

DISSERTATION

COLLEGE STUDENT ADAPTATION TO CHILDHOOD ADVERSITY: A
MODEL OF STRESS AND RESILIENCE

Submitted by

Megan Twomey Cole

Department of Psychology

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2010

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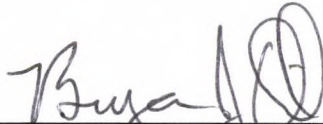
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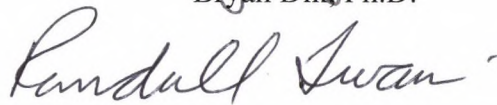
COLORADO STATE UNIVERSITY

September 4, 2008

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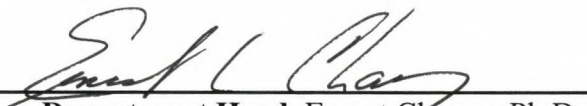
Committee on Graduate Work



Bryan Dik, Ph.D.

Randall Swaim, Ph.D.

Zeynep Biringen, Ph.D.

Adviser, Lee Rosén, Ph.D.

Department Head, Ernest Chavez, Ph.D.

ABSTRACT OF DISSERTATION

COLLEGE STUDENT ADAPTATION TO CHILDHOOD ADVERSITY: A
MODEL OF STRESS AND RESILIENCE

A model of resilience was tested in a college sample of 672 students. Data were collected on the association of negative life events and college adjustment. The influence of Neuroticism, coping style, and social/emotional resources was also studied. Structural equation modeling procedures were used to analyze these data, and a moderating effect of gender was hypothesized. Results provided support for the hypothesized model and indicated that stress, Neuroticism, Engagement coping, and social/emotional resources have important implications for adjustment. Specifically, it was found that the experience of negative life events was positively associated with elevated levels of Neuroticism for both men and women. Neuroticism, in turn, was associated with Disengagement coping as well as a decrease in social/emotional resource availability. Neuroticism was also negatively associated with college adjustment, though Neuroticism was somewhat more strongly related to college adjustment for females. Coping styles were also related to the availability of social/emotional resources, such that the use of Engagement coping was associated with greater resource availability. Furthermore, results indicated the presence of a positive relationship between Engagement coping and college adjustment, whereas no

relationship was observed between college adjustment and Disengagement coping. Surprisingly, results suggested the presence of no relationship between social/emotional resources and adjustment to college. Additional analyses examined the relationship between life events and adjustment, and it was found that those disproportionately experiencing more negative life events reported poorer college adjustment. Possible explanations for the observed findings are considered. Implications for practice are discussed.

Megan Twomey Cole
Psychology Department
Colorado State University
Fort Collins, CO 80523
Summer 2010

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CHAPTER I

Introduction

Early researchers studying children's exposure to adverse life conditions hypothesized that the experience would lead to compromised psychological adjustment. As researchers began to study childhood adversity more closely, however, they were surprised to find that many children exposed to adversity actually developed competently (Anthony, 1974; Garmezy, 1971; Garmezy, Masten, Nordstrom, & Terrorese, 1979; Garmezy & Neuchterlien, 1972). This discovery led to the formation of the construct *resilience*, described by Masten and Powell (2003) as an inference about an individual's life that he or she is "doing okay" in spite of exposure to significant risk factors. Since the 1970s, research examining adversity and adjustment has demonstrated links between life events and personality (Bolger & Schilling 1991; Breslau, Davis, & Andreski, 1995; Cole, Rosén, & Malach, 2007; Headey & Wearing, 1989; Ormel & Wohlfarth, 1991), personality and coping style (Bolger, 1990; Compas et al., 2001; Courbasson, Endler, Kocovski, & Kocovski, 2002; DeLongis & Holtzman, 2005; Lee-Baggle, Preece, & DeLongis, 2005; McCrae & Costa, 1986; Saklofske & Kelly, 1995; Vollrath, Torgersen, & Alnæs, 1995; Watson, Clark, & Harkness, 1994; Watson & Hubbard, 1996), life events and social/emotional resources (Attar, Guerra, & Tolan, 1994; Brady & Matthews, 2002; Boardman, Finch, Ellison, Williams, & Jackson, 2001; DuBois, Felner, Meares, &

Krier, 1994; McLeod & Kessler, 1990; Sweetig, 1998), coping style and social/emotional resources (Aldwin et al., 1996; Benotsch et al., 2000; Hobfall, 1989), and each of these has implications for psychological adjustment. The present study seeks to incorporate these constructs into a comprehensive model of resilience for college students. Such a model could lead to important benefits such as the development and implementation of interventions intended to offset risk factors evident in an individual's life. Additionally, this information could assist in the identification of at-risk youth such that these individuals could be targeted for effective intervention.

Resilience

Research has demonstrated that there are a variety of responses to adversity, and recent researchers have begun to investigate those factors circumventing a negative outcome. Convention in resilience research is to refer to these factors as "protective factors;" for this study, however, they will be categorized as "social/emotional resources" though these terms are largely interchangeable. Investigation into such protective factors has indicated that these factors can be grouped into the categories of community resources which help to prevent a negative outcome (Masten & Coatsworth, 1998; Masten & Powell, 2003; Rivkin & Hoopman, 1996), factors related to the family that buffer against stress (Garmezy, Masten, & Tellegen, 1984; Masten & Coatsworth, 1998; Rutter, 1979; Werner & Smith, 1988), and characteristics of the individual protecting against adversity (Garmezy 1981; Masten & Coatsworth, 1998; Masten et al., 1999; Murphy & Moriarity, 1976; Shapiro & Friedman, 1996; Valentine & Feinauer, 1993; Werner, 1989; Werner, 2005).

Though many community, family, and individual protective factors have already been identified, it is likely that more will be observed as research continues. Current literature indicates that community resources acting as protective factors include high-quality schools and neighborhoods, availability of prosocial mentors, quality health services, and prosocial organizations (Masten & Coatsworth, 1998; Masten & Powell, 2003; Rivkin & Hoopman, 1996). Good schools are protective, as they facilitate relationships between youth and caring educators as well as provide opportunities for mastery and success. Quality schools also allow children to be meaningfully involved and have responsible roles within the school and community (Rivkin & Hoopman, 1996). Communities also provide children with competent mentors (Masten & Powell, 2003) who care for and take an interest in them, and this is another important protective factor (Masten & Coatsworth, 1998). Residence in high-quality neighborhoods also protects children against the effects of adversity, as does access to quality health care and social service organizations (Masten & Powell, 2003). Ties to prosocial organizations (e.g., organizations facilitating positive social connection and fostering esteem) also protect individuals against continued stress (Masten & Coatsworth, 1998).

Characteristics of the family can also be significant resources facilitating resilience. For example, children who have relationships with their parents characterized by warmth and the absence of severe criticism have an increased chance for success (Rutter, 1979). In addition, parents who have high expectations for their children, parent authoritatively, and impose structure on their children's lives also foster children likely to face adversity resiliently (Masten & Coatsworth, 1998).

Socioeconomic status also has implications for developmental outcomes, as children raised in high SES families have a stronger chance of developmental success (Garmezy, Masten, & Tellegen, 1984; Masten & Coatsworth, 1998). Extended kin networks are important for providing additional caregivers in infancy to decrease parental stress and thus fostering resiliency; in adolescence, multigenerational kin networks can often offset risk (Werner & Smith, 1988).

