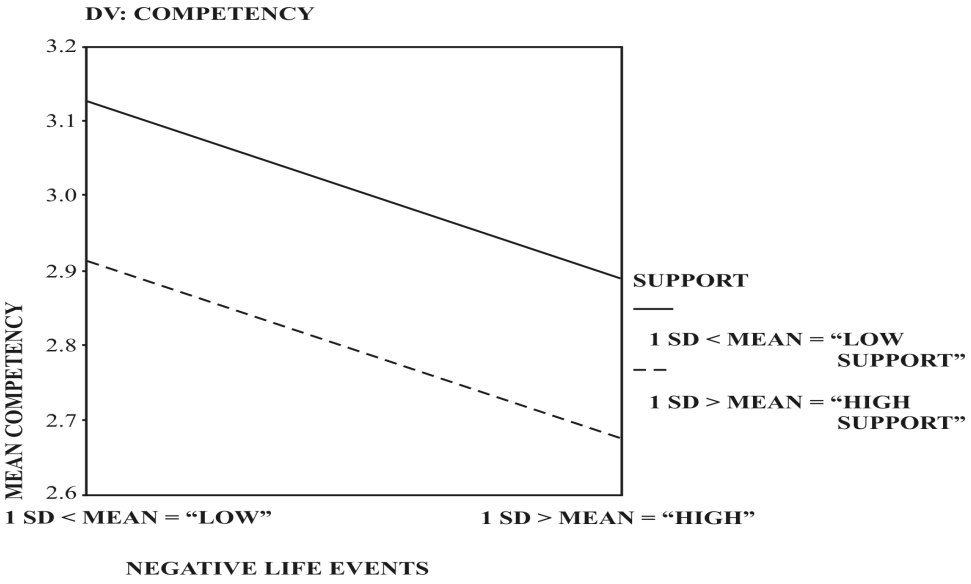

Figure 1. Predicted Compensatory Model of Resilience.

The impact of Perceived Social Support from School Personnel has not been assessed within a resilience framework; however, the import of external supports to resilience has been demonstrated (Blum, 1998; Garmezy, 1988; Werner & Smith, 1982).

DuBois and colleagues (1992, 1994) have assessed perceived social support of school personnel in the context of risk and found that high-risk adolescents with high levels of school support had a more adaptive outcome. This finding was specific to high-risk adolescents only, as those adolescents who were not disadvantaged did not additionally benefit from the support. Cauce et al. (1992) identified that school support was found to be associated exclusively with school competence, and identified a significant interaction effect between stress and school support. Based on these findings the following prediction was made:

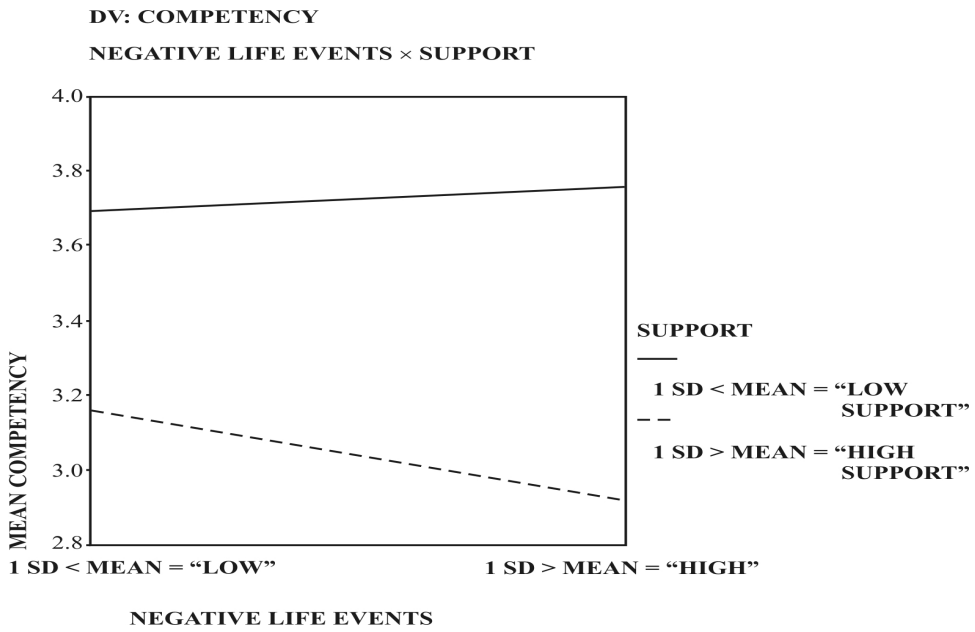

Figure 2. Predicted Interaction Effect Between Negative Life Events and Perceived Social Support.

It was hypothesized that the interaction term Perceived Social Support from School Personnel x Negative Life Events would contribute significantly to the variance (after PSS-SP and Stress were partialled out) of the following dependent variables: Behavioral Conduct, Overall Mental Health and Scholastic Competence (Cauce et al., 1992; DuBois, 1994). Further, it was hypothesized that the pattern of the relationship between stress,

Perceived Social Support from School Personnel and each dependent variable would identify the pattern of resilience depicted in Figure 2.

Perceived Social Support from Friends has been assessed in a resilience framework with conduct as the identified competency variable (Bender & Losel, 1997), and the results indicated that high levels of felt support did not necessarily indicate positive adaptation. Like the work of Cauce and colleagues (1992, 1996), Bender and Losel (1997) identified the importance of social group values in predicting the impact of perceived friend support. While the competency domains of scholastic, job and behavioral conduct have been shown to be vulnerable to peer values, peer support has been shown to be strongly related to global self-worth, social acceptance and romantic appeal (Cauce et al., 1996). Gore and Aseltine (1995) also identified an interaction effect between stress and perceived friend support when depression was an outcome variable.

It was predicted that Perceived Social Support from Friends would contribute significantly to the variance of the following dependent variables: Global Self-Worth, Social Acceptance and Romantic Appeal. Further, the compensatory model of resilience was predicted for the main effect. Thus, it was anticipated that Perceived Social Support from Friends would positively contribute to the outcome, and Negative Life Events would negatively contribute to the outcome. The predicted relationship between Negative Life Events, Perceived Social Support from Friends and each dependent variable was expected to reflect the pattern of resilience depicted in Figure 1.

It was hypothesized that the interaction term Perceived Friend Support x Negative Life Events would contribute significantly to the variance (after each had been partialled out) of the dependent variable Overall Mental Health. Further, it was hypothesized that

the pattern of the relationship between Stress, Perceived Social Support from Friends and Overall Mental Health would identify the pattern of resilience depicted in Figure 2.

Researchers have suggested the potential importance of personal goals to the establishment of resilience (Carey et al, 1998; Freitas & Downey, 1998). Emmons and colleagues have demonstrated a relationship between personal goal strivings and well-being. Maton (1990) also identified a relationship between a construct similar to personal goal strivings and self-esteem.

It was predicted that Personal Goal Strivings would contribute significantly to the variance of the dependent variable Overall Mental Health and the dependent variable Global Self-Worth. Further, the compensatory model of resilience was predicted for the main effect. Thus, it was anticipated that Personal Goal Strivings would contribute positively to the outcome, and Negative Life Events would contribute negatively. The predicted relationship between Negative Life Events, Personal Goal Strivings and each dependent variable was expected to reflect a pattern of resilience similar to that depicted in Figure 1.

Resilient and nonresilient adolescents will additionally be compared in terms of "Individual-based measurement" (Luthar & Cushing, 1999, p. 149). Masten et al. (1999), among others, have identified significant differences between these two groups.

It was predicted that resilient and nonresilient adolescents would differ significantly with regard to Perceived Social Support from Family and School Personnel, Personal Goal Strivings, and all areas of competency assessed.

Research has identified a relationship between Personal Goals and Perceived Social Support in adolescent samples (Wentzel, 1994, 1998); however, the relationship was

contingent on both the identified goal and the source of support. Given the general nature of the personal goal striving construct a specific analysis of the relationship was not feasible. However, an analysis of the relationship between Personal Goal Strivings and all types of Perceived Social Support was conducted.

It was hypothesized that Personal Goal Strivings would be positively associated with Perceived Social Support.

Exploratory Analyses

In addition to the hypotheses listed above several supplementary analyses were conducted. Based on previous research, participants with high levels of Perceived Social Support from Friends have variable outcomes that are dependent on the individual's context (e.g., prosocial values endorsed by peers versus antisocial values) (Cauce et al., 1996):

1. Thus, exploratory regression analyses were conducted to assess whether Perceived Social Support from Friends contributed significantly to the outcome variance of Scholastic, Job and Behavioral Conduct competencies or this sample.
2. Exploratory analysis of all remaining interaction effects (Personal Goal Strivings x Negative Life Events, Perceived Social Support x Negative Life Events) in relation to the different areas of competency were assessed.

CHAPTER II

Literature Review

This section reviews three areas of research that include resilience, perceived social support and personal goal strivings. Each area is discussed in general theoretical terms, and then specifically with regard to empirical research using adolescent samples. Within the context of resilience theory the following areas are reviewed: competency, risk, theoretical models of resilience, protective factors, the relationship between resilience and perceived social support and finally, the relationship between resilience and personal goal strivings. Similarly, perceived social support is discussed generally, and a review of empirical studies that either include a measure of life stress or a high-risk adolescent sample is conducted. Finally, the personal goal striving construct is discussed.

Resilience

Resilience is described here in both theoretical and empirical terms with an emphasis on research depicting the relationship between resilience, perceived social support and goal strivings. Competency and risk are fundamental concepts associated with resilience and these also are considered (Garmezy & Masten, 1991). Models employed in resilience research are described (Freitas & Downey, 1998; Garmezy, Masten & Tellegen, 1984; Rutter, 1987, 1990), and protective factors associated with resilient youth are delineated. Finally, the current status of both perceived social support and personal goal strivings within the context of resilience research are assessed.

Competency

Resilience has been defined generally as the ability to thrive despite adversity (Masten, 1994; Masten & Coatsworth, 1998). Similarly, Garmezy and Masten (1986)

described a “stress-resistant child” as “one who maintains competence despite exposure to adverse stressful events” (p. 513). As previously noted, resilience cannot be measured directly, and instead, is inferred through consideration of both adversity and competency (Kaplan, 1999). Competency is first defined and considered, and adversity is then considered in the section that follows.

Masten and Coatsworth (1998) provided a definition of competency that is based on successful contextual adaptation. The authors noted the following of competency: “It carries the dual meaning that there is a track record of such achievement (competent performance) and also that the individual has the capability to perform well in the future. It refers to good adaptation and not necessarily to superb achievement” (Masten & Coatsworth, 1998, p. 206). While this definition provides a general framework for establishing competency, the importance of development has also been considered in the establishment of competency (Masten & Coatsworth, 1998; Rutter, 1985; Waters & Sroufe, 1983). Competency is thus contingent on the successful engagement in developmentally relevant tasks. Adhering to a developmental perspective Masten and Coatsworth identified three main areas of adolescent competency: Social competence with peers, behavioral conduct and academic functioning. Additional sources of competency noted by the researchers included work and “extracurricular activities” domains (Masten & Coatsworth, 1998, p. 212).

While an assessment of developmental changes in competency was beyond the scope of this investigation, the establishment of salient competencies in adolescence merits further exploration. More specifically, the identification of the competency domains in adolescence and their interrelationships provide a basis for conceptualizing competency

in the current investigation, as it establishes developmentally salient markers of adaptation. Fortunately, Masten and colleagues (1995) have established competencies from childhood to adolescence through structural equation modeling and provide a basis for targeting domains of competency in this investigation.

Masten et al. (1995) studied 191 children who were assessed via behavioral, self-report and informant measures over time. These included peer ratings, teacher ratings, academic performance, adolescent/child/parent interviews and competence rating scales based on Harter's (1982) Self-Perception Profile. The respondents were assessed at intake (ages 8-12) and during two subsequent follow-ups (ages 14-19 and 17-23). The results indicated both change and consistency over time. As an example, in late childhood academic, social and conduct competencies were related; however, in adolescence social success was unrelated to both academic and conduct competence. Conduct itself, on the other hand, was found to be consistent across time points. The researchers in general found three dimensions of competence in childhood: academic, social and conduct competencies. Adolescent development included the above areas, with the addition of romantic and job related competencies (Masten et al., 1995).

Further, Masten and colleagues (1995) reported that competencies in adolescence were related to each other in different ways, and these relationships are summarized as follows:

1. Peer social acceptance was not related to either scholastic or conduct competencies; however, it was related to job competence.
2. Conduct difficulties were unrelated to academic competencies.
3. Job competency was related to academic competency in females.

4. Job competency was related to conduct for males.
5. Romantic competency was associated with social competency, and unrelated to academic and conduct competencies.

Given the number of potential competency domains, it is not surprising that researchers have both defined and assessed competency in multiple ways. As examples, some researchers identified academic competency as the primary outcome variable (Baldwin et al., 1990; Connell et al., 1994), others focused on behavioral conduct (Fergusson & Lynskey, 1996) and still others identified social competence as the outcome measure (Luthar, 1991). Some rely on multiple measures of outcome, including measures of academic functioning, behavioral conduct, self-esteem, and mood as indicators of functioning (e.g., Grossman et al., 1992), although the domains of competency assessed vary considerably between studies. While certainly not an exhaustive review, this illustrates both the range of outcome variables and the inconsistency between studies.

Based on the observed relevance of assessing multiple domains of competency (Luthar & Cushing, 1999) the current study assessed the five domains outlined by Masten et al. (1995) as having salience in adolescence. Similarly, the measure employed by Masten et al., Harter's Self-Perception Profile (1988), was adopted. Harter (1985) has discussed the role of competence as an aspect of self-evaluation through the development of instruments that assess domain specific competencies, as well as a global self-evaluation. Harter's general strategy has been to assess domains of competency and general self-worth separately. Additionally, Harter (1988) proposed that only those domains that have personal salience would impact esteem. Thus, in addition to tapping

distinct domains of competency, Harter's scales also account for the importance the respondent affords to different areas of competency.

While a resilient outcome is frequently measured in terms of competency, it does not necessarily identify competency in all areas of functioning (Luthar, 1993). Luthar (1993) explained that one area of resilience, such as academic or emotional functioning, can identify an individual as competent while others areas of functioning falter. For example, Luthar (1995) found that peer popularity in a high-risk sample of adolescents was associated with a decrease in academic performance, leadership and dependability. Similarly, both Luthar's (1991) and Luthar, Doernberger and Zigler's (1993) research identified emotional distress among overtly competent inner-city adolescents. Luthar (1991), using a sample of 144 high-risk adolescents, found that respondents identified as resilient also exhibited symptoms of both depression and anxiety. Similarly, Luthar et al. (1993) reported that in a slightly larger sample of adolescents (N =164) putatively resilient adolescents also experienced emotional distress. Moreover, the resilient participants' symptoms increased during the 6-month follow-up period of the investigation. It should be noted, however, that not all studies that address internalizing symptoms have identified the resilient sample as more vulnerable to emotional distress (Masten et al., 1999; Neighbors, Forehand & McVicar, 1993). Despite inconsistent results across studies, Luthar and colleagues' research identifies the importance of considering emotional functioning in resilience research, and so it was assessed as an additional measure of competence in the current investigation.

Life Adversity

Experienced life adversity, like competency, is a fundamental construct in the study

of resilience (Luthar & Cushing, 1999). Adverse factors impeding successful outcome, according to Masten (1994), could potentially include the "high-risk" status of an individual, stressful life circumstances, or traumatic life experiences (pp. 7-8). Examples of high-risk status include such demographic indices as socioeconomic class and ethnicity (Garmezy, 1991, 1992; Korenman, Miller & Sjaastad, 1995; Luthar, 1999), a stressful life circumstance may be reflected by an unwanted pregnancy (Barrera, 1981), and finally, a traumatic life experience may be exposure to war (Garbarino, 1996).

Risk, or life adversity, encompasses a range of potential variables that are associated with poor outcomes (Compas, Hinden & Gerhardt, 1995). These include both individual and environmental influences (Compas et al., 1995). Risk factors are defined by Garmezy and Masten (1986) as follows: "Risk factors imply that there are elements operative in persons or environments that result in a heightened probability for the subsequent development of a disease or a disorder" (p. 509). Risk factors, however, are not considered to be identical to vulnerability factors. Again, citing Garmezy and Masten, vulnerability is "the susceptibility or predisposition of an individual to negative outcomes" (p. 509). Thus, vulnerability factors increase the impact of risk, and, alternately, protective factors reduce its impact (Masten, 1994).

Given the range of potential risk factors, risks were delimited for the purpose of this investigation through an assessment of cumulative negative life events and demographic indices. The association between negative life events and maladaption has been well documented (Compas, 1987). Compas (1987) reviewed 26 cross-sectional studies of life stress research in adolescence and childhood and found that there was a consistent relationship established between negative life events and behavioral, emotional and

physical difficulties. Compas reported that the correlations obtained, while significant, most frequently fell within the range of .20 to .30.

Johnson (1986) proposed several reasons for the modest correlation between life events measures and negative adaptation. Limitations, as noted by Johnson, include aspects of instrument design, such as not accounting for positive and negative events. Further, some instruments do not represent the unique stressors experienced by the respondent. Finally, the impact of moderator variables may not be assessed. In an effort to stem potential limitations of life stress assessment, the Life Events Checklist (Johnson & McCutcheon, 1980) was selected for use in this investigation. Researchers assessing this measure have established a significant correlation between negative life events and psychological maladjustment (Johnson & McCutcheon, 1980). It further corrects for some of the limitations associated with other measures of life stress. As examples, it allows discrimination between positive and negative events, controllable and uncontrollable events and it allows the respondent to include unique stressors. Additionally, this measure affords the respondent the chance to indicate the degree to which the event has impacted his or her life.

The assessment of the impact a given event has had on the individual provides greater certainty that risk has in fact been experienced. As noted by Cicchetti and Garmezy (1993), the identification of a risk factor does not necessarily mean that the individual has been exposed to the negative consequences associated with that risk. The authors further observed that resilience cannot be conferred in the absence of risk. Thus, the use of a measure that ensures the negative impact of a given event provides greater assurance of the validity of established resilience.

Research has demonstrated that one risk factor is not as predictive of a negative outcome, as are multiple risk factors (Sameroff, Seifer & Bartko, 1997). Sameroff et al. (1997) reported data from the Rochester Longitudinal Study and found that the identification of one risk factor did not impede competency, whereas, multiple risk factors were associated with a negative outcome. Risks identified by the researchers included a broad range of factors including, but not limited to, maternal education, stressful life events, maternal mental illness and family size (Sameroff et al., 1997, p. 510). Adversity is thus not uniquely attributable to a single risk. As noted by Sameroff et al., "To appreciate truly the determinants of competency require attention being paid to a broad constellation of ecological factors in which these individuals and families are embedded" (p. 520).

Likewise, Luthar and Zigler (1991) advised that multiple markers are used in the establishment of risk. Thus, the inclusion of several variables such as life events, mental health of parents, socioeconomic status (SES), ethnicity and so on is a suggested method of risk establishment. Luthar and Cushing (1999) identified this approach as "risk constellations" and observed its benefit in capturing the multiple influences affecting an individual (p. 137). Limitations with such an approach included overlapping influences and an inability to distinguish the specific processes at work (Luthar & Cushing, 1999). Alternately, Luthar and Cushing proposed that a summative approach is more reliable, reflects the individual's circumstance more realistically and such an approach captures more of the outcome variance (p. 138).

Given the observed import of multiple measures of risk, the current study assessed both negative life events and demographic indices associated with risk (i.e.,

socioeconomic status and ethnicity). The measure of life events used in this investigation provided a comprehensive selection of events inclusive of parent divorce, serious illness of a family member, getting into trouble with the law and so on, and thus tapped multiple risks under the rubric of life stress. However, a summative index was not used, as it would have limited the information obtained from the life-events measure that ensures the verity of experienced risk. Further, it was thought that life events and demographic indices of risk may substantially overlap (e.g., life events may reflect the economic circumstance of the individual) and artificially inflate the overall risk experienced.

Theoretical Models of Resilience

Thus far the determinants of resilience have been addressed (i.e., risk and competence); however, there are several different explanatory models of resilience (Garmezy et al., 1984). According to Kaplan (1999) “the meaning of resilience may be properly understood only in the context of causal models that attempt to explain some outcome that has socially evaluative significance” (p. 30). These models provide differing ways of conceptualizing the relationship between stress and competency.

Garmezy et al. (1984) have outlined three explanatory models of resilience. These include a compensatory, a challenge and, finally, the “immunity-versus-vulnerability model” (Garmezy et al., 1984, p. 102). The compensatory model was described by Garmezy et al. as an additive model in which the combination of stress and individual qualities predicts competence. According to the authors' view of this model, stress could be “counteracted” through “personal qualities of strength” (p. 102). Alternatively, the challenge model revolves around the supposition that the experience of moderate amounts of stress may serve to increase competence. The final model described by

Garmezy et al. takes into account both personal strengths and weakness in relationship to stress. Thus, in this paradigm the impact of stress is made stronger or weaker on the basis of personal attributes (e.g., protective or vulnerability factors).

While Garmezy and colleagues (1984) outlined three models of resilience, it has been suggested that the measurement of resilience is best accomplished through the use of both interaction and main effect statistical model (Luthar, 1993). According to Luthar (1993) the interaction models address conceptually interesting questions; however, they are limited by small effect sizes and can yield different results within a data set based on modeling decisions. Alternatively, the main effect model allows for a distinction between resilient and nonresilient youth, but does not provide information as to interaction effects (Luthar, 1993). These two models were given primary emphasis in this investigation.

Several researchers have pointed to the need for an interactive model of resilience (Freitas & Downey, 1998; Rutter, 1987, 1990). Rutter (1987, 1990) described an interaction among variables such as gender, temperament, parental relationships, planning, life turning points and risk. These predictor variables are thought to interact differentially with risk according to whether they are considered protective or vulnerability factors. As an example, the presence of a good parental relationship would be considered a protective factor and its lack a vulnerability factor.

Rutter (1990) thus relied on an interactive paradigm in which the concept of vulnerability and protection represents a continuum of influence in response to risk. Rutter did not identify the extremes of protection or vulnerability as discrete, but instead rendered protection and vulnerability as a unified concept. According to Rutter, “vulnerability and protection are the negative and positive poles of the same concept, not

different concepts" (p. 185). Further, these extremes were not equivalent to good or bad markers, but instead were reflective of the manner in which risk is impacted. A seemingly negative occurrence may ultimately serve a protective function. As an example, Rutter identified a successful encounter with risk as a potential coping mechanism.