Personal resources are also influential in guiding outcomes following adversity. Individuals with special talents in sports, music, school academics, drama, or other activities are often protected against the negative effects of adversity (Masten & Coatsworth, 1998). A sense of faith or religiosity can also guard against the development of psychopathology, as faith often provides individuals with a sense of meaning and purpose in their life and also helps them to make sense of their experience (Valentine & Feinauer, 1993). Impulse control is also seen as protective, and the ability to maintain a future orientation helps to distract individuals from current adversity (Garmezy 1981). Other resources for competence include temperamental style, as Shapiro and Friedman (1996) observed that individuals with a sunny disposition are more likely to attract mentors and advocates with supportive resources. Similarly, an easygoing and engaging temperament helps to buffer against the negative effects of stress (Werner, 1989; Werner, 2005). Finally, competent development is facilitated by overall intelligence (Garmezy, 1981; Masten et al., 1999; Werner, 2005) as well as a general curiosity about other people, things, and ideas (Murphy & Moriarity, 1976).

Five Factor Model of Personality

Personality is a construct with clear relevance for the development of resilience, though researchers are quick to note that personality is fixed while resilience is dynamic and ever-changing in response to environmental demands (Masten & Powell, 2003; Rutter, 1993). Despite this important distinction between personality and resilience, it is likely that personality bears relation to adjustment after adversity. In fact, personality factors are assumed to serve a protective function within a resilience framework (Masten & Powell, 2003), and Rutter (1999) asserts that the child's influence on the environment contributes importantly to the relationship between risk factors and psychopathology.

Due to its popularity and the broad literature base documenting support for its use, the Five Factor Model of Personality (FFM) is often used as a model for understanding personality structure and will be used for this study as well. According to Widiger and Trull (1997), the FFM is based on the idea that anything relevant for personality is encoded in language, and relevance is depicted by the frequency of observation in language. The FFM developed out of the tradition of factor analysis, and the reduction of multifaceted descriptions to distinct groupings has indicated the presence of the personality factors of Conscientiousness, Extraversion, Agreeableness, Openness to Experience, and Neuroticism (Buckhalt, 2005).

Neuroticism has significance for the present study based on research documenting a relationship between this personality facet and adjustment (Cole et al., 2007; Van Os & Jones, 2001). Neuroticism was chosen specifically as the personality factor of interest for this study, as previous research observed a relationship between

Neuroticism and resilience in college that was not present for the other four personality factors (Cole et al., 2007). Though this personality factor is traditionally referred to as Neuroticism, some prefer the term Emotional Stability. Whereas Neuroticism refers to individuals who are anxious, angry, depressed, self-conscious, immoderate, and vulnerable to stress, Emotional Stability describes the positive pole on the continuum of emotional experience (Goldberg, 1999; McCrae & Costa, 2003).

The FFM has been heavily researched and is well supported. Support for the FFM includes lexical support and data from questionnaire studies (Matthews & Deary, 1998). Longitudinal as well as cross-sectional studies have indicated that the five factors are stable behavioral dispositions (Costa & McCrae, 1992a), and studies of natural language support the existence of the five factors (Costa & McCrae, 1992a). The five factors have been replicated in different age, gender, race, and language groups, and heritability studies provide support for a biological basis of the five factors (Costa & McCrae, 1992a). Cross-cultural research also demonstrates the existence of five factors in Germany (Ostendorf, 1990), Hungary (Szirmák & De Raad, 1994), Roman-Italy (Carpara & Perugini, 1994), Czechoslovakia (Hrebícková, 1995), and Poland (Szarota, 1996).

The Five Factor Theory (FFT) is a recent update to the FFM set forth by McCrae and Costa (1999, 2003). Though based on the same foundational principles as the FFM, the FFT seeks to provide a more cohesive personality structure. This structure includes the components of Basic Tendencies, Characteristic Adaptations, and Self-Concept. Basic Tendencies are the traits known as the Big Five and are asserted to be innate biological entities and unaffected by environmental influences.

One's Basic Tendencies do not differ based on geographic location, culture, or family and remain unchanged throughout the lifespan according to McCrae and Costa (1999). Characteristic Adaptations, on the other hand, are the medium through which Basic Tendencies are expressed and include habits, attitudes, skills, roles, and relationships. Contrary to Basic Tendencies, Characteristic Adaptations are influenced by several sources, including external influences and Basic Tendencies (McCrae & Costa, 1999). Characteristic Adaptations are acquired as an individual interacts with his or her world and vary by culture, lifespan, and family. Finally, Self-Concept describes the manner in which one views oneself and is one aspect of the Characteristic Adaptations. The Self-Concept is asserted to correspond with personality traits such that a sense of consistency is experienced (McCrae & Costa, 1999, 2003).

The FFT also sets forth significant postulates. The FFT boldly states that traits are wholly biological and completely unaffected by the environment (McCrae & Costa, 1999). Support for this assertion derives from a large body of research demonstrating the stability of traits. Heritability studies indicate that approximately half of the variability of traits can be attributed to genes (McCrae & Costa, 2003), and McCrae and Costa (2003) assert their controversial belief that the other half is due solely to measurement error. McCrae and Costa (2003) also note that if traits are susceptible to environmental influences, one would expect to see large changes in traits over time; in fact, rather small changes are typically observed over the lifespan. McCrae (2000) also concluded that culture has little impact on traits through his replication of the five-factor structure in 26 cultures.

Though the direct relation between personality and resilience has remained largely untested, recent research observed that Neuroticism mediated the pathway between early adversity and adult functioning for college females (Cole et al., 2007). Specifically, Cole et al. (2007) found that early life stressors were associated with an increased level of Neuroticism, and the resulting high levels of Neuroticism were related to lower levels of psychological functioning in college. Stated another way, researchers observed that Emotional Stability has implications for adjustment, as high levels of early life stressors correlated with lower levels of Emotional Stability, and low Emotional Stability was associated with poor college adjustment. Conversely, high Emotional Stability protected college females from college maladjustment. Effect size analyses conducted by researchers suggested a moderate effect, as the proportion of the original relationship between early life stressors and college adjustment mediated by Emotional Stability was 57% (Cole et al., 2007). Thus, it is clear that personality and resilience are related in important ways. Though it is logical that all five factors of personality have implications for adjustment and resilience, the previous study (Cole et al., 2007) observed a relationship only between Neuroticism (Emotional Stability) and adjustment after stress, thus identifying Neuroticism as the personality factor of interest for the present model of resilience.

Coping and Personality

Another construct affecting an individual's response to adversity is coping style. Coping is described as continuing cognitive and behavioral attempts to manage stress (Lazarus, 1993), and this description includes more and less effective coping methods. The association of personality and coping behavior has been hotly debated

in psychology. Researchers doubting the existence of a relationship between personality and coping assert that coping is inconsistent from one situation to another and thus traits have little predictive value. Conversely, other theorists describe the overlap between personality and coping based on the consistency of coping behaviors. Researchers supporting the inconsistency of coping downplay the role of personality and disposition in management of stress (Suis, David, & Harvey, 1996). According to this perspective, personality traits are enduring aspects of an individual, while coping is merely behavior specific to a situation (Lazarus & Folkman, 1984). Additionally, it is emphasized that coping is ever-changing, as what an individual does to cope depends on the context of the stressor as well as how the stressor is attended to (Lazarus, 1993). Conversely, theorists studying the overlap of coping and personality assert that personality has important implications for coping behavior (Suis et al., 1996). Proponents of this perspective state that little reason exists to assume that coping is different from other cognitive, affective, and behavioral responses. It is asserted that coping simply reflects how one responds to a particular class of events, and individuals should therefore be consistent across time in the manner in which they respond to stress (Watson & Hubbard, 1996). Furthermore, it is believed that stress can influence personality, and early stressors are likely to affect later coping behavior (Suis et al., 1996).