Rutter (1990) extended this interactive model to include mechanisms of mediation. Thus, the interaction effects identify possible processes that lead to the establishment of resilience. Rutter identified several possible processes including self-esteem building/maintenance, reducing negative events, increasing opportunity and reducing the influence of risks (p. 202). While Rutter (1990) identified several potential mediating mechanisms (e.g., reducing risk impact, self-esteem and opportunities) self-esteem was given consideration in relationship to both predictor variables central to the current investigation: social support and task accomplishment. According to Rutter, a possible explanation for the efficacy of personal support was that it increases self-esteem. The self-esteem, in turn, serves as a protective variable. In the context of the present study, then, self-esteem was an outcome variable as predicted from perceived social support. Similarly, task accomplishment, was identified by Rutter as predictive of increased self-esteem. The processes that link social support and task accomplishment to resultant self-esteem, according to Rutter, remain ambiguous. It was anticipated that targeting specific aspects of each construct, through the measurement of perceived social support and personal goal strivings, would provide direction as to the mechanism involved.

Freitas and Downey (1998) similarly proposed an interactive model of resilience to reconcile differential response to identical risk factors. For example, some protective factors equally benefit the recipients regardless of risk status; whereas, others have

differential benefit given the individual (Freitas & Downey, 1998, pp. 264-265). To account for such variation between individual characteristics and outcomes the authors refered to Mischel and Shoda's (1995) Cognitive-Affective Personality System (CAPS) theory as an explanatory tool. The model, as described by Freitas and Downey, places emphasis on how "psychological mediating units" interact with the environment and other mediating units (p. 266). The mediating units were described as any number of possible individual characteristics such as goals or competencies. Resilience is thus determined by the relationship between the mediating units and the environment.

In sum, resilient outcome is not contingent on a static relationship between protection and vulnerability factors, but is instead a dynamic interplay of multiple influences inclusive of both individual and environmental factors. The models employed in the present study, as previously noted, included interaction and main effect analyses. It was thought that an analysis of specified protective factors with multiple competencies would provide suggestive evidence as to the processes involved in the establishment of resilience.

Protective Factors

Having described the constructs of competence and risk, and how they interact, we now turn to the protective factors that have been associated with resilience in adolescence (Blum, 1998; Garmezy, 1988). Garmezy (1988) identified three categories of protection. These included individual disposition characteristics, the influence of the family and, finally, external supports. Similarly, Blum (1998), based on a review of the literature, delineated dispositional, familial and external factors thought to be predictors of resilience (p. 369). Individual qualities, according to Blum, encompass such traits as

positive social skills, an internal locus of control and a positive self-concept. Family qualities may include a connection with one parent or sibling closeness. Finally, external factors may include friendships or alternate caregivers. Blum specifically cited the importance of family and community context to resilience. The results of several studies provide more specific detail as to predictors of resilience.

Project Competence, a prospective longitudinal study of high-risk children, has followed a sample of 205 children for over ten years (Garmezy & Devine, 1984). Masten, Garmezy, Tellegen, Pellegrini, Larkin and Larsen (1988) used this data set to examine several potential moderators of stress including gender, intelligence, SES, and parent qualities. The researchers reported that competence was impacted by family and individual characteristics, as well as defining their use of the term "competency". As examples, intelligence, SES and parenting were found to moderate outcome when it was defined as classroom behavior. Comparatively, intelligence predicted competence when academic achievement was the assigned outcome.

Subsequently, Masten et al. (1999) reported on the same Project Competence participants during late adolescence. This analysis focused on parent qualities, intelligence and characteristics that distinguish resilient from nonresilient youth. Masten and colleagues found that competence was associated with resources (e.g., parenting quality and intelligence); however, these resources were not found as often in high-risk settings. If the resources were present, the adolescents were typically competent. Alternately, high-risk adolescents who had few resources were generally not competent and "stress-reactive" (p. 162). Masten et al. reported the fundamental impact of parenting. As stated by the authors:" Parenting quality had unique significance for conduct in

childhood and all three competence domains by adolescence, even with IQ and SES controlled, suggesting that the role of parenting extended beyond genetic covariance in intellectual aptitude that could partially underlie all three variables" (p. 163).

A comparison between resilient adolescents and competent adolescents did not establish marked distinctions between groups (Masten et al., 1999). For clarity, the resilient adolescents experienced stress and demonstrated competence, whereas, the competent adolescents did not experience stress and similarly displayed competence. The resilient participants did not fall below the sample average on any of the measured qualities, although Masten et al. reported that they were less apt to follow rules and were more vulnerable to negative affect than competent adolescents (p. 164). Thus, as previously noted by Masten and Coatsworth (1998), a resilient outcome is not the product of extraordinary strength, but instead is the result of maintained protective factors in adverse conditions.

Similarly, Werner and Smith (1982) conducted a longitudinal study on the Hawaiian Island of Kauai. This study was unique in that the high-risk participants were followed from birth to adulthood, and the community was insular. Although the resilient youth identified in this cohort were distinguished from their peers with regard to social supports, experienced life stress and personality characteristics, Werner and Smith reported that these adolescents were more likely to seek out external informal support. Examples of these sources included friends, siblings, relatives, parents, ministers and teachers. They also reported a greater number of participants felt security from family members and had positive conceptions of their family, their school and themselves. Additionally, Werner and Smith reported that the resilient youth did not experience as

much total family stress as their peers, and were less apt to seek out formal, institutional support.

Werner and Smith (1982) also identified personality and intellectual qualities that distinguished resilient adolescents from their peers. The researchers reported that youth had average intelligence, good verbal communication skills and internal locus of control. Characteristics that differentiated the resilient adolescents included responsibility, socialization, communality, achievement and feminine qualities (pp. 87-88). There were reported gender differences in the resilient group. As examples, female adolescents had a higher locus of control than did males and they also endorsed personality traits associated with self-assertion. Both genders, however, displayed a social sensitivity that, according to Werner and Smith, suggested that resilient youth were more androgynous than their peers.

While beyond the delimited scope of the literature review, Werner (1993) presented data describing the interpersonal relationships of the resilient participants in adulthood. It is thought that her findings are relevant as they speak to the importance of non-familial supports. Werner found that resilient participants with dysfunctional families were detached from family members. Moreover, there was some evidence that establishing new long-term relationships was difficult for some of the men in the sample. Finally, health problems related to stress were reported. These results identify two considerations related to the present study. As previously mentioned, it reinforces the need to assess beyond perceptions of family support. Additionally, it supports Luthar's (1993) finding of emotional vulnerability despite manifest competence, and reinforces the need to assess broadly for competencies.

Not all research has identified characteristics that distinguish resilient from nonresilient respondents; however, the lack of distinction is largely semantic (Baldwin, Baldwin, Kasser, Zax, Sameroff & Seifer, 1993). Baldwin et al. reported data from the Rochester Longitudinal Study at the 18-year follow-up. The project followed respondents from birth to assess for mental health outcomes. At follow-up 139 families were interviewed and three levels of environmental variables were given consideration. These included parent and family variables as well as more distal variables such as neighborhood conditions and parental demographics. The adolescents' intelligence, locus of control, self-perception, and importance of success were determined. The overall findings established that intelligence and self-esteem were related to mental health. On the other hand, those adolescents who placed emphasis on financial success, had an "unknown locus of control," or who made internal failure attributions were less likely to be mentally healthy (p. 753).

The results of the investigation did not, however, establish distinct characteristics of mentally healthy, disadvantaged adolescents. The researchers reported that they compared "resilient" youth to those respondents with the *same* level of mental health that was less than expected for their given set of circumstances. This comparison yielded no significant differences, and Baldwin et al. (1993) argued that "exceeding expectations" is not as important as is "good mental health" (p. 760). Masten et al. (1999) similarly reported a lack of distinction between competent and resilient youth; however, the similarity did not preclude an identification of resilience within the context of high risk.

Baldwin et al. reported additional findings. Maternal factors that were associated with a positive outcome included the expression of positive affect and control.

Demographic variables influencing mental health included family occupation, education and ethnicity. Finally, life stress was negatively associated with a positive outcome. The researchers additionally reported a difference in mental health according to ethnicity. Disadvantaged African Americans had a better mental health outcome than Caucasians who were similarly disadvantaged. Baldwin et al. proposed that the disparity might be related to duration of exposure to adversity or mobility status. The authors reasoned that longer exposure to adversity over time may result in an adaptive response, or a restriction in mobility of status may function to keep mentally healthy individuals in disadvantaged circumstance.

Luthar (1991) strove to make distinctions between protective, vulnerability and compensatory processes in relationship to competencies. As described by Luthar, compensatory factors contribute directly to competency; whereas, protective and vulnerability factors function in relationship to stress. Within the sample of 144 adolescents, Luthar identified an internal locus of control and social expressiveness as protective processes. These processes were associated with specific competencies. Thus, locus of control was related to classroom assertiveness, whereas social expressiveness was related to peer popularity. Alternatively, identified vulnerability processes were intelligence and positive life events. These results, while counterintuitive, were explained by Luthar as potentially being a function of increased sensitivity (intelligence) or timing (life events). Specifically, intelligent youth were potentially more sensitive to environmental events, and the timing of the positive event in relationship to negative events may have impacted the results. Finally, Luthar identified ego development as a compensatory factor that was related to multiple indices of competence (e.g., grades,

classroom assertion and disruption) (p. 612).

Similarly, Grossman et al. (1992) studied the relationship between risk and protective factors with a sample of 179 adolescents. Protective factors identified included the following: family cohesion, internal locus of control, and adolescent communication with parents. Outcome was determined via measures of mood, conduct, self-esteem and grades. Grossman and colleagues found that the protective factors were generally predictive of positive outcomes. However, interaction effects between protective factors and risk were not identified. The researchers concluded that more global factors may establish protection regardless of risk and suggested that "further research needs to explore the possibility that specific protective factors are helpful in the context of specific risks for particular populations" (p. 547).

A common theme identified in the studies reviewed thus far is the need for increased specificity in both protective factors and domains of competency. Both Luthar (1991) and Masten et al. (1988) found that there was not a uniform relationship between the targeted protective factors and outcomes. Protective factors and outcome varied according to which predictor was assessed in relationship to the particular outcome variable under scrutiny. Similarly, Grossman et al. (1992) observed that global factors would serve to foster positive adaptation regardless of risk; whereas, protective factors were not established given the general nature of the constructs used. Increased specificity in both the kinds of protective factors examined and the categories of outcome assessed, as targeted in the current investigation, contributed to a developing understanding of what predictors lead to a beneficial outcome in a particular competency domain.

Resilience and Perceived Social Support

Examples of social support impacting resilience are numerous. Neighbors et al. (1993) found that resilient adolescents have better relationships with their mothers, while Grizenko and Pawliuk (1994) established that a positive relationship with one's grandparents serves as a protective factor. The results of the Kauai Longitudinal Study (Werner & Smith, 1982, 1992) identified resilience as associated with supportive caretakers. Specifically, the resilient children were identified as having a close bond with caregivers as infants. These caregivers were identified not only as parents, but also as external sources of support, such as grandparents (Werner & Smith, 1992). Additionally, the resilient children often had a social network outside of the home, and were involved with community activity. While social support in general terms has been identified as a marker of resilience, often there is not a differentiation between the type of social support operating as a protective factor (e.g., perceived supported versus enacted support).

Other researchers have assessed support with alternate constructs, such as family environment (i.e., dimensions of the Family Environment Scale, Moos, 1974), that have been shown to be positively correlated to perceived social support (Procidano, 1992). For example, family cohesion, parent adolescent communication and the relationship with a significant adult have been shown to be positively related to outcome (Grossman et al., 1992). Similarly, parenting style and parenting quality have been associated with resilience (Baldwin et al., 1990; Masten et al., 1999). Strong maternal relationships also predict resilience (Neighbors et al., 1993), as do positive family environments (Felsman & Valliant, 1987). Alternatively, poor parenting was associated with negative outcomes: Maternal addiction was associated with externalizing and internalizing symptoms and

lower levels of social competence (Luthar, Cushing, Merikangas & Rounsaville, 1998), and family dysfunction has been shown to be linked with lowered resilience (Jew & Green, 1998). While occurring less frequently some studies do not establish a link between familial factors and outcome (Fergusson & Lynskey, 1996).

Some researchers investigating resilience, however, have targeted the concept of perceived social support (Carbonell et al., 1998; Connell et al., 1994). For example, Carbonell et al. (1998), in an investigation of adolescents at-risk for depression, found that resilient adolescents had better family functioning in terms of family cohesion, communication and performance. The investigators assessed perceptions of social support and found that resilient adolescents were satisfied with the "positive feedback they received," and were not as likely as the nonresilient group to desire additional advice (p. 266). Carbonell et al. made several conjectures as to the possible reasons for the disparity between groups. These included consideration of the support's quality, or, alternately, differences in how the resilient adolescents interpret the support. Thus, resilient youth may be more self-reliant or more readily incorporate received advice (Carbonell et al., 1998). Outcome in this investigation was determined by the following indices: internalizing symptoms (depression), externalizing symptoms (behavior), school performance and attendance, self-perception, socio-emotional adjustment and interpersonal problems.

Connell et al. (1994) also focused on perceived indices of support, and used path modeling to assess the relationships between multiple variables and outcome. Specifically, context (perceived parental involvement), self (perceived competence/efficacy; perceived relatedness to self and others) and action (emotional and

behavioral engagement) were examined in three data sets of African American respondents (p. 494). As this research project relied on data from different data sets the researchers derived composites of context, self and action from analogous measures between studies. Thus, perceived parental involvement was determined by using standardized variables that were based on related constructs. Connell et al. (1994) found that gender and SES did not have as great an impact on outcome as did familial support, personal control over success and self-worth (p. 503). The authors further observed that adolescent behavior can contribute to diminished support. Specifically, they noted, "disaffected behavior in low-income African American youth can lessen parental involvement, which in turn contributes to negative appraisals of self that exacerbate disaffected patterns of action and contribute to negative educational outcomes" (p. 504).

The relationship of perceived social support of friends to subsequent resilience has also been assessed (Bender & Losel, 1997). Bender and Losel (1997) studied 145 adolescents who resided in social welfare institutions in Germany. The study was a longitudinal and part of the Bielefeld-Erland Study on Resilience. In this investigation the measure of adaptation (from which resilience was inferred) was conduct, and three types of social support were assessed. These included network size, social support frequency and perceived social support. Finally, peer relations were assessed with regard to "clique" membership, whether or not the adolescent had a "good friend," the number of good friends, and finally romantic relationships (Bender & Losel, 1997, p. 665).

The results of Bender and Losel's (1997) study suggested that belonging to a clique, while related to greater felt support, did not necessarily correlate with a change in misconduct. More clearly, integration in a peer group, with high levels of support

satisfaction, may not serve as a protective function when the peer group fosters misconduct. The impact of clique membership and subsequent support, however, varied in relationship to misconduct. Illustratively, adolescents who were more antisocial were protected by a lack of group membership and lower social shown to have increased misconduct when not part of a group and expressed lower levels of support satisfaction.

The studies that target perceived social support in relationship to resilience reflected some of Rutter's (1990) concerns regarding the role of social support in resilient outcomes. As examples, Rutter (1990) has questioned which aspects of social support serve a protective function, and, further, how social support is distinct from "personality attributes" that contribute to social facility (p. 207). Finally, he asserted that the mechanism involved in this process is not clear (Rutter, 1990).

Different perspectives regarding how social support functions and is defined have been discussed and evaluated (e.g., Barrera, 1986; Cohen & Wills; Procidano & Walker-Smith, 1997; Sarason, Pierce & Sarason, 1990; Vaux, 1987). Sarason, Sarason, Brock and Pierce (1996) have elaborated on the multidimensional quality of social support through the identification of situational, intrapersonal and interpersonal contexts. Of these contexts, the intrapersonal focus is highlighted in the current investigation as it places emphasis on perceptions of support. According to Sarason et al. (1996), perceived support, which seems to be an individual difference variable, is related to both one's sense of support and one's sense of acceptance. With regard to acceptance Sarason et al. (1990) previously proposed that perceived social support "is best defined as the sense of acceptance, an inherent, stable personality characteristic that contributes to the perception of social support separately from what the environment actually offers at any particular

time" (p. 110). Other models of perceived social support will be discussed more fully in the section that follows, however, it is given consideration in this context to highlight distinctions within the category of perceived social support itself.

Returning to the assessment of resilience studies that incorporate the construct of perceived social support, it is observed that while the researchers who targeted perceived social support did provide a greater indication of which aspect of social support impacts resilience, each study met with certain limitations. For example, Carbonell et al.'s (1998) and Connell et al.'s (1994) research lacked an assessment of external sources of perceived social support (e.g., friends or school personnel), a comprehensive evaluation of the multiple competencies germane to adolescent functioning (e.g., social, scholastic, job, romantic and conduct competencies), and a measure of life stress. Additionally, these studies, while achieving consistent results, employed different outcome variables. Carbonell et al. (1998) used multiple measures of adaptation inclusive of behavioral, academic, esteem, socio-emotional and interpersonal indices; whereas, Connell et al. (1994) identified only school success or failure as an outcome. Likewise, Bender and Losel (1997), who studied perceived friend support, relied solely on conduct as a measure of adaptation. Thus, while the findings reflect a general trend that appears robust, the relationship between perceived social support and resilience has not been comprehensively assessed.

Resilience and Personal Goal Strivings

Personal goals have been noted to be potentially salient predictors of resilience (Freitas & Downey, 1998) and have been found to be markers of resilience in ethnographic interviews (Carey, Ratliff & Lyle, 1998). The personal goal striving

construct as conceptualized by Emmons (1986) affords a means to assess goals that have personal salience to the individual. The personal goal striving construct will be addressed in detail subsequently. In brief, the construct was defined by Emmons as an overarching theme delineating an individual's purpose and goals are the means of actualizing the larger purpose.

Resilience researchers have considered themes that are similar to Emmon's goal striving construct. As examples, Rutter (1990) pointed to the relevance of planning in resilience, and Freitas and Downey (1998) considered the role of goals. As previously noted, Rutter (1990) described an interactive paradigm in which multiple factors interacted, inclusive of "planning" (p. 195). Rutter, based on the work of Rutter and Quinton (1984) and Quinton and Rutter (1988), observed that planning predicted better marriage and work outcomes. Similarly, the personal goal striving construct suggests the capacity for planning actions necessary to achieve personally salient objectives.

On the other hand, Freitas and Downey (1998) noted the relationship between mediating units, inclusive of goals, and the environment in the determination of resilience. In fact, the researchers commented on the lack of research considering goals: "Research on resilience has traditionally emphasized individual competencies or assets and paid less attention to how relevant expectancies, biases, goals, and values shape how one's competencies get used" (p. 267). Freitas and Downey make an important observation about the relationship between goals and the context of the individual. Youth in high-risk environments may encounter extreme differences between peer and societal values. The "goal of not being disrespected" may be more personally salient to a high-risk youth than the educational goals promoted by schools (Freitas & Downey, 1998, p.

271). Freitas and Downey further suggested that personal resources alone may not be sufficient for a positive outcome, because goals dictate how resources are employed. Personal goal strivings may represent a salient mediating unit that impacts competencies, and thus, resilience.

Ethnographic interviews illustrate the potential influence of goals in resilience research (Carey, Ratliff & Lyle, 1998). Carey et al. (1998) conducted interviews with six resilient teenage mothers. The interviews yielded four dominant themes in the resilient youth: Insight, initiative, relationships and "rebellious determination" (p. 347). The identified themes of initiative and rebellion appear to be similar in some ways to the personal goal striving construct. Initiative was described by the authors as "proactive, take-charge attitudes and resourcefulness" (Carey et al., 1998, p. 353). Adolescents with initiative were thus able to achieve self-determined goals. For example, one respondent resolved to finish high school despite her pregnancy; whereas, another adolescent used goal directed behavior to care for her child. Similarly, some of the respondents were identified as rebellious. In this context, however, rebellion constituted a determination not to conform to the stereotype of a dependent, pregnant teen. These descriptors, while based on a small sample, illustrate the potential usefulness of the personal goal striving construct in relationship to resilience.

As personal goal strivings have not been empirically assessed within this paradigm, conceptually related influences will be assessed to better predict the anticipated role it might play. First, resilience research has consistently established a positive relationship between an internal locus of control and a resilient outcome (Blum, 1998; Garmezy, 1988; Luthar, 1991; Werner & Smith, 1982). An internal locus of control is marked by

the belief that an outcome is related to one's own behavior, whereas, an external locus of control is characterized by the belief that external factors dictate outcome (Rotter, 1966). It is suggested that having a personal goal striving that is valued may be related to an internal locus of control, and thus serves as a potential marker of resilience.

Empirical research has assessed purpose-in-life (Springer & Gastfriend, 1995), future orientation (Jew & Green, 1998), and motivation (Gordon, 1996) as predictors of resilience. Motivation was assessed by Gordon (1996) who investigated resilience in a sample of 36 Hispanic adolescents. Both motivation and belongingness factors differentiated the resilient from the nonresilient participants. The resilient group had a motivational pattern that was bolstered by a belief in academic competency. Comparatively, the nonresilient group did not demonstrate similar strength in their cognitive capacity. The goals of the resilient group were thought to be oriented towards academics; whereas, the nonresilient group had goals of belongingness. According the Gordon, the resilient respondents may have been protected from negative peer influences by their lack of emphasis on belonging. This study highlights the importance of motivational factors in predicting a resilient outcome. As noted, different goals met with higher or lower levels of academic achievement. A limitation of this study, however, was its sole focus on academics as a measure of adaptation.

Jew and Green (1998) studied 392 adolescents using a resilience scale they designed (Jew & Green, 1995) and a measure of coping. The resilience measure tapped three qualities: future orientation, active skill acquisition and risk-taking. Risk factors were also assessed and these included abuse, substance abuse, involvement with the law and parental divorce. It is observed that resilience as conceptualized by Jew and Green differs

from the other studies assessed thus far, as resilience is here conceptualized as an independent variable in relationship to coping. Jew and Green found that resilient and nonresilient youth differed across the three identified resilience scales; however, future orientation yielded the most significant differences. The researchers proposed that stressors experienced might limit future orientation. While this study is brief and lacking in detail, it suggests that the capacity to have a future orientation, or to conceptualize future goals, may be a marker of resilience.

Finally, Springer and Gastfriend (1995) studied 24 adolescent males with alcoholic fathers. Among the measures used to assess this sample, a purpose-in-life scale was employed. The main outcome assessed was identified alcohol or drug problems. Adolescents that were identified as resilient had higher, although non-significant, purpose-in-life scores. Again, the study suggests resilience may be positively associated with a valued personal goal striving.

Summary

Six aspects of resilience have been discussed: competencies, life adversity, theoretical models, protective factors, the relationship of perceived social support and resilience and the relationship of personal goal strivings and resilience. The overview delineated recommended research approaches, and areas in the research literature that may benefit from further investigation. Recommended approaches include the conceptualization of resilience in terms of multiple influences that interact synergistically, and the inclusion of multiple markers of both risk and competence. While a robust relationship between outcome and social support defined in broad terms has been established in the resilience research, there has been little focus on the explicit impact of

perceived social support. The empirical studies identified that assessed perceived social support have not included multiple measures of competency identified as salient in adolescence, and also did not consider external sources of perceived support. Goals have been identified as having potential relevance in positive adaptation; however, they have been overlooked in the resilience literature (Freitas & Downey, 1998). Personal goal strivings have not yet been studied in relationship to resilience, although conceptually similar constructs, such as purpose-in-life, are positively related to adaptation.

Social Support

As can be seen there is a clear relationship between resilience and social support; however, the type of social support evaluated varies greatly between studies, and in many cases the type of support is only generally specified. Most broadly, social support is defined as supports that serve to protect against psychological or physical maladjustment particularly in the context of risk (Caplan, 1976). Social support has been further differentiated according to different types of support. These include social embeddedness, perceived social support and enacted support (Barrera, 1986). Embeddedness is related to the interpersonal relationships within one's social context, and enacted support refers to specific actions taken to support an individual (Barrera, 1986). Perceived social support has been defined as "the cognitive appraisal of being reliably connected to others" and is frequently assessed on the basis of both the availability and adequacy of social supports (Barrera, 1986, p. 416).

There is evidence that perceptions of perceived impact may provide a greater indication of adaptation than enacted or embedded support in high-risk samples. For example, Berman, Kurtines, Silverman and Serafini (1996) assessed the role of perceived

social support and coping in a sample of 96 high-risk adolescents. The adolescents lived in an urban area, and were exposed to high levels of violence. The social support measure used, The Analysis of Social Support in School Transitions (Barone, Leone & Trickett, 1987), identified the number of support persons, the availability of support persons, and the frequency with which support persons were contacted either to discuss a traumatic event or to discuss the individual's symptoms in relation to the event. Berman et al. found perceived support was a better predictor of outcome than the other types assessed. Thus, in high-risk samples perceived social support may be the best predictor of adaptation among the social support indices.

Perceived Social Support

Perceived social support has been depicted in variable terms with some researchers viewing it in a cognitive framework (Barrera, 1986; Lakey & Cassady, 1990; Lakey & Dickinson, 1994), while others consider it in terms of attachment theory (Sarason et al., 1990; Vaux, 1987). Researchers have also conceived of the concept as encompassing both cognitive and attachment theories (Procidano & Walker-Smith, 1997). First the cognitive perspective is addressed. As above noted, Barrera (1986) defined perceived social support as the cognitive appraisal of relationships with others. Lakey and Cassady (1990) and Lakey and Dickinson (1994) assessed this perspective through several studies. A research design targeting whether or not perceived social support functions as a "cognitive personality variable" found that perceived social support was more associated with measures of cognitive personality than enacted support (Lakey & Cassady, 1990, p. 337). In another investigation the same researchers found that lower levels of perceived social support were associated with both poorer recall of supportive behavior and

increased perception of obtained social support as unhelpful (Lakey & Cassady, 1990). While Lakey and Cassady identified the association between perceived social support and negative cognition, they qualified the finding by noting that the variables are distinguished by the emphasis perceived support has on social relationship cognitions. In another study that focused on cognition, Lakey and Dickinson (1994) similarly found that respondents' perception of their family environment was generalized to perceptions of other relationships.

On the other hand, Sarason and colleagues (1990) conceptualized perceived social support as an individual difference variable that is best understood as an individual's sense of being accepted or as having inherent value. The “sense of acceptance,” in turn, influences one's perception of support (Sarason et al., 1990, p. 109). Similarly, Vaux (1987) found that involvement, love and respect were factors underlying appraisals of support. Additionally, the attachment model of perceived social support has been shown to be apt in an adolescent sample (Cauce et al., 1996). More specifically, Cauce et al. measured perceived social support and measures associated with relationship qualities (e.g., attachment) in a sample of 144 African American adolescents. The researchers reported an association between mother support and mother attachment (r=.44), as well as a relationship between satisfaction with support and attachment (r=.42 for mother attachment).

Explanatory models suggesting how perceived social support functions have been discussed both generally (Barrera, 1986; Cohen and Wills, 1985), and specifically in terms of processes involved in child/adolescent development (Sandler, Miller, Short & Wolchik, 1989). The general theory is first considered. Barrera delineates conceptual

models of social support that depict both positive and negative relationships to stress. According to Barrera the models depicting a negative relationship between support and stress are endorsed most often in the empirical literature. The first negative model is a "stress prevention model" that relies on mechanisms that minimize stress perceptions (Barrera, 1986, p. 425). Mechanisms include the prevention of the event itself and alteration of stress perceptions. The second model is the "support deterioration model," which posits that stress serves to reduce perceptions of social support (Barrera, 1986, p. 426).

Cohen and Wills (1985) described models of social support that include both a main effect model and a buffering/moderating model. The buffering model relies on an interactive mechanism that reduces the impact of a stressful life event. Alternately, the main effect model relies on the positive impact of social support regardless of stress. Thus, social support enhances well-being, but there is not an interaction between stress and social support (Cohen & Wills, 1985).

Perceived support, as opposed to enacted or network support, has generally been shown to buffer the effects of stress (Cohen & Wills, 1985; Sandler & Barrera, 1984; Wethington & Kessler, 1986); however, these effects are not consistently obtained (Procidano, 1992). Based on a review of the literature Cohen and Wills (1985) found that different models best described the mechanism behind the various types of social support. More specifically, the main effect model best depicted the influence of embeddedness on outcome, whereas, the buffering model was most reflective of perceptions of social support. Similarly, Wethington and Kessler (1986) and Sandler and Barrera (1984) found that the buffering model was associated with perceived social support more than the other

types of support (e.g., enacted support). The buffering hypothesis, however, is not consistently found in empirical studies (Procidano, 1992). Procidano (1992) conducted a meta-analysis of studies using the PSS-Fa and -Fr scales (Procidano & Heller, 1983) and found that while the buffering hypothesis was supported in some instances it was more frequently unsupported. Additionally, buffering effects appeared most frequently in relation to the perceived social support of friends. Procidano concluded that buffering effects were contingent on study specific factors (e.g., definition of stress employed, measures in the interaction term and context) (p. 17).

Having addressed in general terms the models associated with perceived social support, the theory specific to child/adolescent samples will be discussed. Sandler et al. (1989) addressed the processes by which social support serves as a protective influence in children. The authors proposed several processes inclusive of self-esteem enhancement, control perceptions and what they term "perceived security of social relations" as having salience in younger populations (Sandler et al., 1989, p. 278). Esteem enhancement and perceptions of social support are here given emphasis because of their relevance to this investigation.

Sandler et al. (1989) proposed that the relationship between support and esteem may be a function of support preventing events that threaten esteem from occurring, by changing how the individual appraises such events, or by simply increasing esteem (pp. 286-287). Sandler and colleagues additionally proposed three possible explanations for the impact of social support. According to the authors, perceived social support may prevent events from happening that would have had an adverse effect on relationships. On the other hand, perceived social support may equally serve to either moderate or

counteract the impact of life stress on social relationship security (Sandler et al., 1989, p. 291).

While perceived social support has been found to be associated with self-esteem in adolescent samples (Robinson, 1995; Short, Sandler & Roosa, 1996), it has been observed that the relationship between perceived support and outcome in an adolescent population varies according to whether the support is peer or family based (Cauce et al., 1996). As an example, Barrera and Li (1996) reviewed twenty studies that assessed both peer and family support. These researchers found that of the studies reviewed seven identified a relationship between perceived social support and positive adaptation for both peer and family support. Barrera and Li observed, however, a frequent disparity between peer and family support and outcome.

The lack of consistency between studies may be related to the developmental level of the adolescents sampled (Barrera & Li, 1996). Based on previous research findings, Barrera and Li (1996) observed that there is a variation in the influence of parents and friends from pre- to late adolescence. Younger adolescents derive more support from parents, whereas middle adolescents place greater emphasis on peer support (Barrera & Li, 1996). Older adolescents tend to be receptive to support from both peers and family. The authors additionally noted that the kind of support sought varies given the identified problem. Parents are more likely to be sought after for educational concerns; whereas, friends are more likely candidates for advice regarding salient individual concerns such as sexuality and drug usage (p. 317).

Weigel, Devereux, Leigh and Ballard-Reisch's (1998) work illustrates adolescent variability in the selection of a primary support person over time. Weigel and colleagues

assessed 352 adolescents at three time points over 7 months. The adolescents identified a primary support person at each administration and reported perceptions of global support, global family support, relational support and perceived stress. The researchers found that while the adolescents selected their mothers as the primary support figure most often, almost half of the respondents altered their choice of support person over time (42%). Weigel et al. did not establish a pattern of support selection reflective of participant age, however, and instead proposed that the variation was based on individual factors.

Weigel et al. (1998) identified several characteristics of those adolescents who changed their primary support person. These variables identified a less stable family environment marked by conflict, stress and lack of control. The respondents who changed their key support person tended to select someone from outside the family. Thus, this study does not identify change in support selection as reflective of age, as much as an indication of the presence of support figures within the family. The alteration may also reflect Barrera and Li's (1996) noted consideration that the nature of the problem may influence the choice of support. While there are inconsistencies between Barrera and Li's and Weigel et al.'s explanation for differences established over time, their work highlights the possible reasons for differential response.

Perceived Social Support and Life Stress

Research from the social support literature, while not explicitly addressing the concept of resilience, has investigated the relationship between perceived social support and outcome in adolescent samples. Compas (1987), in a review of child and adolescent coping, observed that there is a consistently held relationship between social support and outcome as determined by psychological or physical symptoms (p. 395). This

relationship, according to Compas, is qualified by subject variables, the type of support investigated and inconsistencies in research methodologies. While a direct relationship is frequently found, Compas identified interaction effects (e.g., life stress and social support) as having variable outcomes between studies.

Sixteen studies were reviewed for the purposes of this investigation to establish an understanding of the relationship between perceived social support and risk in adolescent samples. The studies were selected based on the inclusion of a measure of life stress, or the identification of the sample as high-risk. All of the studies included a measure of perceived social support. The general trends observed are noted; however, it must be qualified that the conclusions are limited to the studies reviewed. The studies will briefly be summarized in order to present a general understanding of the relationships found between support and adaptation. A more comprehensive presentation of the research follows the overview.

Perceived family support was found to buffer stress in some samples (Gore & Aseltine, 1995; Licitra-Klecker & Waas, 1993; Ystgaard, 1997), although high-stress, low-income samples of adolescents were found to be less impacted by perceived family and peer social support (Cauce, Felner & Primavera, 1982; Felner, Aber, Primavera & Cauce, 1985; Gillock & Reyes, 1999). Alternately, in high-risk environments perceived teacher support was found to be beneficial (DuBois et al., 1992; DuBois et al., 1994; Felner et al., 1985). Other investigations that studied a range of adolescents from differing socioeconomic classes did not confirm a buffering effect (Compas, Slavin, Wagner & Vannatta, 1986; Gad & Johnson, 1980; Rowlison & Felner, 1988), although Compas et al. (1986) did establish a main effect. Perceived social support was found to

differentially impact outcome, as specific types of social support (family, friend or school) impacted different areas of competency/outcome (Cauce, Hannan & Sargeant, 1992; DuBois et al., 1992; Gore & Aseltine, 1995). As an example, perceived friend support has been shown to have variable effects on adaptation. In some instances a deleterious impact on school competence has been reported in relationship to high peer perceived support (Cauce et al., 1992; Felner et al., 1985); whereas, in others peer support was related to higher levels of self-esteem (Cauce et al., 1996) or positive self-concept (Felner et al., 1985).

Some high-risk samples, as above noted, were found to be less impacted by perceived social support. For example, Gillock and Reyes (1999) studied life stress, social support and academic adjustment in a high-risk sample of Mexican-American adolescents. Gillock and Reyes reported that the adolescents perceived family and friends, and to a lesser degree school sources, as supportive; however, these supports did not buffer the effects of the reported stressors. The authors explained that extreme environmental contingencies were reported and might explain the insufficiency of the provided support. Alternately, the main outcome variable in this study was academic performance, and its exclusive use may have underestimated competencies in other domains (e.g., psychological adjustment and competencies).

Cauce et al. (1982) similarly studied high-risk adolescents, although her study instead found variation in support efficacy based on demographic variables. The researchers assessed the relationship between self-concept, perceived social support and school performance in a sample of adolescents from low SES/high-stress backgrounds. High-risk in this sample was identified by targeting inner-city schools attended by lower

SES students. Cauce et al. conceived of perceived social support as a multidimensional construct that included family, formal (e.g., teachers, counselors) and informal (e.g., friends) support. The impact of the support varied according to the adolescent's age, gender, ethnicity and the given competency addressed. The authors particularly noted variation based on ethnicity. Illustratively, African American adolescent males were found to regard formal support as helpful, whereas, Hispanic males perceived social support in a formal venue as less available (Cauce et al., 1982). Gender and ethnicity differences were reported for informal support. Specifically, female participants found informal support more useful than did males. African American and Caucasian respondents also found informal support useful; whereas, Hispanic participants did not regard it as highly. Finally, perceived social support from friends (informal support) was identified as having a negative impact on some competencies (Cauce et al., 1982).

Felner et al. (1985) found that school support, as opposed to family or peer support, had a greater impact on outcome in a low-income sample. Moreover, both family and peer support were associated with negative correlates of adaptation. As examples, family support was associated with lower levels of scholastic, general, and total self-concept. Peer support was found to be associated with lower GPAs. According to the authors, the results "underscore the differential, and sometimes negative, relationship between sources and types of adolescents social support and adjustment" (p. 376).

Alternatively, Wills, Vaccaro and McNamara (1992) did find an association between family support and an adaptive outcome in a large sample of high-risk adolescents (N=1,289). Wills et al. (1992) specifically assessed the relationship between protective and vulnerability factors and subsequent drug usage. The protective factors included

family support and competencies, whereas, the vulnerability factors included negative life events. The two types of family support identified in this study (i.e., emotional and instrumental) were independently associated with less substance usage. Similarly, competence was found to be inversely related to substance abuse. Wills et al. additionally noted the increased importance of social support for high-risk adolescents, thus confirming an interaction effect.

Studies assessing adolescents from higher income families also supported the buffering hypothesis (Licitra-Klecker & Waas, 1993; Ystgaard, 1997). It should be noted, however, that this is not consistently found [e.g., Windle (1992) did not find support for a buffering hypothesis in a moderate-income sample]. Nevertheless, Ystgaard found that family, "school class" and peer support reduced the impact of stressful events (p. 282). While family support was the most effective buffer in this sample, peer support also buffered stress. Licitra-Klecker and Waas (1993) assessed both psychological and behavioral adjustment and similarly reported a buffering effect for family support; however, the findings for peer support were mixed. While perceived family support buffered against both depression and behavioral adjustment, some adolescents with high levels of family and peer support reported behavioral misconduct. A high level of peer support was associated with less psychological distress; however, it did not predict behavioral misconduct. The buffering effect of perceived peer support in relationship to delinquency varied according to gender and the nature of the misconduct.

Some researchers have assessed both life events and daily hassles as measures of stress (DuBois et al., 1992; DuBois et al., 1994; Rowlison & Felner, 1988). For example, Rowlison and Felner (1988) assessed 682 adolescents and reported that both life events

and daily hassles were found to be significantly related to a negative outcome. Hassles and life events were thought to represent separate types of life stress that provided a unique impact on adaptation (p. 441). The researchers, however, did not establish either a main effect or a stress-buffering influence for family, friends or school support.

DuBois et al. (1992) used a prospective design to further assess the relationship between life stress, hassles and support in the same high-risk, low-income sample initially studied by Rowlison and Felner (1988). Life events, daily hassles, the perceived support of family, friends and school, psychological distress and academic performance were measured two years after the initial assessment. The results indicated that life stress and social support were linked to adaptation over time (p. 551). While support of the school was found to be significantly associated with outcome, support from family and friends did not yield a similar association. These findings are similar to those found by Felner et al. (1985), and again emphasize the role of school support for high-risk adolescents. DuBois et al. found that respondents who perceived school support did not experience as much distress in response to stressful events, and further proposed that respondents with less family support may use the school support in a compensatory manner.

DuBois et al. (1994) conducted another prospective longitudinal with an adolescent sample (N =339) that spanned a shorter time period (7 months) that achieved somewhat different results. The sample used in this investigation included participants from of range of socioeconomic levels and was predominantly Caucasian (75.8%). DuBois and colleagues found a primary influence of daily hassles and not life events; however, given the results of previous research (DuBois et al., 1992) they proposed that the relationship

between life events and outcome was mediated by daily hassles. The research confirmed a relationship between high family social support and an adaptive outcome, and reported that when participants were identified as high-risk perceived school support influenced outcome (DuBois et al., 1994). This relationship was more apparent when high-risk status was coupled with low perceived family support. Thus, students from the most disadvantaged backgrounds had the most to gain from perceived school support.

Ystgaard, Tambs and Dalgard (1999) also conducted a longitudinal investigation assessing the relationship between life stress, social support and distress in a sample of 211 late adolescents. These researchers did find an association between negative life events and psychological distress. However, the buffering hypothesis was only established for male participants, as a similar association between perceived social support and outcome was not established for female respondents. The authors suggested that there may have been a lack of match between the female adolescents' stressors and support, that the support received by the females was ineffective, or that these adolescents may have experienced more adversity than their male counterparts. Whatever the case, the salient finding by Ystgaard et al. was the establishment of gender differences in the establishment of the buffering hypothesis.

The relationship between perceived social support, life stress and outcome appears to require some specification as to the kind of perceived social support (family/friend/teacher), the characteristics of the individual (gender, ethnicity, SES) and the identified stressors. Researchers have analyzed this complex interaction using the analysis of patterns (Seidman, Chesir-Teran, Friedman, Yoshikawa, Allen, Roberts, & Aber 1999) and by matching stressors and social strengths (Gore & Aseltine, 1995).

Seidman et al. (1999), using a sample of disadvantaged adolescents, identified six patterns of interaction regarding family systems, and six patterns of interaction specific to peer systems. The patterns for perceived family support included the following: Dysfunctional, Functional-Involving, Detaching, Hassling, Enmeshing, and Functional-Uninvolving (pp. 228-229). Seidman et al. found that membership in these categories varied according to age, gender and ethnicity. The Dysfunctional, Hassling and Enmeshing profiles were all categorized as a potential risk given higher levels of hassles, although they were categorized by varying levels of social support which ranged from below average to slightly above average. All of these groups were associated with increased behavioral and emotional (depression) dysfunction. The two functional categories (Involving and Uninvolving) included high social support and few hassles, and low levels of dysfunction. Finally, the Detaching profile, which was identified by both low hassles and low support, was also associated with lower levels of dysfunction.

Peer profiles, as described by Seidman et al. (1999), included the following categories: Disengaging-Accepting, Prosocial-Engaging, Antisocial-Engaging, Entangling, Neglecting and, finally, Rejecting (pp. 223-234). The categories labeled as "engaging", were categorized by higher levels of social support and lower levels of depression. The engaging category, however, was not protected from antisocial behaviors. Alternately, those adolescents with profiles characterized by social rejection or neglect were more vulnerable to depression, but protected from antisocial behavior. The Disengaging-Accepting profile, which was characterized by low levels of social support and a high level of perceived social acceptance, had lower levels of both behavioral and emotional indices of dysfunction. Finally, the Entangling group was characterized by

both high support and hassles, and was vulnerable to both depression and antisocial behavior. Seidman et al. concluded, “It is likely that in high-poverty urban neighborhoods, any kind of engagement with peers may increase risk for antisocial behavior, while disengagement may be an adaptive response to a risky environment” (p. 232). Seidman et al.'s work illustrates the complexity of the interactive factors that determine outcome, and suggests why there are incongruous results between studies.

Gore and Aseltine (1995) similarly investigated perceived social support and outcome as an interaction between the source of support (i.e., friend vs. family) and stress (i.e., friend conflict vs. family conflict) in a large adolescent sample (N=1,036). Depression scores were used as the measure of adaptation in this study. Generally, the researchers found that both family and friend supports were able to buffer personal events stress. In terms of stress that was specific to either the family or the friend domain, it appeared that family support was not able to reduce the effects of friend conflict, and vice versa. However, while friend support was able to offset the impact of conflict within that domain, family support was unable to similarly reduce conflict within the family domain. It was observed that adolescents from dysfunctional families had better outcomes if they were not supported, and thus conflicted families may not be able to buffer stress intrinsic to the family situation. Gender differences were noted, as females were less apt to be protected by peer support when the conflict involved friends. Males, on the other hand, were buffered by peer support in such situations. Like Seidman et al. (1995), Gore and Aseltine's work provides further support for an interactive model as best predicting outcome.

Compas (1987) reviewed the literature for adolescent/child research in life stress,

and noted that future research should include indices of competency. Many of the studies reviewed for the purposes of this investigation defined outcome in terms of psychological or behavioral adjustment. Fewer studies described outcomes with an emphasis on competencies (Cauce et al., 1982; Cauce et al., 1992; Cauce et al., 1996; Felner et al., 1985; Rowlison & Felner, 1988). For example, Cauce et al. (1992) used Harter's Perceived Competence Scale for Children (Harter, 1982) and assessed general, school, peer and physical competencies. Whereas, Rowlison and Felner (1988) used a measure that assessed self-concept. Some studies assessed only one aspect of competence. As an example, academic competence was the only outcome identified by some researchers (DuBois et al., 1992; Gillock & Reyes, 1999).