Though these perspectives differ as to the relative association between personality and coping behavior, they tend to agree as to the evaluation of coping. Many researchers are cautious in assigning universal evaluative labels to coping behaviors, despite noting that certain coping styles are more often effective than

others. According to Lazarus and Folkman (1984), coping behavior first involves the process of perceiving a threat (known as primary appraisal), and secondary appraisal describes an individual's evaluation of the resources available to him or her. In this process, coping is merely the execution of a response based on available resources (Lazarus & Folkman, 1984). As such, there are believed to be no universally good or bad coping processes although some may be better than others more frequently. Instead, coping efficacy is determined by the quality of fit between a coping strategy, its execution, and the requirements of the situation.

Rather than applying evaluative labels to coping behaviors, researchers delineate dimensions of coping and discuss the outcomes commonly occurring when these approaches are employed. These include problem-focused versus emotion-focused coping and engagement versus avoidance or disengagement coping (Compas et al., 2001). Problem-focused coping occurs when an individual attempts to change the relationship between the environment and oneself by acting on the environment or by acting on oneself (e.g., seeking information, generating solutions, or problem solving). Conversely, emotion-focused coping functions to either change the manner in which a stressful event is attended to or to change the meaning of what is happening (e.g., seeking social support or expressing emotions). Problem-focused coping is observed when individuals perceive events as controllable by action, whereas emotion-focused coping is more likely when events are seen as resistant to change (Lazarus & Folkman, 1984). Engagement coping describes responses focused on the source of stress or on one's emotions or thoughts (e.g., problem solving), whereas avoidance or disengagement coping describes responses that are focused

away from a stressor or from one's thoughts or emotions (e.g., withdrawal or denial; Compas et al., 2001). Though many agree that quality of fit between situation and response is more important for determining coping effectiveness, research does demonstrate an association between particular coping responses and overall outcome (DeLongis & Holtzman, 2005). Broadly speaking, problem-focused and engagement coping responses are associated with better overall outcomes such as fewer internalizing symptoms and enhanced competence (Compas et al., 2001) as well as problem resolution (Courbasson et al., 2002).

Neuroticism

The relationship between Neuroticism and coping styles has been heavily researched, and studies repeatedly demonstrate that neurotic individuals use less effective means of coping. Early research (McCrae & Costa, 1986) investigated the relationship between coping styles and well-being and found that individuals high in Neuroticism were prone to using such coping styles as hostile reaction, escapist fantasy, self-blame, sedation (e.g., tranquilizers, alcohol, meditation, or relaxation exercises), withdrawal, wishful thinking, passivity, and indecisiveness, and these were found to be some of the least effective coping styles studied (McCrae & Costa, 1986). Later studies supported this by demonstrating that Neuroticism is associated with an increased use of passive and emotion-focused coping (Lee-Baggley et al., 2005; Saklofske & Kelly, 1995; Vollrath et al., 1995) as well as a decreased use of problem-focused coping (Lee-Baggley et al., 2005; DeLongis & Holtzman, 2005; Vollrath et al., 1995). Disengagement and emotion-focused coping are associated with the manifestation of an increased number of internalizing and externalizing

symptoms and overall poorer psychological functioning; conversely, problem-focused coping is related to decreased reporting of psychological concerns (Compas et al., 2001). Similarly, Courbasson et al. (2002) reports that emotion-focused and avoidance coping are associated with an exacerbation of the problem situations, and problem-focused coping leads to problem resolution more frequently. Path analysis has suggested that it is the trait of Neuroticism itself that leads to the use of ineffective coping styles, as coping style effectiveness was found to mediate the relationship between Neuroticism and distress such that Neuroticism led to the use of ineffective coping which then increased distress (Bolger, 1990; Watson & Hubbard, 1996). Neuroticism is also related to a decreased ability to effectively use strategies to uplift one's mood (Vollrath et al., 1995). Overall, neurotic individuals are less able to vary their coping behavior adaptively (DeLongis & Holtzman, 2005) and respond rigidly and inflexibly (Lee-Baggley et al., 2005); even when they do engage in typically adaptive coping strategies, positive results do not typically follow (Lee-Baggley et al., 2005).

Interestingly, Neuroticism does not simply affect the outcome of coping styles used. Research indicates that Neuroticism scores also predict the incidence of stressful life events, and this remains true even when life events are objectively defined (Bolger & Schilling 1991; Breslau et al., 1995; Headey & Wearing, 1989; Ormel & Wohlfarth, 1991). In other words, individuals with neurotic personality styles disproportionately experience difficult life events, and neurotic individuals generate some of their own problems (Watson et al., 1994). Though it may seem improbable that the relationship between Neuroticism and stress is causal, it is clear

that particular characteristics of a neurotic personality style (i.e., anxious, angry, vulnerable, demanding, morose) may contribute to an increased number of negative life events. For example, a demanding and angry individual is more likely to encounter difficulty in a work or family situation (Watson & Hubbard, 1996). Furthermore, individuals with a neurotic personality style tend to appraise events in a negative manner, even when events are viewed neutrally by others. Persons high in Neuroticism also admit to overreacting to daily stressors (Clark, 1993; Watson et al., 1994).

Resources and Coping

Not only do personality factors have implications for which coping style is utilized during a stress event, but social/emotional resource availability also has significance for coping behavior. “Resources” in this line of research include the aforementioned community, family, and personal protective factors facilitating resilience. Research suggests that resources impact coping in two important ways, as individuals tend to cope with stress by using the resources available in their lives. For example, an individual with strong connections to his or her family and community is likely to make use of social support when faced with stress. In addition, coping behavior is associated with the availability of environmental resources. For example, less effective coping efforts may lead to diminished resources (Benotsch et al., 2000; Hobfall, 1989), but effective coping methods may increase resource availability (Aldwin, Sutton, & Lachman, 1996).

Research investigating the role of resources in coping suggests that, for many individuals, coping behavior is related to the presence of specific environmental and

personal resources. In a longitudinal study of coping behavior of displaced hospital workers, it was found that employees with few resources were likely to use avoidance coping. Those with an internal locus of control (viewed as a positive individual resource) were more likely to use problem-focused coping, and individuals reporting strong social support tended to rely on these networks to manage stress. Thus, employees with an internal locus of control tended to address the problem directly, while individuals with strong support networks made use of these to cope (Inglelew, Hardy, & Cooper, 1997). In other words, it was found that individuals avoided dealing with problems unless they had the appropriate means to do so. The effectiveness of the coping effort is also related to later use of such a coping response (Pierce, Sarason, & Sarason, 1996). In addition, Holahan and Moos (1987) found that resources such as high SES, self-confidence, an easygoing personality, and family support increased the likelihood that an individual would use an active and effective coping style. Similar work suggested that individuals with a personal resource of a future orientation perspective (which is associated with perceived control, planning, delay of gratification, and positive well-being) were more likely to engage in active coping that decreased risk for adolescent substance use (Wills, Sandy, & Yeager, 2001). Furthermore, resources have been suggested to underlie the ability to successfully employ coping efforts, as effective coping cannot exist in a context devoid of personal, familial, and community resources.