Cauce and colleagues have conducted the majority of studies reviewed that place emphasis on the relationship between risk and subsequent competencies (Cauce et al., 1982; Cauce et al., 1992; Cauce et al., 1996). Cauce et al., (1992) looked at the association between life stress, social support, locus of control and competencies (general, school, peer and physical) as well as a measure of anxiety in a sample of young adolescents. Social support was assessed with a measure based on individual perceptions of support. The researchers found that family support was related to three types of competence: general, peer and physical. Alternately, peer support was related to peer competence, but had a negative relationship with school competency. Buffering effects were found in the relationship between family and school support, and the school competency outcome variable. No other buffering effects were reported in relationship to the other outcome variables. Cauce et al. further assessed the relationship between the participants' locus of control and adaptation. In this analysis the researchers found that

school support buffered stress for participants with an internal locus of control.

Similarly, Cauce et al. (1996) used measures of competency in a study assessing the relationship between perceived social support, attachment, parent qualities and family qualities in a sample of low to moderate income African American adolescents. The adaptive outcome measures included self-worth, social, school and romantic competencies. Behavioral conduct and depression were also assessed. The researchers found that family support was associated with positive psychological adjustment and school competency. Extended family support was associated with romantic competencies, and to a lesser degree with social competence and self-worth. Friend support was found to be correlated with all measures of positive adaptation. Cauce et al. looked at this finding more closely, and suggested that the values of the peer culture may impact adaptation of the individual. As an example, the researchers found that having peers who valued school was associated with school competence. On the other hand, adolescents with peers who did not value school were associated with lower school competencies. According to Cauce et al. the identification of salient peer values may be useful in predicting competencies.

Summary

This section reviewed theoretical models of perceived social support (Barrera, 1986; Lakey & Cassady, 1990; Lakey & Dickenson, 1994; Procidano & Walker-Smith, 1997; Sarason, Pierce & Sarason, 1990) that encompass both cognitive and attachment perspectives. Explanatory models of perceived social support were also identified and these included both the buffering hypothesis and the main effect model (Barrera, 1986; Cohen & Wills, 1985). Factors specific to adolescent samples were given emphasis

(Barrera & Li, 1996; Cauce et al., 1996; Sandler et al., 1989). Finally, empirical articles assessing the relationship between perceived social support, life stress and adolescent samples were reviewed. These studies provided a means to predict the anticipated relationship between types of perceived social support and subsequent resilience.

As established by Compas (1987) the review of empirical articles generally identified a main effect of perceived social support on outcome; however, the buffering hypothesis was not consistently established. Researchers identified more consistently a variable outcome based on a multiple factors inclusive of individual differences and contextual indices. Moreover, the measures of adaptation selected impacted outcome, as demonstrated by a lack of consistency between established findings in similar high-risk studies. As previously noted, Luthar (1993) found that resilient adolescents have been shown to exhibit psychological distress. Or, said in another way, alternate competencies can be endorsed despite psychological distress. Thus, confining the buffering hypothesis to one or two outcome variables may preclude the establishment of other competencies and underestimate the buffering hypothesis.

Cauce and colleagues have established a series of studies that assess competencies as outcome in high-risk samples (Cauce et al., 1982; Cauce et al., 1992; Cauce et al., 1996). These contributions were built upon in this analysis through the inclusion of all the competencies outlined by Masten et al. (1995) as having salience in adolescence. Additionally, the review identified a variable impact for differing types of perceived social support (e.g., friends, family and school) especially in high-risk samples (DuBois et al., 1992; DuBois et al., 1994). The influence of external sources of support on resilient youth has been consistently established (Blum, 1998; Garmezy, 1988; Werner & Smith,

1982), and additional research suggests the changing influence of perceived support based on developmental level and the identified problem (Barrera & Li, 1996). Thus, including measures of peer and school perceived support, in addition to family perceived support, more broadly assessed support perceptions that impact resilience.

Personal Goal Strivings

Just as there has been a lack of emphasis on competencies, there has also been less focus on "positive life contexts" in relationship to perceived social support (Procidano & Walker-Smith, 1997, p. 103). Personal strivings provide an example of a positive life context (Emmons, 1986). Emmons (1986) described personal strivings not as a particular goal, but instead as a "unifying concept" that serves as a theme that is supported by various actions and goals (p. 1059). Thus, the personal striving is an overarching conceptualization of the individual's purpose, and the goal is the means of actualizing the purpose. Emmons proposed that the personal strivings are further delineated according to dimensions (e.g., value or commitment) (p. 1059).

Personal strivings are distinguished from motives, although the distinction is subtle. Emmons (1989) describes motives (based on the work of McAdams, 1985; McClelland, 1985, and Winter & Stewart, 1978) as striving for "a general class of incentives that are highly fused with affect" (p. 95). Personal goal strivings identify the various individual forms of striving to achieve a particular motive (Emmons, p. 95). More clearly, the individual identifies a particular general motivating force as having personal importance. Thus, one could identify intimacy, affiliation or achievement as having personal value. The fulfillment of these more general aspirations is subsequently attempted through any number of individualized goal strivings (Emmons, 1989). Emmons and McAdams (1991)

later studied the links between personal strivings and motives, and found that "personal strivings are motivational, in that they reflect motivational tendencies or thematic lines" (p. 652).

Emmons and colleagues (Emmons, 1986, 1991, 1992; Emmons & King, 1988) have conducted research to further understanding of the relationship between personal strivings and well-being. Emmons (1986) investigated the relationship between personal strivings and subjective well-being in a sample of 40 undergraduates, and described the obtained associations with both positive and negative affect. The aspects of striving that were most related to positive affect included value, past fulfillment and effort (p. 1064). Alternatively, if the striving was considered unlikely to be achieved, had "low instrumentality" (i.e., how much one striving impacts other strivings) or if it evoked an ambivalent response, it was more strongly associated with negative affect (p. 1064). Finally, respondents who thought their strivings were valuable, important, not conflicted and had a high likelihood of success, were more satisfied with their life. Emmons purported that personal strivings, as opposed to personality traits, may best indicate subjective well-being. Later research (Emmons & King, 1988) followed up on the relationship between conflict and ambivalence and corresponding psychological and physical adjustment. Similar results were found, as conflict and ambivalence were again associated with negative effect.

Additional research on personal strivings has assessed the level of striving (e.g., whether it was abstract or concrete) and subsequent physical/psychological well-being (Emmons, 1992). Emmons investigated this distinction using three samples of respondents. These samples included both undergraduate students and married couples.

The respondents who had higher-level, or more abstract strivings, were found to report more psychological distress, but not as much physical distress. Alternately, respondents with low level strivings had more physical distress, but less psychological distress. According to Emmons, the disparity could be explained in several ways. As an example, it is possible that high level strivers have personal goal strivings that are more central to their self-definition. Thus, that individual is likely to spend more time considering his or her strivings and have awareness of striving conflicts. Those with low level strivings may not be aware of striving conflict, and not experience psychological distress. Instead, physical distress is experienced (Emmons, 1992, p. 298). It is of note that in some resilience studies those youth identified as resilient also experienced emotional distress (Luthar, 1993). The resilient youth may be similar to the high level strivers in that their manifest competence, or striving, is not without some negative impact.

Research assessing the relationship between available resources, personal strivings and subjective well-being helps to further delineate the relevance of personal goal strivings to well-being (Diener & Fujita, 1995). Diener and Fujita (1995) identified several relationships that suggest the importance of both social resources to individual strivings and subsequent well-being. The authors found that personal characteristics and social relationships were predictive of subjective well-being. As examples, family support predicted life satisfaction, romantic relationships were correlated with positive affect and self-confidence was associated with subjective well-being (Diener & Fujita, 1995). Material possessions, on the other hand, were not predictive of subjective well-being. Overall, the cumulative assessment of resources best predicted subjective well-being.

Despite this general finding, Diener and Fujita noted that the possible relationship between a specific goal striving, available supportive resources and well-being. Their results suggested that those individuals with resources supporting a given goal striving have increased levels of subjective well-being.

The findings of Diener and Fujita (1995) highlight the distinction made between types of well-being (Ryan & Deci, 2001), with one focusing on a feeling state (hedonism) versus the seemingly broader category of well-being that targets life goals and personal meaning (eudaimonism). Ryan and Deci (2001) suggest that well-being may implicate aspects of each extreme category. With regard to the results found by Diener and Fujita, the lack of impact materialist aims had on subsequent well-being suggests that an eudaimonic perspective was endorsed.

Personal Goal Strivings in Relation to Perceived Social Support

There are several aspects to the concept of affiliation goal strivings that seem affected by, or related to, perceived social support. Emmons (1996) has given consideration to research assessing the relationship between achievement and affiliation strivings. Emmons, in reference to the dissertation work of King (1991), noted the conflict between achievement and affiliation strivings, and further identified the potential that these two types of strivings may be considered by an individual to be mutually exclusive. Such conflict may be associated with lowered perceptions of social support, as identified by Emmons and Colby (1995) in a college-based sample. More specifically, the researchers found that students who were ambivalent over expressing emotion and feared intimacy were more likely to be identified by lower perceived support (p. 955). Emmons and King (1988) regarded perceived support as, “an important contributor to the link

between emotional conflict and well-being. An individual's negative perceptions and attitudes toward social support play an important role in reporting lower well-being" (p. 956). Alternately, development that is not conflictual, and thus results in the successful integration of power and intimacy strivings, may potentially lead to "generativity" in adulthood (Emmons, 1996, p. 328).

Emmons (1991) investigated personal strivings in terms of a broader framework that delineated the specific strivings in terms of the overarching concepts of achievement, affiliation, intimacy and power. The overall objective in this investigation was to assess the relationship between strivings, life events and subsequent well-being. The framework used also provided a means to investigate the relationship between the concepts of affiliation and intimacy. The terms affiliation and intimacy were differentiated according to a coding system from the Thematic Apperception Test (Murray, 1943). Intimacy referred to characteristics such as the desire for closeness, sharing, or being with others; whereas, affiliation concerns focused more on acceptance or rejection in interpersonal relationships (Emmons, 1991, p. 459). While these terms are not exchangeable with the construct of perceived social support it is thought that examination of affiliation and intimacy concepts would suggest the role that perceived social support might play in relationship to goal strivings.

Emmons (1991) found that power strivings, affiliation strivings and daily events had the greatest impact on well-being. Power strivings had a negative impact on well-being, whereas, affiliation strivings had a positive impact. However, there was no significant relationship found between personal strivings, life events and well-being. Within subject analysis, on the other hand, identified a positive relationship between affiliation/intimacy

strivings and interpersonal events. Achievement strivings were not similarly related to interpersonal events. Emmons noted, “Individuals do appear to experience affect in their lives in relation to events that impinge upon their personal strivings….However, individuals high in different types of strivings do not necessarily experience greater levels of positive or negative affect if they have a large number of events in a striving-related domain” (p. 466). Thus, life events that impact any given striving domain do not necessarily result in diminished well-being. These findings both highlight the relevance of affiliation strivings for well-being, and the potential for adaptation despite adverse events impacting some goal strivings.

Additional research projects have assessed the relationship between social support and personal goal strivings (Ruehlman & Wolchik, 1988; Walker-Smith & Procidano, 1998). Ruehlman and Wolchik (1988) assessed the relationship between personal goals, interpersonal support and hindrance in a sample of undergraduates. The researchers found a positive relationship between support for an individual's project and psychological well-being. Conversely, Ruehlman and Wolchik (1988) did not find a relationship between project support and distress. The authors suggested that the findings may identify the benefit of direct project support, or that the support imbues the project with value and thus fosters subsequent well-being.

Similarly, Walker-Smith and Procidano (1998) studied the relationship between social support and personal goal strivings in relationship to a larger research question (support versus nonsupport in relation to psychological well-being or distress). Walker-Smith and Procidano identified increased well-being when a sample of undergraduates obtained support of their personal strivings. Several mediating effects were also

established by Walker-Smith and Procidano: Perceived family support mediated goal striving support and well-being, goal striving support mediated striving value and well-being, and striving nonsupport and subsequent distress was also mediated by perceived family support (p. 82).

The research discussed thus far has focused on personal goal strivings as examined in undergraduate or adult samples; however, the relationship between perceived social support and associated concepts (e.g., meaningful involvement in instrumental activity or goals) have been assessed with adolescent samples (Maton, 1990; Wentzel, 1994, 1998). Wentzel's work specifically targets the relationship between goals and perceived social support; however, her focus is explicitly on school motivation. Motivation was assessed by measures assessing school and class interest, "academic goal orientation" and "social goal pursuit" (Wentzel, 1998, p. 202). While not directly analogous to personal goal strivings, it is thought that Wentzel's research may suggest the relationships between perceived social support and personal goal strivings in an adolescent sample.

Wentzel (1998), using a sample of 167 predominantly Caucasian, middle-class adolescents, studied the relationship between perceived social support from parents, teachers and peers and school motivation. Wentzel proposed two alternate explanatory models, based on the work of Cohen and Wills (1985) and Deci (1992). The first model proposed that social support could have a buffering function on stressful life events, which, in turn, allows for increased motivation (Wentzel, 1998). Alternately, the second model is based on the premise that social support simply facilitates motivation regardless of stress. The results of Wentzel's (1998) investigation established that different sources of support impacted different goals. More specifically, parental perceived support was

predictive of academic goals, while teacher perceived support was related to classroom goals. Peer perceived support was related to prosocial goals (p. 207). Regarding the competing explanatory models, Wentzel found that the buffering hypothesis was only supported for the motivational outcome of school interest, and not for the other motivational outcomes assessed (i.e., classroom interest, responsibility goal pursuit and mastery goal orientations).

Social goals have been investigated more specifically (Wentzel, 1994). Wentzel (1994), using a sample of 475 young adolescents, assessed the relationship between goals and social acceptance, as well as the association between social goals and perceived social support. The latter association is relevant to the current investigation, although it differs in that the goals are specific to social goal pursuit (e.g., prosocial/socially responsible behavior). Wentzel identified personal goals in this study as "those things that an individual would like to achieve or accomplish in a given situation" (p. 173). The results indicated that perceived support from both peers and teachers were predictive of social goal pursuit. Perceived social support from teachers was also shown to predict academic responsibility (p. 180). Wentzel thus suggested that the sense of belonging may, in turn, influence goal selection.

Whereas Wentzel's research focus delineated specified areas of goal pursuit, Maton (1990) used a broader framework through the identification of meaningful instrumental activity. Maton's research addressed the relationship between meaningful activity, perceived social support and well-being in a sample of 92, predominantly African American, high-risk adolescents. Forty-six of the respondents were school dropouts, and another 32 were pregnant teens. Meaningful instrumental activity, in this study, was

defined as “task or skill related activity which has positive significance or value to the individual involved” (Maton, 1990, p. 298). Maton found that while meaningful activity was significantly related to both perceived social support from friends and life satisfaction, it was not similarly related to perceived family support. Alternately, both perceived support from friends and family were related to life satisfaction.

Maton (1990) further assessed the relationship between meaningful instrumental activity, perceived social support and continued school enrollment. Because of the limitations of the sample this relationship was only assessed with African American males. Maton found that both instrumental activity and friend support were associated with self-esteem in those respondents who remained in school. Respondents who dropped out of school, on the other hand, were not characterized by a similar association.

Summary

In this section the personal goal striving construct was reviewed and empirical research presented. Personal goal strivings have been shown to be related to well-being; however, the association varies based on value, past fulfillment and effort (Emmons, 1986), conflict or ambivalence (Emmons & King, 1988), and striving level (Emmons, 1992). Personal goal strivings appear to be associated with perceived social support in two ways. First, perceived social support of personal goals has been shown to be associated with increased well-being (Ruehlman & Wolchik, 1988; Walker-Smith and Procidano, 1998). Second, the type of striving selected has been shown to impact well-being: Personal strivings related to affiliation are associated with increased well-being (Emmons & King, 1988). Personal goal strivings have not yet been assessed in relationship to perceived social support with an adolescent sample, although related

concepts have been studied (Maton, 1990; Wentzel, 1998, 1994). These studies identify an association between social support and goals; however, different types of support (e.g., family, peer and teacher) are associated with varied goals.

As previously noted by Freitas and Downey (1998) personally salient goals may be a viable mediating unit in the establishment of a resilient outcome. These researchers, however, further observed that the goals selected might be contextually derived and not necessarily reflective of societal norms. The personal goal strivings construct is a medium for a respondent to report unique, personal goals and thus provides a means for identifying aspects of resilience within the context of an individual's value system.

CHAPTER III

Method

Participants

Participants were recruited from two public high schools. The two schools secured for participation, Bowie High School and Laurel High School, were comparable in terms of school environment. Selection bias is a concern, given this recruitment process, and was considered in terms of the results' generalizability.

Inclusion and Exclusion Criteria

Participants were included if they were currently enrolled at an identified school, and if parental consent and participant assent were obtained. Seniors who were 18-years-old provided their own consent.

Informed Consent

Informed consents and introductory letters were distributed to classes selected for participation within the two participating schools (Appendix A). Parents were asked to complete and return the consents, and only respondents whose parents returned a signed consent were eligible for inclusion in the study.

Instruments

Life Events Checklist

The Life Events Checklist (LEC; Johnson & McCutcheon, 1980) is a forty-six item self-report measure that assesses for life events experienced over the past year. This measure was used as a marker of risk in the adolescent sample. The measure was selected because it distinguished between positive and negative life events and thus ensures that risk has been experienced by the respondent.

Johnson (1986) noted that items 1-18 represent events that the respondent is unlikely to have control over, whereas the remaining items are thought to be more likely to be under the individual's control. Illustratively, item 1 identifies the life event of “moving to a new home,” while item 21 is “joining a new club.” (Johnson, 1986, p. 40). Johnson reasons that those events that are not controllable are less likely to be attributed to other indices of adjustment. Participants are additionally given the opportunity to include events not cited in the instrument. Each item endorsed is further identified by the participant as either good or bad. The impact of the event is further rated on a four-point scale, identifying the event as having either “no,” “some,” “moderate” or a “great” effect on the participant (Johnson & McCutcheon, 1980, pp. 114-115). According to the authors, those events that are thought to be positive are summed and represent a “positive change score” (Johnson & McCutcheon, 1980, p. 114). Likewise, negative events are summed to yield a “negative change score” (p. 114). The summations are based on a scale of 0 to 3, with 0 identifying “no effect,” and 3 “great effect” (Johnson & McCutcheon, 1980, p. 114). For the purposes of this investigation, 4 items were not included in the measure administered, as they were less likely to be under the respondent’s control: # 24 Male: Girlfriend getting pregnant, # 25 Female: Getting pregnant, # 38 Male: Girlfriend having abortion, # 39 Female: Having abortion.

Johnson and McCutcheon (1980) assessed the measure and its associations with psychological distress in a sample of 148 adolescents. The authors found that measures of psychological maladjustment and external locus of control were significantly correlated with the negative change score (p. 119). Alternately, an internal locus of control orientation was significantly correlated with a positive change score. Moreover, neither

change score was related to social desirability, and thus, as purported by Johnson and McCutcheon, is suggestive of the scale's discriminant validity (p. 119).

Brand and Johnson (1982) assessed the scale's test-retest reliability (over a two-week interval) using a sample of 50 adolescent participants. The reported test-retest correlation for the positive life change score was .69, whereas the obtained negative life change score was .72 (Brand & Johnson, 1982, p. 1274). These correlations are considered to identify adequate reliability (Brand & Johnson, 1982). Finally, this measure has been used in similar assessments of high-risk adolescents (DuBois et al., 1992; Gillock & Reyes, 1999; Luthar, 1991).

Mental Health Inventory

The Mental Health Inventory (MHI; Veit & Ware, 1983) is a 38-item measure that assesses for both psychological distress and well-being. Veit and Ware (1983) conducted a factor analysis of the instrument and identified psychological distress and well-being as higher order factors. Lower order factors included anxiety, depression, loss of behavioral/emotional control, general positive affect, and emotional ties. This factor structure was confirmed by Tanaka and Huba (1984).

Veit and Ware (1983) reported that the reliability estimates of the instrument's higher order scales spanned from .92 to .96, whereas, the lower order scales reliability estimates spanned from .83 to .91. The reported stability coefficients ranged from .56 to .64 (Veit & Ware, 1983). Validity data, based primarily on RAND Corporation research, was noted in the scoring manual for the MHI (Davies et al., 1988). According to Davies et al. (1988) previous RAND research has demonstrated that the MHI can be distinguished from “physical and social health factors” (p. 49). Davies et al. (1988), again based on

RAND research, further reported that the MHI has been associated with “life events, social contacts and resources, chronic diseases, acute physical symptoms, and general health perceptions” (p. 49).

Davies, Sherbourne, Peterson and Ware (1988) identified a short form of the MHI that includes five items that assess for overall mental health (MHI-5). The items selected were found to be correlated with the 38-item MHI (r = .95). The shorter version of the instrument will be used in this investigation to operationalize overall mental health.

McHorney and Ware (1995) reported the internal consistency of the MHI-5 to be .89. The researchers further assessed convergent and discriminant validity and found that indicators of physical functioning, physical role and bodily pain yielded lower correlations (.18-.35), while those assessing vitality, social functioning and emotional role were more strongly correlated (.56-.64). Criterion validity was high, with reported correlations ranging from .92-.93 (McHorney & Ware, 1995).

The suitability of this instrument to a sample of adolescents has been established by Ostroff, Woolverton, Berry and Lesko (1996) who conducted a secondary analysis of the subsample of adolescent participants in the RAND Health Insurance Study (Veit & Ware, 1983). Based on a sample of 953 adolescents, the obtained Cronbach's alpha for the Psychological Distress scale was .90. Likewise, the Cronbach's alpha for the Psychological Well-being scale was .90. These scales were negatively correlated. Ostroff et al. further determined that a third grade reading level was necessary to understand the instrument, although a fourth to sixth grade level was necessary to understand certain key words. Thus, the instrument is suitable for use with an adolescent sample.

Perceived Social Support

The Perceived Social Support from Friends and Family (PSS-FR, PSS-FA; Procidano & Heller, 1983) are twenty-item scales that measure either perceived friend or family social support. Based on a sample of 222 undergraduates Procidano and Heller (1983) found that the PSS-FR achieved a Cronbach's alpha of .88, and the PSS-FA obtained a slightly higher Cronbach's alpha of .90. Moreover, based on factor analysis both the PSS-FR and the PSS-FA were found to consist of a single factor (Procidano & Heller, 1983). Social desirability was negatively related to PSS-FR, and while positively associated with PSS-FA it did not account for the relationship between PSS-FA and measures of outcome. DuBois et al. (1994) adapted the PSS scales for assessing perceptions of social support of school personnel. The adapted version was the same as the original scales except that in the place of family or friends the term school personnel was used. DuBois et al. (1994) reported a Cronbach's alpha of .90 with this adaptation.

Procidano (1992) performed a meta-analysis of studies using the PSS-FR and PSS-FA and identified four studies with test-retest reliabilities (over one month intervals) reported. The reported average test-retest reliabilities for the PSS-FA scale was .82, and that for the PSS-FR scale was .79 (Procidano, 1992).

Construct validity has also been reported (Procidano, 1992). Again, based on meta-analysis, the PSS-FA and PSS-FR scales were found to have an average correlation of .31. PSS-FA was correlated to both intangible (r = .30) and tangible (r = .22) support indices within the family network. PSS-FR was correlated to intangible (r = .31) and tangible support (r = .16) within the friend network. PSS-FA was correlated with family environment characteristics, as was PSS-FR, although to a lesser degree. Previous

research has suggested that adolescents are able to adequately understand the questions asked by the instrument (Procidano, 1992). Both of these scales have been used with adolescent samples in studies assessing perceived social support in the context of stress (Licitra-Klecker & Waas, 1993) and high-risk status (DuBois et al., 1992, 1994).

Self-Perception Profile for Adolescents

The Self-Perception Profile for Adolescents (Harter, 1988) is a 45-item measure that assesses the following competency domains: Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Job Competence, Romantic Appeal, Behavioral Conduct, Close Friendship, and Global Self-Worth. Masten et al. (1995) found that five of these dimensions have salience in adolescent development (Scholastic Competence, Social Acceptance, Behavioral Conduct, Romantic Appeal and Job Competence), and so these five areas were assessed. Global Self-Worth is also assessed by the measure, and this was included in the analysis as well.

Harter's measure provides questions that are designed to minimize social desirability, as the inquiry is presented in a manner that implies equal inclusion to either extreme endorsed. For example, an inquiry regarding school work includes both of the following statements: “Some teenagers are pretty slow in finishing their school work,” and “Other teenagers can do their school work more quickly.” The respondent is provided with two potential responses (Really true for me, Sort of true for me) for each extreme presented. The items are scored from 1 to 4, with lower scores identifying lower levels of perceived competency and higher scores representing higher perceived competency (Harter, 1988). Additionally, Harter's (1988) corresponding measure assesses how important the participant perceives any given competency domain (Harter, 1988). Each domain has two

associated importance questions and the average of these scores is used to determine the mean importance score. The mean importance score, in turn, can be used to calculate a discrepancy score (importance score-competence score).

The reported range of obtained Cronbach alphas for the Self-Perception Profile for Adolescents by domain are as follows: Scholastic, .77-.91, Social Acceptance, .77-.90, Romance, .75-.85, Conduct, .58-.78, and finally, Job Competence, .55-.93. A factor analysis identified that each domain was a separate factor. The scale is considered appropriate for 9^{th}-12^{th} grades (Harter, 1988), and the measure has been used in a study of adolescent resilience (Masten et al., 1995) and perceived social support (Cauce et al., 1992; Cauce et al., 1996).

Striving Assessment Scales

Striving Assessment Scales (SAS; Emmons, 1986) are presented by Emmons as dimensions along which personal strivings are assessed. The scales include dimensions of value, ambivalence, commitment, importance, effort, difficulty, causal attribution, social desirability, clarity, instrumentality, probability of success, confidence, impact and probability of no action (Emmons, 1986, p. 1060). The majority of the scales consist of five-point scales; however, two (probability of success and probability of no action) are measured on nine-point scales. A rating of "1" identifies a low probability of fulfillment, happiness and so on, whereas, a "5" demarcates the opposite. Based on a sample of forty undergraduate students, Emmons (1986) reported both the one-month and three-month stability coefficients. The reported stability coefficients for the value dimension at 1-month and 3-month intervals were .73 and .62, respectively. The stability coefficients for the 1-month and 3-month intervals for the effort dimensions were .57 and .46. Finally, the

reported stability coefficients for the social desirability dimension at the 1 and 3-month intervals were .91 and .70. Emmons noted that such stability findings were high when the variable nature of an individual's goal striving is considered. Additional validity measures have not been reported.

The SAS have been adapted and used with an adolescent sample in one identified study (Tuss, 1994). Tuss conducted focus groups to establish modified sentence stems more appropriate for adolescents. Illustratively, “How much joy or happiness will you feel if you are successful in meeting your objectives?” was altered to read, “How happy will you be if you meet your goals?” Based on the pilot study three factors were identified, these included instrumental value, probability of success and conflict (Tuss, 1994). This factor structure was noted by Tuss to be similar to that identified in Emmons' analyses (Emmons & King, 1988).

Participants were asked to identify and evaluate their most important goal striving within the past month using the modified sentence stems tested by Tuss (1994). The goal strivings assessed were “value,” “effort,” and “social desirability”. Value has been considered to have potential relevance to the relationship between goal strivings and perceptions of social support (Ruehlman & Wolchik, 1988; Walker-Smith & Procidano, 1998). Effort was thought to potentially tap the adverse circumstances experienced by resilient youth that might impact their experience of goal pursuit. Pragmatically, all these terms were modified and tested by Tuss, and thus have been previously used with an adolescent sample.

Socioeconomic Status

Parent occupation, parent education and descriptive information was obtained via a

demographic self-report designed for the study (Appendix B). Hauser (1994) recommends the usage of multiple indices of SES in child studies inclusive of such indices as parent education, occupation and income. Both occupational prestige and parental education were assessed for in this investigation.

The Duncan SEI (Duncan, 1961) was elected to measure socioeconomic status based on the work of Mueller and Parcel (1981). The Duncan code was based only on a general description of parental occupation and thus a simplified scoring system for major occupational categories was used to determine the assigned score (Mueller & Parcel, 1981). The Duncan SEI and highest educational level reported were highly correlated (r (138) = .65, p <.01); however, the Duncan SEI was not coded for many participants given missing data. Thus, parental educational level was used in the data analyses.

Procedure

The respondents whose parents consented to participation received a packet of measures that were administered during the scheduled class. The measures were sequenced as follows: (a) Assent, (b) Competencies, (c) Life Events, (d) Perceived Social Support, (e) Personal Goal Strivings, (f) Mental Health Inventory, and (g) Demographics. All of the measures were coded numerically, and the assents with identifying information were separated from the completed data packets. In general, the less sensitive measures were administered first, and those with potentially greater emotional salience last to ensure completion of all measures (Rosenthal & Rosnow, 1991). However, the difficulty of the measure was also taken into consideration when sequencing the instruments. Thus, the first two instruments administered were more time consuming and complicated than the other measures employed. The measures that require verbal explanations (i.e.,

measures of personal goal strivings and competencies) were explained following the completion of the assent form. Upon completion of all instruments the participants were debriefed and a handout describing the fundamental concepts associated with the study was provided (Appendix C). Finally, participants were given the opportunity to ask any questions or voice any concerns they might have had with the procedure. When data collection was completed four students were randomly selected and each received a $50 prize.

CHAPTER IV

Results

The results are described both in terms of descriptive and inferential statistics. The descriptive statistics are first presented, followed by an analysis of each of the hypotheses initially proposed.

Descriptive Statistics

The participants (N = 166) were predominantly female (71%), with only 48 (29%) male respondents. With regard to ethnicity 38% of the sample was Caucasian, 31.9% Hispanic, 12% African American, 3.6% Asian American, 12.7% Other, and 1.8% did not report ethnicity. The mean age of those assessed was 15.8 (SD = 1.29). Educational level of the family was additionally assessed, with 12% having less than a high school degree, 22.3% were high school graduates, 22.3% had some college or an associates degree, 26.5% had a college degree and 14.4% had an advanced degree. The Duncan SEI mean score (M = 51, SD = 20) suggested that the average occupational status of the sample was middle class. Given the sites of data collection (Bowie and Laurel), and the imprecision of the participants' reports of their parents' jobs, it is thought that the sample may be closer to lower middle class, and represent an upwardly striving sample. Equally, although not assessed specifically, neighborhood factors, such as exposure to violence and crime and the quality of the environment itself, may have contributed to the participants' overall stress (Luthar, 1999). Finally, family factors may well have contributed to overall stress. Examples of potential family factors may include single-parent households, divorce, parental arguments and job loss/monetary concerns. While not explicitly assessed, a review of the life events reported suggests that these types of

experiences were not uncommon for the adolescents studied. The means and standard deviations of the variables assessed in the study (e.g., perceived social support and competency variables) are noted in Table 1.

To place these results in perspective a brief review of previously published normative data is considered. Procidano (1992) reported the following means for two adolescent samples: $M = 11.71$, $SD = 5.5$ and $M = 11.62$, $SD = 5.33$. The Perceived Social Support of Family mean score obtained in this study was lower than and significantly different from the average of the means previously reported by Procidano (1992) (t (165) = -3.717, $p = .00$). Johnson and McCutcheon (1973) reported normative Negative Life Events data with adolescents ($M = 5.46$, $SD = 5.51$). The mean Negative Life Events score from this investigation exceeded this normative data; however, outliers appear to have inflated the mean. As examples, the five highest negative life scores ranged from a score of 35 to a score of 66. Nevertheless, 40.6% of the participants reported higher stress scores than the normative data presented by Johnson and McCutcheon (1973). Harter (1988) reported the means and standard deviations for the competency variables based on four samples broken down by grade level. She reported that “the means fluctuate around the value of 2.9, which is above the midpoint of the scale” (p. 13). The competency scores in this sample were somewhat lower than this, with the exceptions of social and job competencies.

Table 1

Descriptive Statistics of Variables Assessed

Variable	*N*	*M*	*SD*	Range	Skewness	Kurtosis
Scholastic Competence	165	2.75	.644	1.3-4	.075	-.829
Social Acceptance	165	2.99	.613	1.3-4	-.241	-.529
Job Competence	165	3.07	.580	1.2-4	-.344	-.158
Romantic Appeal	165	2.57	.727	1-4	-.154	-.544
Behavioral Conduct	165	2.63	.672	1-4	.098	-.479
Global Self Worth	165	2.77	.763	1-4	-.362	-.510
Positive Life Events	160	9.04	6.04	0-33	.919	1.42
Negative Life Events	160	11.9	10.2	0-66	1.87	5.35
PSS-Friends	166	13.0	4.56	0-20	-.628	-.272
PSS-Family	166	9.99	5.78	0-20	-.007	-1.16
PSS-School Personnel	166	5.56	4.41	0-18	.686	-.369
Goal Strivings Value	166	4.27	.736	2.5-5	-.649	-.666
Goal Strivings Effort	166	4.24	.882	1-5	-1.03	.555
Goal Strivings Social Desirability	166	3.86	1.09	1-5	-.671	-.304
Overall Mental Health	165	19.0	4.59	8-28	-.264	-.635

Note. Negative Life was observed to have a kurtosis value that exceeded normality. The variable was transformed [*LN* (Neglife + 1)] for data analysis (*M* = 2.26, *SD* = .820).

The means and standard deviations of the Importance Scores obtained from Harter's (1988) Self-Perception Profile for Adolescents were also calculated, as were the average discrepancy scores (Importance Score - Reported Competency Score). The Importance Scores indicated which competency areas the adolescents identified as the most important. The mean Importance Scores were as follows: Scholastic Competence (*M* = 3.5, *SD* = .65), Social Acceptance (*M* = 2.5, *SD* = .84), Job Competence (*M* = 3.4, *SD* = .65), Romantic Appeal (*M* = 3.4, *SD* = .65) and Behavioral Conduct (*M* = 3.1, *SD* = .73). As can be seen, Scholastic Competence had the highest average importance score; however, it also had one of the larger average discrepancy scores reported (*M* = -.74).

Thus, the importance assigned to scholastic success was not matched with equivalently high levels of reported competency. Romantic Competence had the largest average discrepancy score overall (-.79). The remaining areas of competence had modest average differences between the competence and importance scores which are as follows: -.44 (Behavioral Conduct), .45 (Social Acceptance), and -.29 (Job Competency).

Inferential Statistics

Before reporting the results of the major hypotheses tested, the intercorrelations between the measures of competence, stress, perceived social support and personal goal strivings are presented (see Table 2). Correlations of particular note are briefly highlighted. Perceived Social Support from Family was significantly correlated with the following outcome measures of competence: Social Acceptance (r (164) = .24, p <.01), Romantic Appeal (r (164) = .17, p<.05), Behavioral Conduct (r (164) = .18, p < .05), Global Self-Worth (r (164) = .33, p < .01), and Overall Mental Health (r (164) = .42, p <.01). Thus, perceived family support was associated with the broadest range of competencies. Perceived Social Support from Friends was significantly correlated with the following outcome measures: Social Acceptance (r (164) = .37, p <.05), Job Competence (r (164) = .18, p <.05), Romantic Appeal (r (164) = .16, p <.05), and Global Self-Worth (r (164) = .16, p <.05). Perceived Social Support from Friends was also significantly correlated with Personal Goal Striving-Value (r (165) =.17, p < .05). These associations suggest that friend support appears to also be associated with an array of competencies, perhaps with an emphasis on socially oriented domains. Perceived Social Support from School Personnel was significantly correlated with the outcome measure Behavioral Conduct (r (164) = .22, p <.01), suggesting that school support has a more

circumscribed range of influence.

Hypotheses

The assumptions required for regression analyses were assessed, and, in general, the assumptions for linearity, normality, constant variance and independence of observations were met. However, the Negative Life Events variable was impacted by extreme outliers. This variable was transformed for analysis *[LN* (Negative Life Events + 1)]. The Skewness statistic for the transformed Negative Life Events variable was -.428 and the Kurtosis statistic was .159, thus suggesting that the transformation attenuated the influence of the outliers. Missing data was addressed via listwise deletion in the hierarchical regression analyses. Missing data was not substantial in this sample, and no more than 9.1% of data was missing for any given analysis.

Hierarchical regression analysis has been frequently used in resilience research (Luthar, 1993; Luthar & Cushing, 1999; Luthar & Zigler, 1991; Garmezy et al., 1984) to establish respondents who are identified both by high stress and high competency through the analysis of interaction terms. Luthar and colleagues suggest that the analysis include both main and interaction effects in the regression model. The majority of variables used were continuous; however, ethnicity and gender were dummy-variable coded. Apriori ordering of the variables is based on Cohen and Cohen's (1983) suggestion that variables be added to the equation based on “causal priority” (p. 121). Thus, demographic variables that may contribute to the variables of interest in the study were added first, and the focal variables were prioritized on the basis of theoretical considerations. The predictor variables were entered into four different regression equations for each dependent variable; the steps in which the data were entered are noted in Table 3. The decision to

include ethnicity in the risk set, as opposed to the demographic set, was made to assess a broader range of possible risk. Luthar and Cushing (1999) suggest that a broader assessment of risk indices may represent more of the actual risk experienced, and ethnicity has been shown to be associated with risk factors (Hernandez, 1997; Garmezy, 1991).

Table 2

Intercorrelations of Measures of Competence, Overall Mental Health, Negative Life Events, Perceived Social Support and Personal Goal Strivings

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Scholastic															
2.	Social	.228**														
3.	Job	.112	.364**													
4.	Romantic	.104	.268**	.102												
5.	Conduct	.346**	.086	-.056	.120											
6.	Worth	.394**	.366**	.134	.387**	.403**										
7.	PosLife	-.033	.163*	.183*	.099	-.070	-.015									
8.	NegLife	-.275**	.053	.097	.081	-.266**	-.307**	.410**								
9.	PSSFR	.059	.372**	.178*	.164*	-.001	.163*	.153	.122							
10.	PSSFA	.071	.236**	.073	.169*	.183*	.334**	.106	-.189*	.243**						
11.	PSSSP	-.050	.116	.075	.018	.216**	.042	.131	.066	.207**	.245**					
12.	PGSVAL	.064	.137	.102	.020	.086	.108	.109	.106	.174*	.037	.005				
13.	PGSEFF	.088	.226**	.117	.008	.078	.144	.129	.149	.101	.144	.059	.329**			
14.	PGSSD	.082	.207**	.065	.065	.055	.090	.179*	.102	.122	.136	.019	.169*	.087		
15.	OMH	.173*	.285**	.157*	.120	.151	.506**	.036	-.302**	.121	.418**	.114	-.049	-.027	.133	

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

Note. The full variable labels are as follows: Scholastic Competence, Social Acceptance, Job Competence, Romantic Appeal, Behavioral Conduct, Global Self-Worth, Positive Life Events, Negative Life Events, Perceived Social Support-Friends, Perceived Social Support-Family, Perceived Social Support-School Personnel, Personal Goal Strivings-Value, Personal Goal Strivings-Effort, Personal Goal Strivings-Social Desirability and Overall Mental Health.

Table 3

Apriori Predictor Variable Entry for Hierarchical Multiple Regression Analyses

Predictors	Model 1	Model 2	Model 3	Model 4
Set 1: Demographics				
1.	Age	Age	Age	Age
2.	Gender	Gender	Gender	Gender
Set 2: Risk Factors				
3.	Ethnicity	Ethnicity	Ethnicity	Ethnicity
4.	SES	SES	SES	SES
5.	Stress	Stress	Stress	Stress
Set 3: Social Support or Goal Strivings				
6.	PSS-Family	PSS-Friends	PSS-School	Goal Strivings
Set 4: Interaction				
7.	PSS-FA×Stress	PSS-FR×Stress	PSS-SP×Stress	PGS×Stress

Note. The full names of the variables in the interactions listed are as follows: Perceived Social Support-Family, Perceived Social Support-Friends, Perceived Social Support-School Personnel and Personal Goal Strivings.

Hypothesis 1 Findings: Compensatory Resilience (Perceived Social Support-Family). The first hypothesis focused on the Perceived Social Support from Family and Negative Life Events variables. It was proposed that a compensatory model of resilience would be identified for the following outcome variables: Social Acceptance, Global Self-Worth, Overall Mental Health and Job Competence. The compensatory model is described by Garmezy et al. (1984) as an additive model in which the combination of stress and individual qualities predicts competence. Thus, a compensatory model would be identified by a significant main effect, as well as significant beta weights associated with Perceived Social Support from Family (positive beta weight) and Negative Life Events (negative beta weight).

The findings with Social Acceptance as the outcome variable will be first reviewed.

Table 4 shows the model-building process in the hierarchical regression analysis with Social Acceptance as the dependent variable. Model 1 only includes the demographic factors (Set 1), Model 2 includes both the demographic factors and risk factors (Set 2), Model 3 includes Set 1, Set 2 and Perceived Social Support (Set 3). Model 4 includes Sets 1-3 and the interaction between Perceived Social Support and Negative Life Stress (Set 4). The model building process is similar throughout the presented hierarchical regression analyses that follow. Model 3 was assessed to identify the presence of a significant main effect, and Model 4 was assessed to identify a significant interaction effect.

Table 4

Hierarchical Multiple Regression Analysis of the Dependent Variable Social Acceptance Regressed on the Predictor Perceived Social Support from Family (N = 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.06	-.04	-.03	-.00
Gender	.06	.04	.07	.06
Set 2: Risk Factors				
White		-.09	-.11	-.10
Hispanic		-.01	-.04	-.05
Black		-.02	-.05	-.02
Parental SES		.13	.10	.09
Negative Life Events		.02	.07	.32*
Set 3: Social Support				
Perceived Social Support-Family			.27**	.70**
Set 4: Interaction				
PSS-Family × NegLife	--	--	--	-.48[a]
R^2 Incremental	.01	.02	.07**	.02[a]
R^2 Model	.01	.03	.10	.12

Note. Unstandardized coefficients are reported in Appendix D.
[a] $p = 053$; *= $p<.05$; **= $p<.01$

As can be seen, with Social Acceptance as the dependent variable there is a significant main effect (Model 3), as well as a marginally significant interaction effect

(Model 4). When both an interaction and a main effect are identified, the main effect may be conditional (Aiken & West, 1991). In the presence of an interaction the "lower order term" represents an average value, which differs from a constant main effect (Aiken & West, 1991, p. 102). To avoid misinterpretation the interaction was interpreted instead of the average effect. The interaction between Negative Life Events and Perceived Social Support from Family accounted for 2% of the variance.

The graph of this interaction (Negative Life Events x Perceived Social Support from Family) does not reflect the anticipated relationship often seen in the resilience literature. As seen in Figure 3, individuals with high levels of social support were able to maintain relatively high levels of social competence despite increasing levels of stress. There was some decline in this area under conditions of increasing stress but, overall, it was modest. On the other hand, individuals with low levels of social support reported increasingly greater levels of social competence despite increases in their reported life stress. A possible explanation for this result was that those with low support from family, in general, experienced an increase in social support during times of stress and thus reported higher social competence. It should be kept in mind; however, that this interaction was only marginally significant and may not constitute a real finding.

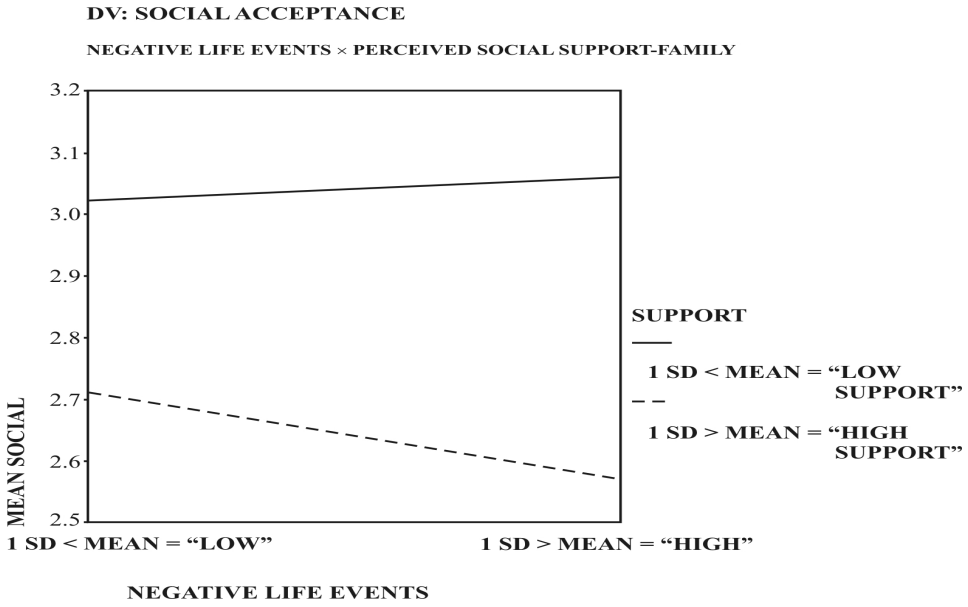

Figure 3. Interaction between Perceived Social Support from Family and Negative Life Events with Social Acceptance as the Dependent Variable.