Although the availability of social/emotional resources has been found to affect the use of coping, the individual's use of a particular coping behavior has also been shown to impact the availability of resources. Some research indicates that

coping decreases available resources, while other studies conclude that coping may actually increase the availability of resources. In other words, research is equivocal as to whether coping increases or decreases available resources, regardless of the objective utility of the coping effort. For example, some literature indicates that coping behavior after loss depletes available resources and thus leads to higher levels of stress (Benotsch et al., 2000). Hobfall (1989) discusses loss spirals, which occur when an individual depletes his or her assets in an attempt to cope and prevent a further loss of resources. Additionally, in a study of Gulf War soldiers, it was found that an individual's use of an avoidant coping style was related to the ability of soldier's family to provide social support (Benotsch et al., 2000). Similarly, an investigation into the coping behavior of adolescents observed that once-resilient adolescents ultimately overtaxed their social support resources in an attempt to cope and thus later struggled with strained interpersonal relationships and poor social competence (Herman-Stahl & Petersen, 1996). Other researchers differentiate between positive and negative loss spirals. In a negative spiral, the aforementioned pattern occurs, whereby resources are taxed in coping efforts and subsequently depleted. In positive spirals, however, effective use of resources through coping behavior enhances both resiliency and available resources (Aldwin, et al., 1996). For example, an individual who copes effectively with a stressor increases his or her sense of mastery and self-confidence. The increased confidence then makes it more likely that the individual will cope effectively in the future.

Resilience and College

Resilience has important applications for the college population, due to the high value American society places on education. In many ways, education has become synonymous with terms such as “achievement” and “social status” (Kivinen & Ahola, 1999). Americans have a firm belief that education is the key to unlocking the door to success in life (Board, 2004); education is also viewed as the economic ticket to middle class life (Farrell, 2006). Because employers often infer productivity based on employee credentials (Kivinen & Ahola, 1999), opportunities to advance within a company are often more limited without an education, particularly a college education (Board, 2004).

There are several important benefits to obtaining a college degree. A college education is seen as a good investment, even when considering tuition and time away from the workforce, (“Costs and Benefits of Higher Education,” 1993; Farrell, 2006; “The Benefits of Higher Education,” 2006). During their lifetime, college graduates make, on average, \$2.1 million, compared to high school graduates, who make \$1.2 million throughout their vocational life (Day & Newberger, 2002). Higher education is not only a sound financial investment but also provides recipients with important social and intellectual rewards. Additionally, research suggests that unemployment rates decrease as years of education increase, and individuals with a college degree are also more likely to receive pensions and health insurance plans. Furthermore, when comparing high school and college graduates, college graduates are less likely to suffer from high blood pressure, high cholesterol, diabetes, obesity, and physical inactivity than high school graduates. Individuals graduating from a four-year college

are also more likely to contribute to society by voting (“The Benefits of Higher Education,” 2006).

Thus, attendance at a four-year college is an index of success, achievement, and status in American society. Education is believed to bestow important rewards upon its students. When considered this way, an individual who is able to successfully cope with adversity and ultimately attend college has responded resiliently to difficult life events.

Current Study

The proposed study seeks to evaluate an overall model of the development of resilience in college students. As previously described, research has demonstrated links between the constructs of life events and Neuroticism, Neuroticism and coping style, coping style and social/emotional resources, and each of these has a demonstrated relationship to psychological adjustment. The goal is to identify a model that helps to explain how an individual’s experience of adversity affects college adjustment through factors such as Neuroticism, coping style, and available resources. Thus, the present study seeks to identify if and how the constructs of personality, coping, and resources are related to the effect of adversity on later success in college.

Masten et al. (1999) notes that resilience research must identify developmental threats, determine factors indicating successful adaptation, and clarify environmental or individual factors facilitating resilience. For the present study, developmental threats include the experience of significant adversity as measured by items on the Life Events Questionnaire (Gest, Reed, & Masten, 1999; Masten,

Neeman, & Andenas, 1994). Successful adaptation is based on college adjustment, including academic adjustment, social adjustment, and personal-emotional adjustment. For this study, coping style, personal, familial, and community resources, and Neuroticism comprise factors of the individual and environment facilitating resilience.

Hypotheses

The present study will utilize structural equation modeling (SEM) to hypothesize and test three competing models. Models were drawn from research linking adjustment to the constructs of life events, personality, coping style, and social/emotional resources, as the use of structural equation modeling requires the specification of a theory-based model (Wyllie, Fang Zhang, & Casswell, 1998). Though not depicted in the three models, a moderating effect of sex was hypothesized such that the models were expected to operate differently for men and women. This hypothesis was drawn from a previous study (Cole et al., 2007) observing a mediating effect of Neuroticism for women that was not observed for men. Though Neuroticism was found to mediate the relationship between life events and current psychological functioning for women, this pathway was not observed for male participants. Not only did Neuroticism not function as a mediator for men, but life events were found to be unrelated to college adjustment for males. Furthermore, women reported lower levels of overall psychological functioning in college (Cole, Rosén, & Malach, 2008). Thus, it was hypothesized in this study that the final structural model tested would function differently for men and women.

The first hypothesized model is presented in Figure 1 and begins with the impact of life events. Life events were hypothesized to correlate positively with Neuroticism. This aspect of the hypothesis was drawn from recent research indicating that adversity is positively related to an increase in an individual's level of expressed Neuroticism (Cole et al., 2007) as well as research suggesting that Neuroticism predicts the incidence of life events (Bolger & Schilling 1991; Breslau, Davis, & Andreski, 1995; Headey & Wearing, 1989; Ormel & Wohlfarth, 1991). Neuroticism was then hypothesized to be negatively associated with both coping behavior as well as available social/emotional resources; this hypothesis derived from the previously mentioned finding of a strong relationship between Neuroticism and coping strategies. Neuroticism was also suggested to be negatively related to the availability of resources, as it makes sense that Neuroticism would be related to the accessibility of such resources as social support. Coping behavior was then hypothesized to be positively associated with the availability of resources, as research suggests that coping may affect resource availability through loss spirals (Aldwin et al., 1996; Benotsch et al., 2000; Hobfall, 1989). Finally, coping and resources were each hypothesized to be positively related to college adjustment.

The second hypothesized model is similar to the first, as life events and Neuroticism were again suggested to be positively correlated. Again, Neuroticism was believed to be negatively associated with coping behavior as well as the availability of social/emotional resources. However, in this model, available resources were hypothesized to be positively related to coping behavior. This aspect of the hypothesis was drawn from literature suggesting that an individual's particular coping

style is impacted by the resources available to that individual (Holahan & Moos, 1987; Ingledew, Hardy, & Cooper, 1997; Wills et al, 2001). Another distinction from the first model is that a direct and negative path was hypothesized between life events and adjustment to test whether this relationship was direct or operated through intermediary variables. Similar to the first model, coping behavior and resources were hypothesized to be positively associated with college adjustment. Please refer to Figure 2 for the second hypothesized model.