Table 5 presents the results of the regression analysis with Global Self-Worth as the dependent variable. An examination of the beta weights for Model 3 with this outcome measure shows that the beta weights for Negative Life Events and Perceived Social Support from Family were significant, with 17% of the overall variance explained by the model. Thus, a compensatory model of resilience was identified, which supported the predicted hypothesis.

Overall Mental Health as an outcome variable is next examined. The results of this regression are presented in Table 6. Perceived Social Support from the Family and Negative Life Events both contributed significantly to the outcome variance, as did the interaction between these two variables. The interaction, which contributed 2% to the outcome variance of Overall Mental Health, was interpreted. Overall, 34% of the outcome variance was explained by Model 4.

Table 5

Hierarchical Multiple Regression Analysis of the Dependent Variable Global Self-Worth Regressed on the Predictor Perceived Social Support from Family (N = 151)

Predictors	Model 1 β	Model 2 β	Model 3 β	Model 4 β
Set 1: Demographics				
Age	-.02	-.02	-.01	-.00
Gender	-.18*	-.16	-.12	-.13
Set 2: Risk Factors				
White		-.12	-.14	-.13
Hispanic		-.11	-.03	-.03
Black		-.01	-.02	-.01
Parental SES		-.04	-.07	-.07
Negative Life Events		-.21	-.16[a]	-.08
Set 3: Social Support				
PSS-Family			.30**	.44
Set 4: Interaction				
PSS-Family × NegLife	--	--	--	-.16
R^2 Incremental	.03	.05	.08**	.00
R^2 Model	.03	.09	.17	.17

Note. Unstandardized coefficients are reported in Appendix D.
[a] $p = .053$; * = $p<.05$; **= $p<.01$

The interaction between Negative Life Events and Perceived Support from Family with Overall Mental Health as the dependent variable is presented in Figure 4. The pattern presented does not reflect the relationship commonly depicted in the resilience literature. Instead this interaction showed that those with high levels of Perceived Social Support from Family exhibited higher levels of Overall Mental Health; however, under stress the level of Overall Mental Health decreased sharply. Alternately, those with low levels of perceived support maintained a relatively steady level of Overall Mental Health with only a slight decrease given increased stress. Instead of a protective model in which social support protects against stress, a vulnerability model was depicted. In this instance those with high levels of support appear to be vulnerable to the effects of life stress.

Finally, the findings for the regression analysis with Job Competence as the

dependent variable are reviewed. These are found in Table 7. As can be seen no significant results were established for this outcome measure.

Table 6

Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Perceived Social Support from Family (N = 152)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.24**	-.21**	-.20**	-.17*
Gender	-.14	-.09	-.04	-.05
Set 2: Risk Factors				
White		-.15	-.17	-.16
Hispanic		-.13	-.17	-.18
Black		.08	.04	.07
Parental SES		-.06	-.09	-.10
Negative Life Events		-.26**	-.21**	.04
Set 3: Social Support				
PSS-Family			.37**	.78**
Set 4: Interaction				
PSS-FA × NegLife				-.47*
R^2 Incremental	.08**	.11**	.13**	.02*
R^2 Model	.08	.19	.32	.34

Note. Unstandardized coefficients are reported in Appendix D.
* = $p<.05$; ** = $p<.01$

Summary of Hypothesis 1 Finding. The compensatory model of resilience with Perceived Social Support from Family as a moderator was only established for the outcome variable of Global Self-Worth. While not predicted, interaction effects were obtained between Perceived Social Support from Family × Negative Life Events when Social Acceptance and Overall Mental Health were the dependent variables. Graphs depicting these interactions did not correspond with the pattern of relationships often reported in the resilience literature. Finally, when Job Competence was the dependent variable no significant results were identified. Overall, Hypothesis 1 was partially supported.

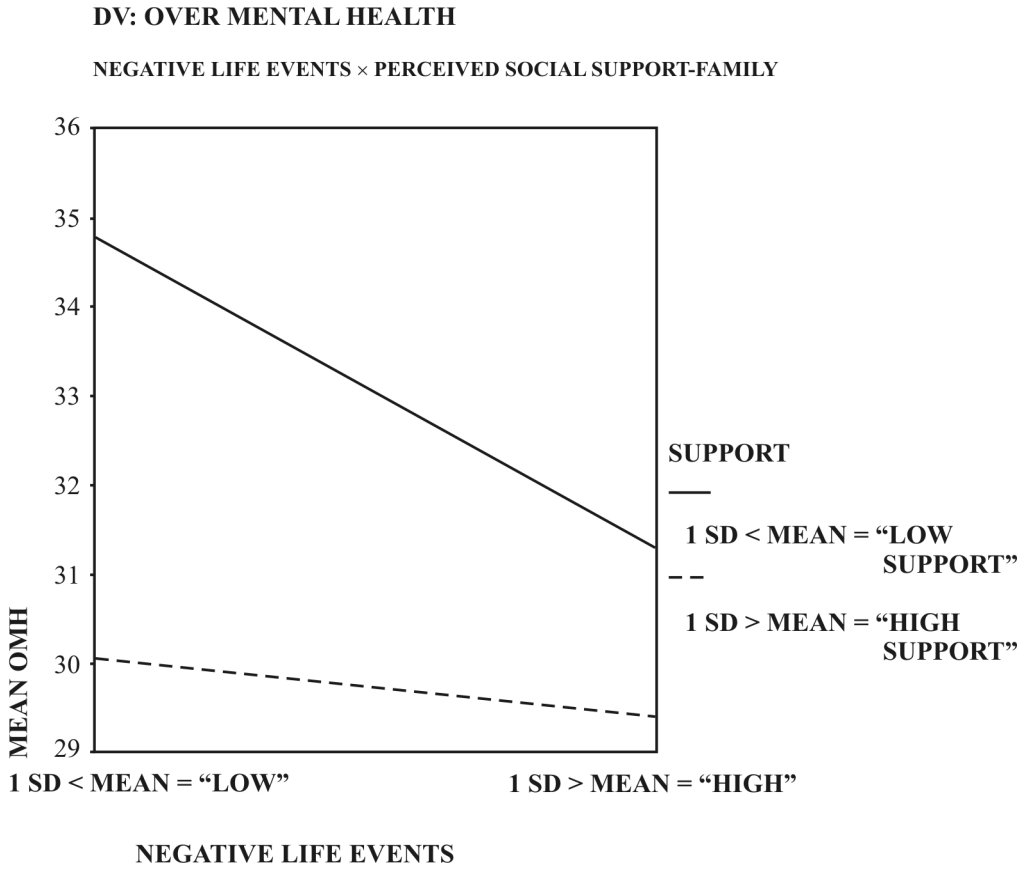

Figure 4. Interaction between Perceived Social Support from Family and Negative Life Events with Overall Mental Health as the Dependent Variable.

Hypothesis 2 Findings: Predicted Resilience Interactions (Perceived Social Support-Family ×Negative Life Events). Hypothesis 2 predicted that the interaction term Perceived Social Support from Family × Negative Life Events would contribute significantly to the outcome variance when Scholastic Competency and Behavioral Conduct were the outcome variables. First the results for Scholastic Competency will be presented (see Table 8).

Table 7

Hierarchical Multiple Regression Analysis of the Dependent Variable Job Competency Regressed on the Predictor Perceived Social Support from Family (N = 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.08	-.05	-.05	-.05
Gender	.01	-.00	.01	.01
Set 2: Risk Factors				
White		-.17	-.17	-.17
Hispanic		-.16	-.17	-.17
Black		.09	.08	.08
Parental SES		.05	.05	.05
Negative Life Events		.09	.10	.06
Set 3: Social Support				
PSS-Family			.06	.00
Set 4: Interaction				
PSS-FA × NegLife	--	--	--	.07
R^2 Incremental	.01	.06	.00	.00
R^2 Model	.01	.06	.07	.07

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

Table 8

Hierarchical Multiple Regression Analysis of the Dependent Variable Scholastic Competency Regressed on the Predictor Perceived Social Support from Family (N= 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.04	.00	.01	.02
Gender	.05	.11	.11	.12
Set 2: Risk Factors				
White		-.17	-.17	-.16
Hispanic		-.16	-.16	-.16
Black		.01	.00	.02
Parental SES		.11	.10	.10
Negative Life Events		-.27**	-.26**	-.10
Set 3: Social Support				
PSS-Family			.03	.30
Set 4: Interaction				
PSS-FA × NegLife	--	--	--	.31
R^2 Incremental	.00	.11**	.00	.01
R^2 Model	.00	.11	.12	.13

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

The only significant beta weight in the regression equation run with Scholastic Competence as the outcome variable was Negative Life Events. In this case 11% of the

outcome variance was explained by Model 2. A significant interaction effect was not identified.

The results with Behavioral Conduct as the outcome variable are next examined (see Table 9). While a significant interaction was not identified for this outcome variable, significant beta weights for both Perceived Social Support from Family and Negative Life Events were obtained and 12% of the outcome variance was explained by Model 3. Thus, while not predicted, a compensatory model was identified with Behavioral Conduct as the targeted outcome variable.

Table 9

Hierarchical Multiple Regression Analysis of the Dependent Variable Behavioral Conduct Regressed on the Predictor Perceived Social Support from Family (N= 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.03	-.03	-.02	-.02
Gender	.00	.02	.04	.04
Set 2: Risk Factors				
White		-.00	-.01	-.01
Hispanic		.10	.09	.09
Black		.21*	.20[a]	.20
Parental SES		-.11	-.12	-.12
Negative Life Events		-.22**	-.20*	-.20
Set 3: Social Support				
PSS-Family			.17*	.16
Set 4: Interaction				
PSS-Family × NegLife	--	--	--	.01
R^2 Incremental	.00	.10*	.03*	.00
R^2 Model	.00	.10	.12	.12

Note. Unstandardized coefficients are reported in Appendix D.
[a] $p = .05$; * = $p<.05$; ** = $p<.01$

Summary of Hypothesis 2 Findings. The interactions between Negative Life Events and Perceived Social Support from Family did not significantly contribute to the outcome variance of Scholastic Competence and Behavioral Conduct. Thus, Hypothesis 2 was not supported.

Hypothesis 3 Findings: Predicted Resilience Interaction (Perceived Social Support from School Personnel ×Negative Life Events). Hypothesis 3 predicted that the interaction term Perceived Social Support from School Personnel × Negative Life Events would contribute significantly to the outcome variance with respect to the following competency domains: Behavioral Conduct, Overall Mental Health and Scholastic Competence. The results with Behavioral Conduct as the dependent variable will first be examined (See Table 10). A significant interaction was not obtained; however, an examination of the beta weights in Model 3 identifies a compensatory model of resilience. Both Perceived Social Support from School Personnel and Negative Life Events contributed significantly to the outcome variance. Overall 13% of the variance was explained by Model 3.

Table 10

Hierarchical Multiple Regression Analysis of the Dependent Variable Behavioral Conduct Regressed on the Predictor Perceived Social Support of School Personnel (N = 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.03	-.03	-.05	-.05
Gender	.00	.02	.00	.00
Set 2: Risk Factors				
White		-.00	-.00	-.00
Hispanic		.10	.12	.12
Black		.21*	.20*	.20*
Parental SES		-.11	-.11	-.11
Negative Life Events		-.22**	-.24**	-.22*
Set 3: Social Support				
PSS-SP			.19*	.23
Set 4: Interaction				
PSS-SP × NegLife	--	--	--	-.05
R^2 Incremental	.00	.10*	-.4*	.00
R^2 Model	.00	.10	.13	.13

Note. Unstandardized coefficients are reported in Appendix D.
* = p<.05; ** = p<.01

The findings with Overall Mental Health as the dependent variable are presented in Table 11. Again a significant interaction was not obtained; however, Model 3 shows a compensatory model of resilience with significant beta weights for Perceived Social Support from School Personnel and Negative Life Events. In this case 21% of the outcome variance was explained by Model 3.

Table 11

Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Perceived Social Support of School Personnel (N = 152)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.27**	-.21**	-.22**	-.21**
Gender	-.13	-.09	-.10	-.09
Set 2: Risk Factors				
White		-.15	-.15	-.16
Hispanic		-.13	-.12	-.13
Black		.08	.07	.06
Parental SES		-.06	-.06	-.05
Negative Life Events		-.26**	-.27**	-.15
Set 3: Social Support				
PSS-School Personnel			.15[a]	.43
Set 4: Interaction				
PSS-School Personnel × NegLife	--	--	--	-.33
R^2 Incremental	.08**	.11**	.02[a]	.01
R^2 Model	.08	.19	.21	.22

Note. Unstandardized coefficients are reported in Appendix D.
[a] $p = .051$; * = $p<.05$; ** = $p<.01$

The regression analysis conducted with Scholastic Competence as the dependent variable did not have any significant results.

Summary of Hypothesis 3 Findings .Hypothesis 3 predicted that the interaction between Perceived School Personnel Support × Negative Life Events would contribute significantly to the outcome variance of Behavioral Conduct, Overall Mental Health and Scholastic Competence. No significant interactions were obtained and so this hypothesis

was not supported. While not predicted, a compensatory model of resilience was identified with the dependent variables of Behavioral Conduct and Overall Mental Health.

Hypothesis 4 Findings: Compensatory Model of Resilience (Perceived Social Support from Friends). Hypothesis 4 focused on the Perceived Social Support from Friends and the Negative Life Events variables. It was proposed that a compensatory model of resilience would be identified for the following outcome variables: Social Acceptance, Global Self-Worth and Romantic Appeal. First the results obtained with Social Acceptance as the dependent variable will be examined (see Table 12).

The only significant beta weight with Social Acceptance as the outcome variable was for Perceived Social Support from Friends. In this case, 16% of the outcome variance was explained by Perceived Social Support from Friends. Thus, a compensatory model was not obtained, as there was only a significant positive linear effect from the Perceived Social Support from Friends.

Table 12

Hierarchical Multiple Regression Analysis of the Dependent Variable Social Acceptance Regressed on the Predictor Perceived Social Support from Friends (N = 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.06	-.04	-.07	-.09
Gender	.06	.04	-.04	-.05
Set 2: Risk Factors				
White		-.09	-.05	-.05
Hispanic		-.01	-.02	-.01
Black		-.02	.09	.10
Parental SES		.13	.07	.07
Negative Life Events		.02	-.00	-.30
Set 3: Social Support				
PSS-Friends			.13**	.16
Set 4: Interaction				
PSS-FR × NegLife	--	--	--	.44
R^2 Incremental	.01	.02	.16**	.01
R^2 Model	.01	.03	.19	.20

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

Next, Global Self-Worth as an outcome variable will be assessed (see Table 13). An examination of the beta weights of Model 3 with the outcome variable of Global Self-Worth identified Negative Life Events and Perceived Social Support from Friends as significant. A compensatory model was obtained given the significance of both Perceived Social Support from Friends and Negative Life Events. Overall, 13% of the outcome variance for Global Self-Worth was explained by Model 3.

Table 13

Hierarchical Multiple Regression Analysis of the Dependent Variable Global Self-Worth Regressed on the Predictor Perceived Social Support from Friends (N= 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.02	-.02	-.04	-.03
Gender	-.18*	-.16	-.20*	-.19*
Set 2: Risk Factors				
White		-.12	-.10	-.10
Hispanic		.00	-.00	-.01
Black		.01	.07	.07
Parental SES		-.04	-.07	-.08
Negative Life Events		-.21*	-.22**	-.03
Set 3: Social Support				
PSS-FR			.24**	.41
Set 4: Interaction				
PSS-FR × NegLife	--	--	--	-.29
R^2 Incremental	.03	.05	.05**	.00
R^2 Model	.03	.09	.13	.14

Note. Unstandardized coefficients are reported in Appendix D.
* = p<.05; ** = p<.01

Finally, when Romantic Appeal was the outcome variable no statistically significant findings were established.

Summary of Hypothesis 4 Findings. A compensatory model of resilience was established when Global Self-Worth was the outcome variable. A compensatory model of resilience was not established when Social Acceptance was the outcome variable;

however, Perceived Social Support from Friends contributed significantly to the outcome variance. There were no significant findings when Romantic Appeal was the outcome variable. Overall, there was partial support for Hypothesis 4.

Hypothesis 5 Findings: Predicted Resilience Interactions (Perceived Social Support from Friends ×Negative Life Events). Hypothesis 5 predicted that the interaction term Perceived Social Support from Friends × Negative Life Events would contribute significantly to the outcome variance of Overall Mental Health. This hypothesis was not supported (see Table 14), and the interaction term did not contribute significantly to the outcome variance. An examination of the beta weights in Model 3; however, does identify a compensatory model of resilience. As can be seen in Model 3, both Negative Life Events and Perceived Social Support from Friends were significant. Overall, 25% of the variance was explained by Model 3.

Table 14

Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Perceived Social Support from Friends (N = 152)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.24**	-.21**	-.22**	-.22**
Gender	-.14	-.09	-.13	-.13
Set 2: Risk Factors				
White		-.15	-.13	-.13
Hispanic		-.13	-.14	-.14
Black		.08	.13	.13
Parental SES		-.06	-.09	-.09
Negative Life Events		-.26**	-.27**	-.24
Set 3: Social Support				
PSS-FR			.24**	.28
Set 4: Interaction				
PSS-FR × NegLife	--	--	--	-.05
R^2 Incremental	.08**	.11**	.05**	.00
R^2 Model	.08	.19	.25	.25

Note. Unstandardized coefficients are reported in Appendix D.
* = p<.05; ** = p<.01

Summary of Hypothesis 5 Findings. No support was found for Hypothesis 5: the interaction between Perceived Social Support from Friends and Negative Life Events was not found to be significant. While not predicted, a compensatory model of resilience was established when Overall Mental Health was the outcome variable.

Hypothesis 6 Findings: Compensatory Resilience (Personal Goal Strivings). Hypothesis 6 focused on the Personal Goal Striving variables (Effort, Social Desirability and Value). It was proposed that a compensatory model of resilience would be identified for the following outcome variables: Overall Mental Health and Global Self-Worth. Separate hierarchical regression analyses were conducted for each goal striving variable.

The goal striving measure asked that the participant identify a single goal striving that he or she was trying to accomplish. Almost half of the goal strivings identified were related to academic success (47.8%). The break-down of other reported goal strivings was as follows: 7.97% were relationship based, 5.52% were associated with job related goals, 12.9 % were associated with psychological health/wellness (e.g., to feel good about self, to live a good life) and 5.52% were identified as other/unrelated (e.g., to purchase a car, to make money, to do well in sports). Finally, 20.2 % of the participants did not identify a particular goal striving.

Each personal goal striving moderator will be examined in turn. First, Personal Goal Striving-Effort is assessed. Personal Goal Striving-Effort contributed to the variance of Global Self-Worth (see Table 15), but did not contribute to the variance of Overall Mental Health. A compensatory model of resilience was supported when Global Self-Worth was the dependent variable, as the examination of the beta weights in Model 3 identified both Negative Life Events and Personal Goal Strivings-Effort as significant.

Overall, Model 3 accounted for 11% of the outcome variance.

Table 15

Hierarchical Multiple Regression Analysis of the Dependent Variable Global Self-Worth Regressed on the Predictor Personal Goal Strivings-Effort (N = 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.02	-.02	-.03	-.03
Gender	.18*	-.16	-.17*	-.17*
Set 2: Risk Factors				
White		-.12	-.09	-.08
Hispanic		.00	-.01	.00
Black		.01	.05	.06
Parental SES		-.04	-.04	-.05
Negative Life Events		-.21*	-.23**	.27
Set 3: Social Support				
PGS-EFF			.18*	.44*
Set 4: Interaction				
PGS-EFF × NegLife	--	--	--	-.62
R^2 Incremental	.03	.05	.03*	.01
R^2 Model	.03	.09	.11	.13

Note. Unstandardized coefficients are reported in Appendix D.
* = $p<.05$; ** = $p<.01$

The results for the Personal Goal Striving-Social Desirability moderator are next examined. In this instance Personal Goal Striving-Social Desirability contributed to the variance of Overall Mental Health, but not to Global Self-Worth (see Table 16). A compensatory model of resilience was established, with both Personal Goal Strivings-Social Desirability and Negative Life Events yielding statistically significant beta weights. Overall, 22% of the outcome variance was explained by Model 3.

Finally, the Personal Goal Striving-Value did not contribute significantly to either outcome variable (Overall Mental Health/Global Self-Worth).

Table 16

Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Personal Goal Strivings-Social Desirability (N= 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.24**	-.21**	-.19**	-.19**
Gender	-.14	-.09	-.11	-.11
Set 2: Risk Factors				
White		-.15	-.12	-.12
Hispanic		-.13	-.14	-.14
Black		.08	.08	.09
Parental SES		-.06	-.06	-.05
Negative Life Events		-.26**	-.27**	.01
Set 3: Social Support				
PGS-SD			.17*	.38
Set 4: Interaction				
PGS-SD × NegLife	--	--	--	-.37
R^2 Incremental	.08**	.11**	.03*	.01
R^2 Model	.08	.19	.25	.22

Note. Unstandardized coefficients are reported in Appendix D.
* = $p<.05$; ** = $p<.01$

Summary of Hypothesis 6 Findings. Hypothesis 6 targeted the Personal Goal Striving variable and predicted that when Overall Mental Health and Global Self-Worth were the identified outcome variables a compensatory model of resilience would be identified. A compensatory model was identified with the goal striving variable Effort and the outcome variable Global Self-Worth. A compensatory model was also identified with the goal striving variable Social Desirability and the outcome variable Overall Mental Health. The goal striving variable Value did not have any statistically significant results.

Hypothesis 7 Finding and Summary. Hypothesis 7 predicted that resilient and nonresilient adolescents would differ significantly with regard to Perceived Social Support from Family, Perceived Social Support from School Personnel, Personal Goal Strivings and all areas of competency assessed. Resiliency was established by determining that the individual was experiencing relatively high stress (>l/2 SD), and at

least average competency in 4 or more domains (e.g., Social Acceptance, Overall Mental Health). Nonresiliency was established by determining that the individual experienced relatively high stress, and did not have at least average competency in 4 or more domains. A total of 51 cases were identified as experiencing higher than average stress, and of the 51 cases 22 were determined to be resilient.

Thirteen T-Tests were conducted with the variables above listed (See Table 17) and of these the following yielded statistically significant differences: Overall Mental Health, Scholastic Competence, Social Acceptance, Job Competence, Romantic Appeal, Behavioral Conduct and Global Self-Worth. Thus, while the competency variables were identified as significantly different between Resilient and Nonresilient individuals, the variables of Perceived Social Support and Goal Strivings were not significantly different. Given the number of t-tests conducted some of the significant differences may have been obtained by chance alone. The total number of cases in the sub-sample (n = 51) was small and may have also impacted the results. It also should be noted that the social support variables were uniformly higher for the resilient youth, than the nonresilient youth. And as previously observed, the family social support mean obtained for this sample was significantly lower than the values reported in other samples.

Hypothesis 8 Findings and Summary. Hypothesis 8 predicted that the Personal Goal Strivings variables would be positively associated with the Perceived Social Support variables. Personal Goal Strivings-Value was significantly correlated with Perceived Social Support of Friends ($r(165) = .17$, $p < .05$). No other significant correlations were identified. Thus, Hypothesis 8 was partially supported.

Table 17

Resilient versus Nonresilient T-Test Results of Study Variables

Variable	Resilient (*n* = 22)		Nonresilient (*n* = 29)				
	M	*SD*	*M*	*SD*	*t*	*df*	*p*[a]
Goal Striving-Value	4.5	.488	4.24	.831	1.39	46.5	.171
Goal Striving-Social Desire	4.0	.926	3.90	1.26	.323	49	.748
Goal Striving-Value	4.45	.858	4.45	.686	.029	49	.977
Overall Mental Health	19.1	5.05	15.6	4.35	2.7	49	.010**
PSS-School Personnel	7.64	5.52	5.41	4.84	1.53	49	.133
PSS-Family	9.91	7.10	7.0	5.39	1.60	37.9	.117
PSS-Friends	14.1	4.26	12.9	4.17	.975	49	.334
Scholastic Competence	2.85	.608	2.24	.421	4.23	49	.000**
Social Acceptance	3.29	.578	2.88	.582	2.53	49	.015*
Job Competence	3.46	.498	2.85	.634	3.71	49	.001**
Romantic Appeal	2.79	.803	2.31	.668	2.35	49	.023*
Behavioral Conduct	2.63	.707	2.26	.545	2.12	49	0.39*
Global Self-Worth	2.97	.499	2.04	.610	5.83	49	.000**

Note. Equality of variances was assumed for all variables with the exception of Personal Goal Strivings-Value and Perceived Social Support-Family. The Levene's Test for Equality of Variances indicated that these variances were not equal (PGS-Value, $F = 10.161$, $p = .002$; PSS-Family, $F = 5.630$, $p = .022$).

[a] Two-tailed.

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

Exploratory Analyses. Exploratory Analysis 1 assessed of the impact of Perceived Social Support from Friends in relationship to Scholastic, Job and Behavioral Conduct competencies. Job Competence was the only additional dependent variable of those assessed for which a statistically significant main effect was obtained (see Table 18).

An examination of the beta weights of the equation run with Job Competence as a dependent variable identifies only Perceived Social Support from Friends as significant and it accounted for 6% of the outcome variance. This represented a positive linear attribute effect, and a compensatory model of resilience was not identified.

Table 18

Hierarchical Multiple Regression Analysis of the Dependent Variable Job Competency Regressed on the Predictor Perceived Social Support from Friends (N = 151)

Predictors	**Model 1** β	**Model 2** β	**Model 3** β	**Model 4** β
Set 1: Demographics				
Age	-.08	-.05	-.07	-.07
Gender	.01	-.00	-.05	-.05
Set 2: Risk Factors				
White		-.17	-.14	-.14
Hispanic		-.16	-.17	-.16
Black		.09	.15	.15
Parental SES		.05	.02	.02
Negative Life Events		.09	.07	-.05
Set 3: Social Support				
PSS-Friends			.25**	.14
Set 4: Interaction				
PSS-FR × NegLife	--	--	--	.18
R^2 Incremental	.01	.06	.06**	.00
R^2 Model	.01	.06	.12	.12

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

Exploratory Analysis 2 assessed all remaining interaction effects not previously tested with each dependent variable. No additional interaction effects, other than those already presented, were identified.

Finally, an unplanned exploratory analysis was conducted to assess the relative impact of the different indices of perceived social support. In this analysis, Exploratory Analysis 3, separate hierarchical regression analyses were conducted for each dependent variable in the study. In these analyses Set 3 included the three variables of perceived social support, and the remaining sets (Set 1 and Set 2) remained consistent with the analyses previously conducted (i.e., Set 1 included demographic variables and Set 2 included risk factors). No interaction was included. Five of the seven dependent variables obtained statistically significant main effects for the perceived social support set. These dependent variables were as follows: Overall Mental Health, Social Acceptance, Global

Self-Worth, Job Competence and Behavioral Conduct. An examination of the perceived social support beta weights shows the relative impact of each support variable in the model. Perceived Social Support from Family had the only positive and significant beta weight ($\beta = .248$, $t = 2.830$, $p = .005$) when Global Self-Worth was the dependent variable, and it also had the only positive and significant beta weight ($\beta = .318$, $t = 4.085$, $p = .000$) when Overall Mental Health was the dependent variable. Alternately, Perceived Social Support from Friends had the only positive and significant beta weight when Job Competence was the outcome variable ($\beta = .259$, $t = 2.817$, $p = .006$), and similarly, it had the only positive and significant beta weight ($\beta = .381$, $t = 4.367$, $p = .000$) when Social Acceptance was the outcome variable. No significant beta weights were identified for any of the support variables when Behavioral Conduct was the identified outcome.

Summary Table of Hypotheses.

Table 19

Summary of the Results for the Proposed Hypotheses

Hypothesis #	**Results (Supported or Not Supported)**
1) A compensatory model of resilience would be identified with Perceived Social Support from Family and the following dependent variables: Social Acceptance, Global Self-Worth, Overall Mental Health (OMH) and Job Competence.	A Compensatory model of resilience was identified with Global Self-Worth; A significant interaction was obtained for OMH, and a marginally significant interaction was obtaining for Social Acceptance.
2) A significant interaction effect would be identified between Perceived Social Support from Family and Negative Life Events with the following dependent variables: Scholastic and behavioral Conduct.	Not Supported
3) A significant interaction effect would be identified between Perceived Social Support from School Personnel and Negative Life Events with the following dependent variables: Scholastic, Behavioral Conduct and Overall Mental Health.	Not Supported
4) A compensatory model of resilience would be identified with Perceived Social Support from Friends and the following dependent variables: Global Self-Worth, Social Acceptance and Romantic Appeal.	A Compensatory model of resilience was established for Global Self-Worth.

5) A significant interaction effect would be identified between Perceived Social Support from Friends and Negative Life Events with the dependent variable Overall Mental Health.	Not Supported
6) A compensatory model of resilience would be identified with Personal Goal Strivings (PGS) and the following dependent variables: Overall Mental Health and Global Self-Worth.	A compensatory model of resilience was identified for Overall Mental Health (PGS-SD) and Global Self-Worth (PGS-Effort).
7) There would be a statistically significant difference between resilient and nonresilient participants' perceived social support, assessed competencies and personal goal striving variables.	A significant difference was obtaining between resilient and nonresilient participants for competency measures.
8) Personal Goal Strivings and Perceived Social Support variables would be significantly and positively associated.	PGS-Value was significantly associated with Perceived Social Support from Friends.

CHAPTER VI

Discussion

Summary

This project assessed adolescent resilience and the protective functions of perceived social support and personal goal strivings on adjustment in the context of risk. Multiple areas of competency were considered in this assessment. In general, the results highlighted the protective effects of both perceived social support and personal goal strivings. However, the findings did not uniformly cohere to the predicted association of outcomes, and in some instances contradicted previous research findings. The processes through which perceived social support and personal goal strivings appeared to protect the adolescents are discussed according to the areas of competency assessed, and an effort is made to understand the results both with regard to this particular sample, and in terms of previously reported findings. The limitations of the study are reviewed in this context and future research directions are identified.

Perceived Social Support and Resilience Findings

Perceptions of family support moderated a range of competency domains and this coincides with much of the reported literature regarding the impact of the family (e.g., Baldwin et al., 1990; Connell et al., 1994; Gallagher, Alvarez-Salvat, Silsby & Kenny, 2002; Masten, 2001; Masten et al., 1999; Neighbors et al., 1993; Werner & Smith, 1982, 1992). Increased levels of family support were found to be associated with higher levels of conduct, self-esteem, social acceptance and overall mental health. Despite the positive impact of family support; however, the adolescents' competency levels were generally not impervious to negative life events. Said another way, perceived family support, while

associated with higher levels of competence, did not appear to buffer the impact of negative life events.

Unfortunately, the protective function of family support perceptions did not extend to either academic or job competencies. This is at odds with other reported findings (Cauce et al., 1992, 1996; Masten et al., 1988). It could be speculated that developmental level may have been a factor in this particular study. For example, Barrera and Li (1996) observed that middle adolescents place greater emphasis on peer support, which in this sample was not associated with academic development. Thus, the potential contribution of family support to academic development might be dampened in contexts in which it is not bolstered by friend support. Similarly, job competency has been shown to be unstable in adolescence and variability in this competency may instead be related to social changes in puberty (Finkelson, 2000). Additionally, this sample reported somewhat lower family support perceptions than previous samples, which may have impacted some areas of competency. It is possible that the kinds of life stress experienced by the participants may have impacted family functioning, or even have been the product of family dysfunction, which, in turn, may have lowered perceptions of family support.

The study did demonstrate that high stress might activate increased social support for typically low support adolescents. Specifically, adolescents who had both low levels of competency and perceived family support appeared to exhibit improved social competency under conditions of stress. A possible explanation for this unanticipated finding is that those with low support from family experienced an increase in social support during times of stress. This suggests that family support perceptions in this instance may have been acting as a “risk activated moderator” serving as an “airbag” to

protect the individual in the high-risk circumstance (Masten, 2001, p. 231). Another possible explanation for the increase in social competence under high stress is that the stressors may have served to strengthen the individual (Rutter, 1985). It has been suggested (Rutter, 1990) that a negative event may serve as an "immunization" whereby the individual is exposed to a given stressor, successfully copes with the difficulty and through that process becomes more able to cope with subsequent stress (p. 186). This type of resilience process may be best tested by a longitudinal study design.

Mental health was particularly influenced by stress in this sample, as under high stress generally high competency/high social support adolescents displayed a decline in overall mental health. Luthar et al. (1993) similarly found that high-stress/high-competence adolescents demonstrated vulnerability in terms of overall mental health. Thus, the finding of a sharp decline in mental health for those with higher levels of family social support may demonstrate a vulnerability to overall mental health that does not necessarily preclude maintained levels of competence in other areas. Those with low levels of perceived family support exhibited lower levels of overall mental health regardless of stress, perhaps indicating that there was no room for any further decline in competency.

Overall, family support perceptions appeared to be associated with a range of competencies. Perceptions of family social support were associated with increased social, overall mental health, self-esteem and conduct competencies. While family support perceptions did not typically appear to buffer against stress, the compensatory model of resilience was supported for several competencies. Thus, an increase in social support was associated with higher levels of competency that declined under conditions of stress.

Despite the generally positive association between support perceptions and competence, some areas of competence (e.g., scholastic and job) did not seem to be impacted by perceptions of family support.

Support from school personnel was associated with better conduct and overall mental health although these competencies were also not impervious to negative life events. Thus, school support, while associated with higher levels of conduct/overall mental health, was also not found to buffer life stress. This finding is inconsistent with some previous studies (e.g., Cauce et al., 1992); however, this inconsistency may be a function of socioeconomic status and/or parental involvement. As an example, Felner et al. (1985) identified school support as salient in a low-income sample, and the average socioeconomic status of this study's sample was estimated to be lower middle income. Thus, one possible reason for school support's relatively modest impact may be related to the life circumstances of the participants. School support may have more of an impact on adolescents who are exposed to greater risk (DuBois et al., 1992, 1994). Alternately, DuBois et al. (1992) proposed that school support may be used in a compensatory manner in the absence of parental support. Thus, the presence of parental support may have precluded the need for school support. It may be that the combination of both lower socioeconomic status and parental support sets the occasion for the increased influence of school support.

The final type of support examined in this study was perceived friend support. Perceived friend support contributed to multiple outcomes including social acceptance, self-esteem, overall mental health and job competency. The compensatory model of resilience was established both for self-esteem and overall mental health competencies.

Similar to the other types of support assessed, increased support from friends was associated with increased esteem and overall mental health; however, the support did not buffer against life stress. On the other hand, job competence and social acceptance were associated with perceived support from friends independent of life stress. Thus, social and job competencies, in the context of friend support, were not influenced by negative life stress.

The findings did not support the expectation that perceived friend support would buffer the contribution of stress to overall mental health. This differs from the results obtained by Gore and Aseltine (1995) who did establish that friend support buffered personal events stress. Gore and Aseltine (1995) had a much larger sample, and examined the contributions of friend support and stress to depression, which may have limited comparability between studies. Additionally, the amount of life stress experienced by participants in this study may have influenced the findings.

While it is interesting to look at the protective impact of perceived friend support, it is equally of interest to identify those competency domains not impacted by support. As examples, both conduct and academic functioning were not associated with friend social support. This corresponds with the findings of O'Donnell, Schwab-Stone and Muyeed (2002), Cauce et al. (1992) and Felner et al. (1985) that identified a possible deleterious association between friend support and academic or behavioral competencies. Those competencies not supported or valued by peers may be negatively impacted.

The relative impact of each type of perceived social support with regard to each competency was assessed as well. It appeared that different types of support had a greater capacity to moderate specific competencies. As an example, perceived social support

from family was found to have a greater capacity to moderate mental health and self-worth; whereas, friend support had a greater capacity to moderate social and job competencies.

In sum, perceptions of social support from family and friends appeared to have a moderate protective impact on a range of competencies. School support had a more narrow range of impact, perhaps explained by the relative amount of risk experienced by this sample. Resilience defined as maintained competence under higher levels of stress was not identified. However, resilience defined as increased competency given higher amounts of perceived social support was established. The adolescents studied were not impervious to life stress, and competencies appeared to decrease under stress. In some cases negative life events appeared to evoke a precipitous decline in functioning (e.g., overall mental health); however, for most competencies the decline was modest and never as extreme as those with low levels of support.

Surprisingly, academic functioning was not moderated by any of the perceptions of social support. Peer values may have had a particular influence with this sample, and may have impacted scholastic competence. However, it is of note that academic success was presented as a salient personal goal by almost half of the adolescents, and was also identified as an important competency. There may be a disparity between individual goals and the perception of their value by the peer culture. Said another way, the adolescents may not be aware that their academic goals are supported by the peer culture.

Personal Goal Strivings and Resilience Findings

It was anticipated that personal goal strivings would aid in the establishment of a resilient outcome (Freitas & Downey, 1998). Personal goals provided an interesting

example of a positive life context that could potentially protect against life stress. This project did not underscore the efficacy of personal goals as a buffer of life stress; however, there was some indication that the establishment of personally salient goals may support specific competencies. As an example, the effort related to a particular goal striving appeared to be associated with increased self-esteem.

The effort invested in a particular striving may have the greatest possibility of contributing to resilience as it entails a sense of personal control. Positive relationships have often been established between an internal locus of control and resilience (Blum, 1998; Garmezy, 1988; Luthar, 1991; Werner & Smith, 1982). Emmons (1986) proposed that obtained success given personal goal striving effort may produce "extremely resilient precepts of self-efficacy" (p. 1065). Thus, goal striving effort may both be associated with personal control and the individual's belief in his or her capacity to succeed given effort. The impact of striving effort on self-esteem in this investigation may be related to these positive beliefs about the self.

On the other hand, the worth that the adolescent thought others would assign to their goal (i.e., social desirability) was associated with better mental health. While personal goals' social desirability was associated with increased overall mental health it did not buffer against life stress. The influence of goal related social desirability may reflect the positive relationship researchers have found between goal support and well-being (Ruehlman & Wolchik, 1988; Walker-Smith & Procidano, 1998).

The findings related to personal goals also suggest that peer culture may influence the pursuit of identified goals. While speculative, scholastic goals may not have been pursued by the study participants because of perceived peer opinion. It is observed that

the only type of social support associated with the value of a particular goal striving was friend social support. The goals most frequently cited by the adolescents were related to academic success; however, perceptions of friend support were not found to be associated with this competency. As noted by Freitas and Downey (1998) there are distinctions in peer and societal goals in high-risk environments. Thus, the participants may have been impacted by peer values, or the perception of peer values, that were not supportive of academic success.

Overall, personal goal strivings had a variable impact on the competencies assessed. It appears that, for middle adolescents, a focus on identifying and perhaps modifying peer-supported goals, as well as emphasizing the importance of parental, school and peer support of goals may afford this moderator a greater protective function.

Distinctions between Resilient and Nonresilient Participants

Overall, less than a third of the participants experienced relatively high-risk, and of those fewer than half were identified as resilient. The resilient adolescents uniformly were more competent than their nonresilient peers. However, resilient and nonresilient adolescents were similar in terms of personal goal strivings and perceptions of support reported. The relative amount of stress experienced by the participants may have minimized the distinctions between the resilient and nonresilient participants in these domains.

Alternately, the lack of distinction may speak to the possibility of genetic influences moderating outcomes in the context of stress (Caspi et al., 2002; Caspi et al., 2003). The research of Caspi and colleagues suggests that genetic factors may identify alternate processes at work in the establishment of resilience. Specifically, Caspi and colleagues

have identified genetic markers that may serve to interact with environmental stress and yield either positive or negative outcomes depending on the variant of the genetic marker identified. As examples, Caspi and colleagues studied both conduct disorder and depression, and for each disorder findings suggested that the adverse outcome was associated with a particular variant of the identified gene. More specifically, Caspi et al. (2002) studied the MAOA gene and found that it appeared to moderate the effect of childhood maltreatment and subsequent development of conduct disorder in males (p. 853). Similarly, the 5-HTT gene was shown to interact with life events to predict multiple correlates of depression (Caspi et al., 2003). These findings are significant to resilience research as they point to alternate explanatory processes for adaptive functioning despite conditions of stress. Caspi et al. (2003) have thus identified an "evolutionary model" that, according to the authors, "assumes that genetic variants maintained at high prevalence in the population probably act to promote organisms' resistance to environmental pathogens" (p. 389).

While beyond the scope of this investigation, an analysis of those individuals at the extreme end of high stress may contribute a greater sense of the moderators' effect, introduce additional protective factors, and provide more detail as to the kinds of stress experienced by the participants. A brief assessment of two study participants identified as resilient yielded conflicting profiles. One participant, a seventeen-year-old Caucasian male, was impacted by negative life events that included parent job loss, moving, change of financial status, parent arguments and trouble with classmates. His self-identified areas of competency included scholastic, behavioral conduct, job competency and self-worth. This participant's goal striving was to "reach the top spots in my class, get accepted into

college and to save money." He reported both depression and anxiety. His perception of family and school personnel support was fairly high; whereas, his friend support was quite low. In this case, it appeared that the participant was struggling with monetary concerns, a move and adjustment within a new peer group. It also appeared that adult support was a factor in his maintained competency.

Another participant, however, presented a different profile of resilience. This adolescent, a fifteen-year-old Hispanic female, endorsed numerous negative life events including serious illness/injury of a family member, arguments between parents, serious illness of a close friend, loss of a close friend, change in parents' financial status, trouble with a sibling, and a range of what appeared to be conduct related concerns (e.g., failing a grade, trouble with police, and trouble with teacher). This participant's identified areas of strength included scholastic, social competence, job competence, romantic competence and self-worth. She also endorsed symptoms of anxiety and depression. Her personal goal was to "get better grades in school". This participant's perceived friend support was relatively high; whereas, her perceptions of both family and school personnel support were markedly low. This profile presents an adolescent who appeared to have rebelled against authority figures, and was instead supported by her peer group. It appears that her home situation may have been quite stressful given monetary concerns, family illness and arguments between family members, and this young woman's competencies were maintained despite low perceptions of family/school personnel support.

Clearly, these profiles are in marked contrast to each other. The male participant appears to have been influenced by perceptions of adult support. Alternately, the female participant placed greater emphasis on peer support. The competencies endorsed varied,

particularly in terms of behavioral conduct. The female participant endorsed more competencies and reported greater social efficacy than the male, but she equally endorsed conduct problems. Both adolescents, however, did have relatively high levels of global self-worth and scholastic competence.

While there was some overlap in competencies endorsed the results are questionable given the female participant's report of scholastic competence despite failing a grade. If the female participant's academic difficulties were the result of poor conduct, then the intelligence of both participants may have contributed to the establishment of resilience. Relatively high self-worth was reported by each participant, and it may also be a global factor contributing to the establishment of resilience. Finally, each participant reported job competence, which may be associated with the impact of personal goals on resilience. While a few common factors were identified, there were numerous differences found between the two adolescents. The differences in the selected profiles of resilience may speak to the work of Caspi and colleagues (2002, 2003), in that an underlying marker may unify these seemingly disparate profiles (e.g., through self-regulation).

Study Limitations

There are several limitations to this investigation, and these will be briefly discussed. First, sample limitations will be addressed. The sample assessed was obtained from two different schools, which may have introduced variance based on different school cultures. It is thought that similarities in the type of school (Public High Schools) and locations (Bowie/Laurel) minimized these distinctions. Demographic factors may also have had an influence: there was predominance of females in the overall sample, and age was not uniform (ranged from 14-19). Finally, the sample was collected during two different time

frames. Overall, the sample has limited generalizability.

The measures used to collect the data equally present some limitations. The data collected was solely based on self-report, which may have introduced bias. The use of a corroborating parent or teacher report may have been helpful. The negative life events reported by participants varied, and so the level of risk, even among those with relatively high-risk exposure, may differ (Luthar, Cicchetti & Becker, 2000). Finally, many participants did not identify a goal striving on the goal striving measure, which while not essential to the study's findings is noted. While there are certainly measurement limitations observed, it is equally noted that the measures used were determined to be both reliable and valid, and have been used with an adolescent population in past research.

Data analysis limitations are next reviewed. The study was based on a correlational design that precludes making causal statements. There has been frequent debate in the resilience literature about the establishment of the resilience construct through data analysis (Luthar et al., 2000; Roosa, 2000; von Eye & Schuster, 2000), and so this will be briefly considered in light of the analyses used in this study and the presented findings. There is some question as to whether the main effect model constitutes a resilient outcome, or merely positive adaptation (Luthar et al., 2000; Roosa, 2000). Luthar et al. (2000) proposed different labels to distinguish between types of resilient processes (p. 546). As examples, the main effect model would be identified as a “protective” process, whereas an interaction effect may be labeled as a “protective-stabilizing” or “protective-enhancing” process (p. 546). On the other hand, Roosa (2000) considers the interaction as the crux of the resilience construct, and thus without an identified interaction resilience

has not been identified.