The final competing model of resilience expanded on the first two models and is presented in Figure 3. In the final model, life events and Neuroticism were again hypothesized to be positively correlated. Though Neuroticism was suggested to be negatively associated with coping behavior as in previous models, the final model did not hypothesize a relationship between Neuroticism and social/emotional resources. Though it makes sense that a personality factor such as Neuroticism would relate to the availability of resources such as social support, it is possible that this is not a directly observable pathway. As in the first model, coping behavior was then predicted to be positively associated with the availability of resources, and both constructs were related positively to college adjustment.

CHAPTER II

Methods

Participants

Six hundred and seventy-two participants were drawn from data collections which occurred in September and October of 2006 and September and October of 2007. Both data collections occurred at a large western United States university, and students from Introductory Psychology classes were recruited. In return for participating in this study, participants received credit toward Introductory Psychology course requirements. Participants were 364 (54%) female and 308 (46%) male students. Demographic information collected indicated that 494 (73%) were freshman, 104 (15%) were sophomores, 36 (5%) were juniors, and 28 (4%) were seniors. Additionally, 28 (4%) participants reported their ethnicity as Asian, 17 (3%) as African-American, 50 (7%) as Hispanic, 6 (<1%) as Native American, 553 (82%) as White, and 5 (<1%) self-reported as Other. The average age was 18.95 years of age ($SD = 1.98$).

Measures

Life Events. The latent construct of life events was assessed using the Life Events Questionnaire-Adolescent version (LEQ-A) (Gest et al., 1999; Masten et al., 1994) developed for a large-scale resilience study known as Project Competence. Items describe various life events, and participants are asked to indicate whether a

particular event has occurred during a specified amount of time. Though the original LEQ-A was developed to assess events occurring in the last 12 months, this measure was adapted for this study to include not only events occurring in the last 12 months but also events occurring at any point throughout the lifespan (see Appendix A for a copy of this questionnaire). When participants indicated that a particular event had occurred during their lifetime, they were also asked to indicate the relative severity of the event in terms of its impact on their life. Impact ratings were measured on a 5-point Likert type scale ranging from *little impact* to *strong impact*. Though this measure includes 67 items, only 24 are scored. The 24 scored items were deemed most important by Project Competence researchers, as they were judged to be primarily negative and independent of an adolescent's actions. For example, it is clear that running away from home is a nonindependent event in a youth's life, whereas difficult family finances are likely to occur independent of an adolescent's influence. Masten et al. (1994) note that nonindependent events inflate the correlation between measures of life events and adjustment and are thus poor indicators of overall adjustment and competence. For the 24 scored items, sums were derived for the lifetime life events scale, the 12 months life event scale, and the impact rating scale. Therefore, three indicators were used to assess the latent construct of life events; these included the lifetime life events subscale sum, the 12 months life events subscale sum, and the impact rating subscale sum. For this study, reliability was found to be at acceptable levels for the 24 scored events ($\alpha = .87$ for the lifetime life events scale and $\alpha = .83$ for the impact ratings).

Neuroticism. The latent variable of Neuroticism was measured with ten indicator items from the International Personality Item Pool (IPIP) (Goldberg, 1999), (note: the term “Emotional Stability” is also used for this variable). On a continuum of emotional experience, Emotional Stability refers to the experience of positive emotions and stability of emotions, whereas Neuroticism describes the experience of primarily negative emotionality as well as emotional volatility. Due to its positive connotation, some researchers prefer to use the term Emotional Stability, and this is true of the creator of this measure. The IPIP is a pool of 2036 items, and this study used the ten Emotional Stability items from the 50-item short form known as the IPIP Big Five Personality Inventory (Goldberg, 1999). Items are measured with the use of a 5-point Likert-type scale with anchors ranging from *not at all true* to *very true* (see Appendix B). Participants were asked to use a Likert-type scale to describe their current personality style. Correlations between this IPIP short form and the NEO-PI-R, a well-known measure of personality created by Costa and McCrae (1992b), have been shown to range from .70 to .82 (International Personality Item Pool, 2001), and the mean internal consistency of the IPIP short form has been observed to be .84 (International Personality Item Pool, 2001). Internal reliability for the Emotional Stability subscale used in this study was consistent with previous research ($\alpha=.87$).

Social/Emotional Resources. The latent variable of resources was measured by investigating traditional protective factors relating to resilience (i.e., intelligence, positive mentor, financial resources, etc.). The Social/Emotional Influences Inventory is a measure developed specifically for this study, and this 40-item measure asks

respondents to indicate the degree to which various lifetime influences enabled them to overcome life stressors. Items are measured on a 5-point Likert type scale, ranging from *not at all true* to *very true* (see Appendix C). Indicator variables were developed by using Exploratory Factor Analysis (EFA) to identify the factor structure, and this was further improved through Confirmatory Factor Analysis (CFA). Factor analyses indicated the presence of eight factors or subscales, including Positive Caregiving, Intelligence, Financial Resources, Self-Esteem, Talent, Family Connections, Good Schools, and Parental Expectations. These subscales were summed to provide relevant indicator variables used to describe the latent variable of resources. Further information as to the factor structure is presented in the Results section. For this study, coefficient alpha for the entire scale was found to be strong ($\alpha=.91$). Internal reliability for the subscales also proved adequate and ranged from .75 to .91.

Coping skills. To assess the latent variable of coping, the College Coping Skills inventory was used, which is a measure designed specifically for this study. This measure assessed the use of different coping strategies employed by college students. Participants were asked to respond to 47 items investigating the degree to which they use particular coping strategies to deal with the problems and pressures of college life. Items are measured on a 5-point Likert-type scale, ranging from *not at all true* to *very true* (see Appendix D). As with the Social/Emotional Influences Inventory, the factor structure was identified using EFA procedures, and the structure was refined through CFA. To provide model clarification based on factor analytic results, this construct was further delineated into Engagement and Disengagement coping, and each of these two latent variables were identified and associated with two

indicator variables. In other words, Engagement and Disengagement coping were identified as separate latent variables instead of being subsumed by the general construct of coping. Additional information regarding factor analysis is presented in the Results section. Analysis of scale reliability proved acceptable ($\alpha=.80$). Additionally, coefficient alpha for Engagement coping was good ($\alpha=.92$), as was Disengagement coping ($\alpha=.84$).

Current psychological functioning. The latent variable of resilience, categorized as college adjustment for this study, was assessed with the 64-item Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1989) (see Appendix E). The SACQ provides subscales measuring several aspects of students' adaptation to the college experience, and these include Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Institutional Attachment. The SACQ also provides a Full Scale score as well. Item responses are measured on a 9-point scale ranging from *applies very closely to me* to *doesn't apply to me at all*. The Academic Adjustment subscale has 23 items, while the Social Adjustment scale is comprised of 18 items. The Personal-Emotional Adjustment scale includes 15 items, and Institutional Attachment scale contains 14 items. Eight of the Institutional Attachment items are common with other subscales, and there are two additional, non-shared items on this subscale. Subscale reliabilities have been found to be good ($\alpha = .84, .84, .81, .80$ respectively, Baker & Siryk, 1989). Full-scale reliability is also good ($\alpha = .92$, Baker & Siryk, 1989). Similar estimates of reliability were obtained for the present study ($\alpha = .94, .84, .88, .84$ for full-scale, Academic Adjustment, Social Adjustment, and Personal-Emotional Adjustment, respectively).

For this study, indicators of the latent variables of college adjustment included the subscale sums from the Academic Adjustment, Social Adjustment, and Personal-Emotional Adjustment subscales. Institutional Attachment was not used as an indicator as it was not deemed relevant for the model of study, and the Full Scale score could not be used due to its overlap with the three indicators of interest.