The present study identified, for the most part, the "protective" model outlined by Luthar et al. (2000), and while interactions were established they did not conform to the anticipated relationship between stress, social support and competency. The findings from this study suggest that while negative events impact functioning, perceived social support, and to a lesser extent personal goals, do serve a protective function. Masten (2001) conceives of resilience as the product of "the everyday magic of ordinary, normative human resources in the minds, brains, and bodies of children, in their families and relationships, and in their communities" (p. 235). Thus, Masten contends that the maintenance of normative protections facilitates positive development within the context of adversity. The findings from this study adhere to that definition of resilience, which seems the most inclusive and relevant to the sample assessed.

While interaction effects were predicted as an indication of resiliency, such effects have not been uniformly obtained with measures of perceived support (Compas, 1987; Procidano, 1992). Rutter (1985) proposed that such interactive processes are not best assessed at a single point in time, but, instead, are better tested longitudinally. Thus, while these results indicate that perceptions of family support, in general, protect the individual, the assessment of the relationship between stress and protection was perhaps not best suited to a cross-sectional research design. The relative amount of stress experienced by the adolescents in the study may have also impacted the establishment of interactions.

The findings, however, do illustrate the importance of a comprehensive assessment of competencies. If, for example, the sole outcome variable assessed was academic

functioning, the benefit of perceived family support would not have been identified. Along the same lines, the sharp decline of overall mental health under high stress demonstrated possible vulnerabilities that coexist with competencies. Thus, while it can not be said that the results demarcate resilience through anticipated interaction effects, they did demonstrate the importance of a comprehensive assessment of competencies.

Future Directions

The results of resilience studies are frequently cited as evidence for various preventative intervention strategies designed to protect at-risk adolescents (Masten, 2001). This study highlighted several potential opportunities for intervention strategies. First, as identified in the literature review, parental influences have a fundamental protective capacity. Capitalizing on this factor in prevention work appears to be a strategy that is already frequently employed (Barrera & Prelow, 2000). Second, the function of perceptions of friend support yields an interesting conflict with family support, as peer culture appears to have the potential to influence competencies based on peer-defined values (Cauce et al., 1992; Felner et al., 1985; Freitas & Downey, 1998). Both conduct and academic competencies may be particularly vulnerable to peer values. This study suggests that there is an influence of peers on competencies, and thus interventions may benefit from efforts to modify or strengthen the values of the particular peer culture examined. Additionally, there may be a disparity between the perceived values of the peer culture, and the actual values upheld. Increased assessment and communication of the values may improve scholastic competencies.

School social support was not identified as robust a moderator of stress; however, this may have been a function of both the socioeconomic status of the sample and the

family support provided. While school support may have a more obvious impact in extremely high-risk environments, it was shown that higher levels of perceived school support were associated with both conduct and overall mental health in this sample. Additional study of perceptions of school support in a higher risk context may provide a clearer understanding of the capacity of school support perceptions to buffer stress.

Further assessment of the impact of personal goals would be beneficial to the study of resilience, particularly in terms of the effort associated with goal attainment. The results of this study demonstrate that personal goals may protect certain competencies. The association between perceived support and goals was not uniformly established; however, there was some indication of a positive relationship between peer support and goal values. Thus, fostering pro-social goals within the peer context may enhance the efficacy of this moderator. Again, additional assessment of this relationship with greater specificity may assist in understanding the possible protective capacity of goal strivings.

Intervention efforts may also benefit from an analysis of multiple areas of competency. Not only does this serve to provide the individual with identified areas of strength, but it also fosters awareness of potential vulnerabilities. As demonstrated in this study, overall mental health may be potentially vulnerable to life stress. Targeting potential vulnerabilities may protect adolescent mental health under stress.

Future directions in terms of this investigation could include design modifications to identify specific aspects of the processes associated with resilience. For example, during adolescence it is not atypical to experience an increase in both internalizing and externalizing symptoms (Cicchetti & Rogosch, 2002), and the interplay between any number of stressful life events (e.g., relationship/familial difficulties, life transitions) and

normative emotional reactivity may result in an increase in psychological symptoms. Assessing both the kind of stressful events and symptoms with greater specificity may prove informative. Equally, the work of Caspi and colleagues (2002, 2003) points to the importance of genetics in the establishment of resilience; an assessment of markers in the context of a genetic paradigm may prove extremely useful. These markers do not; however, preclude the relevance of other contingencies (Mash & Dozois, 2003). As noted by Garmezy and Masten (1986), studies that include biological, psychological and psychosocial factors are needed.

While the study has limitations previously outlined, it does make a contribution to resilience research. Few studies have assessed perceived social support or personal goals as protective moderators within the construct of resilience. The results identify that both perceived social support and personal goals serve a protective function, although perhaps not uniformly or always in the expected direction. The utility of these sources of protection, if taken with an awareness of potential limiting factors (e.g., peer values, possible vulnerabilities), is in their capacity to foster positive adaptation in the context of high-risk.

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APPENDIX A

Consent Forms

March 20, 2001

Dear Parent or Guardian:

Thank you for taking the time to read this consent form. We appreciate you considering this request for your son or daughter to participate in a research study that focuses on adolescent success.

The research study is taking place at both Bowie and Laurel High Schools. The goal of the research is to better understand what helps students succeed. The study focuses on two factors that are thought to be related to adolescent resilience. These factors are personal goals and social support.

If your son or daughter participates in the study he or she will be asked to complete some questionnaires. It is important that you know that the questionnaires are **anonymous.** All of the information is coded with an ID number, and the signed consent sheet is stored separately. The ID number ensures that your teenager's responses are entirely confidential.

You are probably wondering what kinds of questions will be asked, and if it will interfere with your teenager's schoolwork. Most importantly, the study will not interfere with schoolwork, and will be incorporated into a guidance class. It should only take one class session to complete the forms. Some of the questions will ask how your teenager feels about the support they receive from friends, family and teachers. Other questions ask about competency in different life areas, life stress and demographics.

While participating in the study has no known risks, it does have several benefits. First, it will help develop a better understanding of how to foster greater success in more adolescents. Second, it will provide a chance for your teenager to participate in a study and learn about how research works. Third, an incentive will be provided to all participants, who will be entered into a lottery. Four winners will each be awarded $50. Finally, if you wish a copy of the general findings these will be made available to you.

Thank you for considering this request. We hope you decide it will be a good experience for your son or daughter. If you decide that you do not want your teenager to participate it will not influence his or her school experience in any way. Also, you should know that your teenager can withdraw from the study at any time and this choice will have no negative consequences. If you have any questions or concerns about the study, please contact Ms. Daria A. Pierorazio at (301) 805-2600 or Dr. Patricia R. Brooks at (301) 805-2600.

I have read and understand the above stated objectives of the research project. I know that all the information provided is confidential, and that there are no known risks involved in participating in the study. I **do give permission for

_____to participate in the above described study.
(print first and last name of son or daughter)

_____ _____
Parent Signature Date

If you would like a copy of the results sent you, please provide your mailing address:

_____

_____

Please return the consent form to school as soon as possible.
Thank you!

Participant Assent Form

Researchers: Ms. Daria A. Pierorazio (301) (805-2600) and Dr. Patricia Brooks (301) (805-2600)

What the study is about:

We are asking you to participate in a research project which studies factors that help you succeed in different areas of your life. For example, some of the questions will ask about how you are doing in school. Other questions will ask about your personal goals and relationships with family and friends. Finally, there are some questions about good and bad things that have happened to you recently, and how you are doing in different areas of your life.

Your rights:

All the information you provide is entirely confidential. The questionnaires you will be asked to fill out have an ID number and not your name. This ensures your confidentiality. You have the right to withdraw from the study at any time. You also have the right to not answer any question that bothers you. These decisions will have no negative effects for you at school. You can ask any question you want, and also you can call the number listed above if you have any concerns after you complete the forms.

Benefits of participating:

To thank you for participating in the study you will be entered into a lottery and have a chance of winning $50 (there will be four winners). By participating you will also be learning about how research works, and contribute to a better understanding of adolescent success.

I know that I am being asked to participate in a study designed to learn more about adolescent success. I know that all the information I provide is confidential. I know that there are no known risks in participating, and that I will be entered into a lottery, and have a chance of winning $50.

The project has been explained to me, and I know I can ask any questions I want about it. I can change my mind about participating at any time, and if I decide not to participate there will be no negative effect at school.

I have read and understood this consent form, and I agree to participate in this study.

Student Signature and Date: _____

Witness Signature and Date: _____

THANK YOU!

APPENDIX B

Demographic Form

Demographic Information

Please answer the listed questions about yourself. All the information you provide is entirely confidential. Thank you!

1. What is your gender (**circle** one)? Male Female

2. How old are you? _____

3. What is your ethnicity (circle one)?

   African American

   Asian American

   Caucasian

   Hispanic

   Other (please identify) _____

4. How far did your father go in school? Place a check mark next to your answer.

   Elementary school _____

   Middle school _____

   Some high school _____

   High school graduate _____

   Associate's degree

   or 2-year technical school _____

   Some college _____

   College degree _____

   Master's degree _____

   Beyond master's degree _____

5. How far did your mother go in school? Place a check mark next to your answer.

   Elementary school _____

   Middle school _____

   Some high school _____

   High school graduate _____

Associate's degree
or 2-year technical school _____
Some college _____
College degree _____
Master's degree _____
Beyond master's degree _____

6. If you live with another caregiver/guardian how far did he or she go in school?

Elementary school _____
Middle school _____
Some high school _____
High school graduate _____
Associate's degree
or 2-year technical school _____
Some college _____
College degree _____
Master's degree _____
Beyond master's degree _____

7. Please identify your parents' or other caregiver's current job:

Mother's job: _____
Father's job: _____
Caregiver's job: _____

APPENDIX C

Feedback Form

Thank you very much for taking the time to participate in this study! You probably had some ideas about what the study was trying to figure out based on the questionnaires, and you also may have had some questions. This fact sheet is designed to help answer some of the questions you might have had. If you still have questions, or concerns, after reading this, please feel free to contact me. I would be happy to talk with you about the study.

What was the study about?

The primary goal of the study was to figure out what are some of the things that protect adolescents from high-risk. Adolescents who experience lots of risk, such as living in a bad neighborhood, are often able to succeed in many ways. If you do experience high-risk and are still successful you are thought to be resilient.

Resilience can be promoted in many different ways. Studies have shown than teenagers succeed when they have lots of support from their family, friends and teachers. Others suggest that having important goals may help you succeed. This study focuses on two things that may protect you from high-risk: How you feel about the supportive people in your life and personal goals.

Success is measured in this study by how you reported you were doing in different areas of your life. These included social, school, conduct, dating, jobs and how you are feeling. Resilience doesn't mean that you have to be successful in all of these areas, but that you are doing pretty well in most aspects of your life.

What is going to happen with the forms I filled out?

The answers that you gave are entirely confidential. You probably noticed that all your forms had ID #, and that ensures that your name is never connected to any of the responses you gave. The information will be assessed using a statistical program that determines what the relationships are between risk, the things that protective you from risk, and how you are doing. If you want a copy of the results, please call the number listed below.

Why do people study resilience?

The research is helpful because it identifies what sorts of things protect adolescents from risk. The more that is known about what can serve as a protective factor, the better able teenagers who are in high-risk circumstances can be helped.

Who can I contact with more questions? Please call or email Ms. Daria A. Pierorazio at (301) 805-2600 or dpierorazio@pgcps.org with any questions.

APPENDIX D

Unstandardized Coefficients

Unstandardized Coefficients for Table 4: *Hierarchical Multiple Regression Analysis of the Dependent Variable Social Acceptance Regressed on the Predictor Perceived Social Support from Family*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	3.397	.633
	Age	-2.879E-02	.041
	Gender	7.665E-02	.112
2	(Constant)	3.076	.698
	Age	-2.093E-02	.041
	Gender	5.168E-02	.117
	White	-.117	.152
	Hispanic	-1.874E-02	.161
	Black	-3.651E-02	.200
	SES	4.104E-02	.028
	Negative Life Events	1.69E-02	.064
3	(Constant)	2.685	.684
	Age	-1.652E-02	.040
	Gender	9.507E-02	.114
	White	-.136	.147
	Hispanic	-5.560E-02	.156
	Black	-8.967E-02	.194
	SES	3.352E-02	.027
	Negative Life Events	4.989E-02	.063
	PSS-Family	2.912E-02	.009
4	(Constant)	2.030	.756
	Age	-2.135E-03	.040
	Gender	8.199E-02	.113
	White	-.122	.146
	Hispanic	-6.685E-02	.155
	Black	-4.506E-02	.193
	SES	3.020E-02	.027
	Negative Life Events	.240	.116
	PSS-Family	7.434E-02	.025
	PSS-FA × NegLife	-1.988E-02	.010

Unstandardized Coefficients for Table 5: *Hierarchical Multiple Regression Analysis of the Dependent Variable Global Self-Worth Regressed on the Predictor Perceived Social Support from Family*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	3.159	.774
	Age	-1.220E-02	.049
	Gender	-.296	.137
2	(Constant)	3.74	.840
	Age	-1.260E-02	.049
	Gender	-.264	.141
	White	-.190	.183
	Hispanic	2.462E-03	.194
	Black	3.106E-02	.241
	SES	-1619E-02	.033
	Negative Life Events	-.192	.078
3	(Constant)	3.220	.816
	Age	-6.734E-03	.047
	Gender	-.206	.136
	White	-.215	.175
	Hispanic	-4.660E-02	.186
	Black	-3.969E-02	.231
	SES	-2.621E-02	.032
	Negative Life Events	-.148	0.75
	PSS-Family	3.875E-02	.010
4	(Constant)	2.951	.913
	Age	-8.344E-04	.048
	Gender	-.211	.136
	White	-.210	.176
	Hispanic	-5.121E-02	.187
	Black	-2.139E-02	.233
	SES	-2.757E-02	.032
	Negative Life Events	-6.982E-02	.140
	PSS-Family	5.729E-02	.030
	PSS-FA × NegLife	-8.152E-03	.012

Unstandardized Coefficients for Table 6: *Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Perceived Social Support from Family*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	33.398	4.498
	Age	-.849	.284
	Gender	-1.377	.801
2	(Constant)	36.314	4.714
	Age	-746	.277
	Gender	-.863	.794
	White	-1.393	1.033
	Hispanic	-1.299	1.094
	Black	1.038	1.342
	SES	-.138	.188
	Negative Life Events	-1.446	.435
3	(Constant)	32.641	4.398
	Age	-.715	.255
	Gender	-.404	.736
	White	-1.583	.951
	Hispanic	-1.659	1.009
	Black	.609	1.238
	SES	-.213	.174
	Negative Life Events	-1.139	.405
	PSS-Family	.290	.056
4	(Constant)	28.040	4.824
	Age	-.617	.255
	Gender	-.489	.728
	White	-1.484	.940
	Hispanic	-1.735	.997
	Black	.973	1.233
	SES	-.236	.172
	Negative Life Events	.216	.738
	PSS-Family	.614	.158
	PSS-FA × NegLife	-.143	.065

Unstandardized Coefficients for Table 9: *Hierarchical Multiple Regression Analysis of the Dependent Variable Behavioral Conduct Regressed on the Predictor Perceived Support from Family*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	2.835	.673
	Age	-1.497E-02	.042
	Gender	5.606E-03	.119
2	(Constant)	3.320	.714
	Age	-1.392E-02	.042
	Gender	2.696E-02	.120
	White	-1.273E-03	.156
	Hispanic	.142	.165
	Black	.431	.205
	SES	-3.726E-02	.028
	Negative Life Events	-.178	.066
3	(Constant)	3.064	.717
	Age	-1.104E-02	.041
	Gender	5.532E-02	.119
	White	-1.380E-O2	.154
	Hispanic	.117	.163
	Black	.396	.203
	SES	-4.218E-02	.028
	Negative Life Events	-.156	.066
	PSS-Family	1.903E-02	.009
4	(Constant)	3.072	.803
	Age	-1.122E-02	.042
	Gender	5.548E-02	.120
	White	-1.397E-02	.155
	Hispanic	.118	.164
	Black	.396	.205
	SES	-4.213E-02	.028
	Negative Life Events	-.159	.123
	PSS-Family	1.864E-02	.026
	PSS-FA × NegLife	2.494E-04	.011

Unstandardized Coefficients for Table 10: *Hierarchical Multiple Regression Analysis of the Dependent Variable Behavioral Conduct Regressed on the Predictor Perceived Social Support of School Personnel*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	2.835	.673
	Age	-1.497E-02	.042
	Gender	5.606E-03	.119
2	(Constant)	3.320	.714
	Age	-1.392E-02	.042
	Gender	2.696E-02	.120
	White	-1.273E-03	.156
	Hispanic	.142	.165
	Black	.431	.205
	SES	-3.726E-02	.028
	Negative Life Events	-.178	.066
3	(Constant)	3.359	.703
	Age	-2.395E-02	.041
	Gender	3.910E-03	.118
	White	-2.452E-03	.153
	Hispanic	.163	.162
	Black	.407	.202
	SES	-3.671E-02	.028
	Negative Life Events	-.189	.065
	PSS-SP	2.814E-02	.012
4	(Constant)	3.414	.750
	Age	-2.330E-02	.042
	Gender	5.531E-03	.119
	White	-4.930E-03	.154
	Hispanic	.161	.164
	Black	.407	.202
	SES	-3.629E-02	.028
	Negative Life Events	-.175	.103
	PSS-SP	3.398E-02	.035
	PSS-SP × NegLife	-2.423E-03	.014

Unstandardized Coefficients for Table 11: *Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Perceived Social Support of School Personnel*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	33.398	4.498
	Age	-.849	.284
	Gender	-1.377	.801
2	(Constant)	36.314	4.714
	Age	-.746	.277
	Gender	-.863	.794
	White	-1.393	1.033
	Hispanic	11.299	1.094
	Black	1.038	1.342
	SES	-.138	.188
	Negative Life Events	-1.446	.435
3	(Constant)	36.539	4.669
	Age	-.802	.275
	Gender	-.989	.789
	White	-1.399	1.023
	Hispanic	-1.180	1.085
	Black	.911	1.330
	SES	-.135	.187
	Negative Life Events	-1.507	.432
	PSS-SP	.155	.079
4	(Constant)	34.282	4.955
	Age	-.769	.276
	Gender	-.907	.789
	White	-1.524	1.024
	Hispanic	-1.297	1.085
	Black	.920	1.327
	SES	-.114	.187
	Negative Life Events	-.808	.679
	PSS-SP	.449	.234
	PSS-SP × NegLife	-.122	.092

Unstandardized Coefficients for Table 13: *Hierarchical Multiple Regression Analysis of the Dependent Variable Global Self-Worth Regressed on the Predictor Perceived Social Support from Friends*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	3.159	.774
	Age	-1.220E-02	.049
	Gender	-.296	.137
2	(Constant)	3.740	.840
	Age	-1.260E-02	.049
	Gender	-.264	.141
	White	-.190	.183
	Hispanic	2.462E-03	.194
	Black	3.106E-02	.241
	SES	-1.619E-02	.033
	Negative Life Events	-.192	.078
3	(Constant)	3.500	.825
	Age	-2.160E-02	.048
	Gender	-.334	.140
	White	-.157	.179
	Hispanic	-4.676E-03	.189
	Black	.175	.241
	SES	-2.956E-02	.033
	Negative Life Events	-.205	.076
	PSS-Friends	3.925E-02	.014
4	(Constant)	3.036	.997
	Age	-1.614E-02	.049
	Gender	-.328	.140
	White	-.158	.179
	Hispanic	-1.961E-02	.190
	Black	.172	.241
	SES	-2.998E-02	.033
	Negative Life Events	-2.462E-02	.230
	PSS-Friends	6.934E-02	.039
	PSS-Friends × NegLife	-L395E-02	.017

Unstandardized Coefficients for Table 14: *Hierarchical Multiple Regression Analysis of the Dependent Variable Overall Mental Health Regressed on the Predictor Perceived Social Support from Friends*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	33.398	4.498
	Age	-.849	.284
	Gender	-1.377	.801
2	(Constant)	36.314	4.714
	Age	-.746	.277
	Gender	-.863	.794
	White	-1.393	1.033
	Hispanic	-1.299	1.094
	Black	1.038	1.342
	SES	-.138	.188
	Negative Life Events	-1.446	.435
3	(Constant)	34.582	4.607
	Age	-.789	.269
	Gender	-1.331	.784
	White	-1.190	1.004
	Hispanic	-1.352	1.061
	Black	1.834	1.326
	SES	-.222	.185
	Negative Life Events	-1.506	.423
	PSS-Friends	.245	.078
4	(Constant)	34.091	5.599
	Age	-.783	.273
	Gender	-1.325	.788
	White	-1.191	1.007
	Hispanic	-1.368	1.070
	Black	1.825	1.332
	SES	-.222	.185
	Negative Life Events	-1.318	1.284
	PSS-Friends	.276	.214
	PSS-Friends × NegLife	-1.451E-02	.093

Unstandardized Coefficients for Table 15: *Hierarchical Multiple Regression Analysis of the Dependent Variable Global Self-Worth Regressed on the Predictor Personal Goal Strivings-Effort*

Model		**Unstandardized Coefficients**	
		B	**Std. Error**
1	(Constant)	3.159	.774
	Age	-1.220E-02	.049
	Gender	-.296	.137
2	(Constant)	3.740	.840
	Age	-1.260E-02	.049
	Gender	-.264	.141
	White	-.190	.183
	Hispanic	2.462E-02	.194
	Black	3.106E-02	.241
	SES	-1.619E-02	.033
	Negative Life Events	-.192	.078
3	(Constant)	3.218	.866
	Age	-1.947E-02	.049
	Gender	-.290	.140
	White	-.146	.182
	Hispanic	-1.509E-02	.192
	Black	.110	.241
	SES	-1.458E-02	.033
	Negative Life Events	-.213	.077
	PGS-Effort	.157	.074
4	(Constant)	2.210	1.111
	Age	-1.565E-02	.049
	Gender	-.280	.140
	White	-.132	.182
	Hispanic	4.802E-03	.191
	Black	.149	.241
	SES	-1.969E-02	.033
	Negative Life Events	.251	.332
	PGS-Effort	.390	.178
	PSS-Friends × NegLife	-.112	.078