Procedure

Participants gave signed consent to participate in this research study. For participants under the age of 18, legal guardians gave signed consent, and participants provided assent for participation. An informed consent form was given to participants to sign, and this briefly described the study as well as any potential risks involved. Participants were also informed that information provided during the course of this study would be anonymous and remain confidential. Additionally, researchers explained that participation in this study involved filling out questionnaires regarding significant life events, coping styles, personality styles, and current functioning. Packets of the aforementioned instruments were provided to participants, and participants' names were not recorded on these instruments. Following completion of the measures, participants were debriefed in writing as to the purpose of the study. All methods and procedures used in this study were approved by the Colorado State University Human Subjects Committee/Institutional Review Board.

CHAPTER III

Results

The data were analyzed using a structural equation modeling approach in EQS, version 6.1. Data analysis involved a two-step process. The first step involved construction of a measurement model, and Exploratory Factor Analysis (EFA) was used to determine the number of factors, factor loadings, and correlation coefficients between factors for newly constructed measures. Confirmatory factor analysis (CFA) was then used to formally construct the measurement model, and CFA was also used to remove extraneous factors and variables. The second step of data analysis involved estimation of the full structural models. As the maximum likelihood estimation procedure is robust to the violation of the multivariate distribution assumption (Chou, Bentler, & Satorra, 1991), this was used for parameter estimates in the structural equation models to estimate the latent structural models. Listwise deletion was employed in order to account for missing data.

Model Construction

Exploratory Factor Analysis

College Coping Skills. As the College Coping Skills (CCS) measure was developed specifically for this study, exploratory factor analytic (EFA) procedures were necessary to establish the factor structure. The correlation matrix of the 47 CCS items was subjected to a Principle Axis Factoring (PAF) analysis with oblique,

promax rotation ($kappa = 4$). The initial solution demonstrated the matrix was factorable (Kaiser-Meyer Olkin measure of sampling adequacy = .85, Bartlett's Test of Sphericity- $X^2 [1081, N = 675] = 17106.99, p < .001$, Determinant = 8.50E-013). Due to its empirically sound nature and relative lack of subjectivity, parallel analysis was selected as the means for determining the number of factors to retain (Hayton, Allen, & Scarpello, 2004). Parallel analysis involves the generation of a random series of correlation matrices meeting the same characteristics of the data collected. Eigenvalues obtained from this analysis are averaged and compared to eigenvalues derived from the collected data, and any factor with an eigenvalue exceeding the random eigenvalue is retained (Hayton, Allen, & Scarpello, 2004). Parallel analysis indicated that nine factors should be extracted. The initial eigenvalues for the nine factors were 7.73, 5.34, 4.05, 2.65, 2.57, 2.39, 1.71, 1.53, and 1.37, respectively. The first factor accounted for 16.45% of the variance. The remaining eight factors accounted for 11.36%, 8.62%, 5.65%, 5.48%, 5.08%, 3.64%, 3.25%, and 2.92% of the variance, respectively. A step-by-step process then ensued in which the factors were then investigated individually, and irrelevant and source-specific items were removed. Items with factor loadings greater than .60 were retained (see Watson, Clark, & Tellegen, 1988). After each significant alteration in the scales, remaining items were again subjected to PAF with oblique, promax rotation; the factor structure remained intact.

The rotated structure matrix was examined to assess what each of the extracted factors represented. The first factor, comprised of six items, was most accurately classified as Social Support with representative items including "I ask for

advice from others,” and “I talk to others who have dealt with the same problem.” The second factor included five items and was deemed to measure Disengagement coping; representative items include “I quit dealing with the problem,” and “I pretend the problem isn’t real.” The third factor, termed Physical Activity, included four items such as “I use physical activity to deal with the problem.” The last five factors each included three items. The fourth factor was classified as Religion, and items included “I rely on God to help me handle the problem” and “I pray.” The fifth factor was named Therapy, and “I seek professional help” is a representative example. The sixth factor, classified as Stay Positive, included “I try to stay positive,” and “I think positively about the problem.” The seventh factor was classified as Aggression and included “I find myself yelling at my friends and family” and “I act aggressively toward friends and family.” The eighth factor included such items as “I turn to a special person in my life” and was named Special Person. The final factor assessed alcohol and drug use and was classified as Alcohol and Drugs. Please refer to the structure matrix depicted in Table 1.

Social/Emotional Influences Inventory. The Social/Emotional Influences Inventory (SEII) was also developed specifically for this study, and as such, also necessitated the use of EFA to explore the number and structure of factors. The correlation matrix of the 41 SEII items was subjected to a PAF analysis with oblique, promax rotation ($\kappa = 4$). The initial solution demonstrated the matrix was factorable (Kaiser-Meyer Olkin measure of sampling adequacy = .87, Bartlett’s Test of Sphericity- $X^2 [780, N = 675] = 13775.389, p < .001$, Determinant = 6.92E-011). Parallel analysis was again selected as the means for determining the number of

factors to retain (Hayton, Allen, & Scarpello, 2004) and indicated that nine factors should be extracted. The initial eigenvalues for the nine factors were 9.86, 3.16, 3.02, 2.20, 2.07, 1.87, 1.53, 1.33, and 1.22, respectively. The first factor accounted for 24.65% of the variance. The remaining eight factors accounted for 7.91%, 7.55%, 5.51%, 5.16%, 4.67%, 3.82%, 3.32%, and 3.06% of the variance, respectively. As before, each factor was then investigated individually, irrelevant and source-specific items were removed, and items with factor loadings greater than .60 were retained (Watson, Clark, & Tellegen, 1988). The factor structure remained intact after remaining items were again subjected to PAF with oblique, promax rotation.

In order to assess what the extracted factors represented, the rotated structure matrix was examined. The first factor, comprised of six items, was most accurately classified as Positive Caregiving with representative items including “I felt connected to a parent/guardian,” and “I had a parent/guardian I could rely on.” The second factor included three items and was categorized as Faith; a representative item includes “I had a strong sense of faith.” The third factor, termed Intelligence, included three items such as “I was intelligent.” The fourth factor including three items was classified as Financial Resources, and items included “My family was able to afford all the things we needed” and “My family was financially comfortable.” The fifth factor, composed of three items, was named Self-Esteem, and “I believed in myself” is a representative example. The sixth factor included three items, was classified as Talent, and included “I had a talent (i.e., I was talented at a sport, music, drama, etc.),” and “I was skilled in at least one activity.” The seventh factor was classified as Family Connections and included three items. Representative items are “I had

positive connections to my extended family (grandparents, aunts, uncles, etc.)” and “I could depend on family members other than parents and siblings.” The eighth factor, composed of three items, included “My school met students’ academic needs” and was named Good Schools. The final factor was classified as Parental Expectations. Two items were included, and these are “My parents had high expectations for me” and “My parents expected me to succeed.” Table 2 illustrates the structure matrix for the Social/Emotional Influences Inventory.

International Personality Item Pool. EFA was also used to analyze the factor structure of the ten Emotional Stability items of the IPIP. This procedure was used because information was available regarding the factor structure of the entire inventory but was not available specifically for the Emotional Stability items. As before, the correlation matrix of the ten IPIP items was subjected to a PAF analysis with oblique, promax rotation ($\kappa = 4$). The initial solution demonstrated the matrix was factorable (Kaiser-Meyer Olkin measure of sampling adequacy = .88, Bartlett’s Test of Sphericity- $X^2 [45, N = 675] = 2512.040, p < .001$, Determinant = .023). Parallel analysis was again used to identify the number of factors to retain (Hayton, Allen, & Scarpello, 2004). This indicated that one factor should be extracted. The initial eigenvalue for this factor was 4.56, and the factor accounted for 45.58% of the variance. As before, the factor was then investigated individually. No irrelevant and source-specific items needed to be removed, and all items had factor loadings greater than .60 and were thus retained (Watson, Clark, & Tellegen, 1988).

Confirmatory Factor Analysis

The process of structural equation modeling involves two important steps. Though analysis of the structural models is a clear goal, this process cannot be conducted until the researcher has ensured that the hypothesized latent factors do, in fact, exist empirically and are internally consistent. This process is described by Byrne (2006) as testing the measurement model, and it is conducted using Confirmatory Factor Analysis (CFA). As it was hypothesized that sex would function as moderator in this analysis, CFA was first performed separately for men and women to establish baseline models for each group, as recommended by Byrne (2006). Next, the measurement models for men and women were then tested for invariance using series of multigroup analyses. According to Byrne (2006), the term *invariance* indicates that the loadings of items on specific factors is not significantly different for men and women. In certain circumstances, it is found that some, but not all, loadings or path coefficients are not significantly different for groups, and this is termed *partial invariance* (Byrne, 2006).

In order to analyze model fit, four fit indices were used. Standard practice is to use chi-square, but this fit index is highly susceptible to the number of participants as well as to the overall model complexity (Bentler, 1980; Bentler & Bonett, 1980). As such, a nonsignificant chi-square is suggestive of good fit but is often not obtained due to the aforementioned limitations. For this study, chi-square was used, but three other fit indices were added to offset the limitations of relying solely on chi-square. Additional indices included the chi-square/degrees of freedom ratio, the comparative fit index (CFI) (Bentler, 1990), and the nonnormed fit index (NNFI). As suggested by

Newcomb (1994), a model is judged to have a good fit if the chi-square/df ratio is less than 2.00 or if an NNFI or CFI is greater than .90.

Information obtained from EFA was used in the initial measurement model tested for men and women. EFA indicated that there were nine factors for each of the College Coping Skills and Social/Emotional Influences Inventory, and it also suggested that one factor existed for the IPIP. Because inclusion of all these factors and each of their respective indicators would cause the model to be under-identified and thus inestimable (Byrne, 2006), subscale sums for each factor were used as indicators for the hypothesized latent constructs (e.g., coping, resources, Emotional Stability, etc.). Subscale sums were also used for the SACQ and LEQ-A, and these included Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, lifetime life events sum, 12 months life events sum, and impact rating sum. The model was then subjected to an initial CFA separately for men and women.

Confirmatory factor analyses were conducted with factor variances set to unity and with all factors allowed to correlate freely. Means, standard deviations, and standardized factor loadings for men and women are displayed in Table 3. Based on investigation of initial model fit, several indicators were removed due to factor loadings being less than .40. Eliminated indicators included the 12 months life events sum, Faith, Physical Activity, Religion, Therapy, Stay Positive, and Alcohol and Drug Use. Furthermore, once these coping indicators were removed, it was deemed more logical to group the remaining four indicators according to Engagement and Disengagement coping, according to common delineation (Compas et al., 2001). In addition, examination of the LaGrangian multiplier test suggested that one factor was

not sufficient to describe the Emotional Stability scale of the IPIP, and instead it was appeared that two factors better accounted for the variance. As such, individual items of the Emotional Stability scale were investigated to determine whether two factors made theoretical sense, and it was thus concluded empirically and rationally that two factors were appropriate. As shown in Table 4, model fit for both men and women was fair, with CFIs approaching .90. None of the fit indices for the CFAs met cutoff criteria for good fit, but it was determined that model estimation could proceed, as the model was approaching adequate fit based on the CFI. All factor loadings were significant once the aforementioned indicators were removed. Factor loadings ranged from .50 to 1.00 for men and from .46 to 1.00 for women. This suggested that these variables constructed reliable latent constructs for use in the structural models.

As seen in Table 3, there are many similarities between men's and women's CFAs, but multigroup analyses were conducted to determine whether there were also significant differences between groups. For the first multigroup analysis, all factor loadings were allowed to vary freely, and the fit indices for this model are presented in Table 4. As can be seen in the table, adequate model fit was obtained ($CFI = .90$). In the second multigroup model, all factor loadings were constrained to be equal. Fit indices for this second model can be viewed in Table 4, and a CFI of .88 was obtained. A chi-square difference test conducted to compare the two models demonstrated that there were differences in the factor loadings between the model for men and the model for women (see Table 4).

As the chi-square difference test indicated that the CFAs for men differed significantly from the CFAs for women, the LaGrangian multiplier test was examined

to determine which factor loadings operated differently for men and women. As presented in Table 3, six factor loadings were found to be significantly different for men and women; these are denoted by a superscript. Releasing these six factor loadings resulted in a minor improvement in model fit ($CFI = .89$) (see Table 4 for the final measurement model fit). Results indicated that worrying was more strongly linked to Emotional Stability for men; positive caregiving and having a talent were also more strongly related to resources for men. Furthermore, the use of a special person for support was more strongly related to Engagement coping for men. For women, on the other hand, life events as well as impact ratings were more strongly associated with the construct of life events. In general, the multigroup analysis of the measurement model suggested partial invariance, as for most constructs the majority of the indicators were invariant for men and women. For life events, however, both indicators were shown to be non-invariant. It was determined that these differences did not pose a threat to the reliability of the latent constructs, as both standardized factor loadings were identical. Because both standardized factor loadings were identical for the life events sum and impact rating sum, it was concluded that these could be considered similar enough to continue with a multigroup analysis of the structural models.

Structural Models

Having deemed the measurement model adequate and partially invariant, analysis moved to testing of the three alternate hypothesized models. As with testing of the measurement model, the competing models were initially optimized separately for men and women due to the hypothesized moderating effect. The optimized

models for men and women were then subjected to multigroup analyses. To facilitate model identification of the structural model, factor loadings for the first observed variable of each latent factor were fixed to 1.0 (Jöreskog & Sörbom, 1986). Chi-square difference tests conducted on the alternate models indicated that the first model fit the data most accurately, though not well, for both men and women, and these results are displayed in Table 5. Though the difference between the first and second hypothesized models was small, chi-square difference tests indicated the difference was significant. Thus, as the first model was judged to be most fitting, this model was retained for subsequent testing as the structural model of interest.

Women. To prepare for the multigroup analysis, models were optimized separately for men and women. For women, the LaGrangian multiplier test suggested an improvement in model fit if a path was added between Emotional Stability and college adjustment. Previous research indicated that the addition of such a path would make theoretical sense, as Emotional Stability was found to be positively related to higher levels of functioning in college (Cole et al., 2007). Therefore, based on empirical and theoretical evidence suggesting a relationship between Emotional Stability and college adjustment, this path was added. The addition of this path improved fit indices significantly as indicated by the chi-square difference test, $\chi^2 (1) = 26.654, p < .05$.

The Wald test indicated that several paths could be removed from the model without forfeiting a significant decrease in model fit. These paths included the path between Emotional Stability and Engagement coping, Disengagement coping and college adjustment, and Disengagement coping and resources. These paths were

successively dropped from the model, as it was determined that the model continued to make theoretical sense without these relationships. Specifically, comparison of the adjusted model with the originally hypothesized model indicated that the general model structure could be maintained despite these losses. For example, though the path between Engagement coping and Emotional Stability was deleted, a path remained between Disengagement coping and Emotional Stability and it was felt that this remained true to the original theory. Similarly, it was believed that the path maintained between Engagement coping and college adjustment accounted for the path removed between Disengagement coping and college adjustment. This was also true for the deletion of the path between Disengagement coping and resources. Removal of these paths also increased the parsimony of the model. Interestingly, results of the Wald test also indicated that the path between resources and college adjustment could be removed from the model without a significant deterioration in model fit. Based on the large literature base supporting the existence of a relationship between resources and adjustment, it was determined that theoretical evidence did not support the removal of this path despite the empirical evidence suggesting that this path was not significant. The model was then tested with the removal of aforementioned paths, and as suspected, no significant change in model fit was observed. Fit indices for the optimized model are presented in Table 6. This model is also depicted pictorially in Figure 4.

Men. The model was then optimized for men. Results of the LaGrangian multiplier test did not suggest that the model would be improved if any paths were added between latent constructs. Instead, the LaGrangian multiplier test advised the

addition of nonsensical covariance paths, and these were not deemed to substantively improve the model theoretically. Wald test results were then inspected, and it was suggested that several structural paths could be removed without significantly decreasing model fit. These paths included a path between Engagement coping and college adjustment, Disengagement coping and resources, and Emotional Stability and Engagement coping. As was the case for females, it was determined that these paths could be removed from the model without resulting in deterioration of the original hypothesized model. Again, it was concluded that the path between Emotional Stability and Disengagement coping was sufficient to account for the removal of the path between Emotional Stability and Engagement coping. Similarly, the path between Disengagement coping and college adjustment was deemed sufficient to allow for deletion of the path between Engagement coping and college adjustment. Interestingly, however, the deleted path for females was between Disengagement coping and college adjustment, whereas for men, path deletion occurred between Engagement coping and college adjustment. As was the case for females, Wald test results also suggested the removal of the path between resources and college adjustment, and again it was determined that removing this path did not make theoretical sense. The model was then tested to examine model fit after removal of these paths, and model fit remained stable. Fit indices for this optimized model for men are presented in Table 6. This model is displayed in Figure 5 and was retained for men as the optimal model.

In sum, two deviations were observed between the optimized models for males and females prior to the initiation of multigroup analyses. For women, a path

was added between Emotional Stability and college adjustment, and this path was not added for men. Additionally, for males a path existed between Disengagement coping and college adjustment, whereas for women this path was between Engagement coping and college adjustment. In order to conduct multigroup analysis, however, the two models were required to be identical. Therefore, the models subjected to multigroup analysis for women and men included a path between Emotional Stability and college adjustment as well as paths between Engagement coping and college adjustment and Disengagement coping and college adjustment.

Multigroup analysis. The structural models were then subjected to multigroup analysis. During the first step of multigroup analysis to establish a baseline model, no constraints were imposed on the model. Fit indices for this model are presented in Table 6, and fit again approached an adequate level ($CFI = .89$). The second step of multigroup analysis imposed all equality constraints on the model with the exception of those previously found during the multigroup CFA to differ significantly between groups. A chi-square difference test conducted to compare the baseline model and the model with all equality constraints indicated that there were differences in structural paths between the models for men and women. Results of the LaGrangian multiplier test were subsequently investigated, and it was found that one constraint was significant, indicating the presence of empirical evidence for releasing a constraint. The path to be released, based on evidence obtained from the LaGrangian multiplier test, was between Emotional Stability and college adjustment. This constraint was then released, and multigroup analyses were again conducted to determine whether releasing this constraint significantly improved model fit. A chi-square difference test

conducted to assess the degree of difference between the baseline model and the revised model with a path released indicated that these models were not significantly different. Therefore, partial invariance was concluded due to the aforementioned differences in the measurement model for men and women as well as the finding that the path between Emotional Stability and college adjustment was not equivalent for men and women.

Interesting findings emerged from analysis of the final multigroup models. First, the path between Engagement coping and college adjustment was found to be significant for women as well as for men, while the path between Disengagement coping and college adjustment was not significant for men or for women. Additionally, multigroup analysis indicated that the path between Emotional Stability and college adjustment was significant for men, though previous analysis had not suggested the addition of this path for men.

Post Hoc Analyses. Additional post hoc analyses were conducted on the structural models for men and women. Specific effects models were used to determine the presence of any relationship between specific resource indicator variables and adjustment, given the overall lack of relationship between the two latent constructs. Specific effects models are used to examine associations between the error terms of specific indicators and latent constructs, and such models control for the effects of other relationships within the model. For this model, specific effects modeling was used to determine whether a relationship existed between specific resource variables, as it was believed that the presence of all resource indicators caused an attenuation of this relationship. Variables of interest included positive

caregiving, intelligence, and financial resources, given the strong literature base supporting the importance of these variables. Additionally, these variables demonstrated the strongest factor loadings on the social/emotional resources latent construct, and therefore, these variables were deemed most relevant for additional analyses. No relationship was observed between adjustment and positive caregiving, intelligence, or financial resources, based on observed *t*-score results.

Additional Analyses

Additional data analyses were also conducted to examine differences between those experiencing more and fewer negative life events, and independent sample *t*-tests analyzed individuals in the top and bottom quartiles of negative life events. Independent sample *t*-tests were utilized, because this form of analysis could not be conducted through structural equation modeling without sacrificing power and resulting in range restriction. Data analysis indicated that individuals in the top quartile of negative life events experienced between 8 and 18 negative life events, and individuals in the bottom quartile reported up to 3 negative life events. Results indicated that individuals in the top quartile of experience of negative life events reported significantly poorer adjustment in all areas of interest. Specifically, analyses indicated that individuals in the top quartile reported poorer overall adjustment ($t = 3.495, p < .05$), personal-emotional adjustment ($t = 4.597, p < .05$), social adjustment ($t = 2.290, p < .05$), and academic adjustment ($t = 2.695, p < .05$). Effect size analyses indicated that the degree of significance of these results was small, and effect sizes ranged from .01 to .06.

After ascertaining that differences in adjustment existed between groups, analyses moved to analysis of the types of events experienced by each group. Results indicated that the events reported by each group differed in interesting and important ways. Specifically, striking differences were observed in terms of the percentages of each group experiencing each event of interest, and these percentages are displayed in Table 7. Furthermore, of the events listed, individuals reporting more negative life events also experienced more life events which would be considered by most individuals to be traumatic. For example, this group of individuals was more likely to report experiencing divorce and separation, familial suicide, having parents or siblings go to jail, being evicted, having close family members and friends die, and being a victim of violence. Clearly, this group of individuals dealt with significant and traumatic life events, and this has influenced their overall adjustment to college.

CHAPTER IV

Discussion

An overall model of college adjustment was tested for this study, and multigroup analyses were used to determine whether the model functioned differently for men and women. In general, results suggested that the experience of negative life events was positively associated with elevated levels of Neuroticism (as measured by Emotional (in)Stability in this study) for both men and women. Neuroticism, in turn, was associated with Disengagement coping as well as a decrease in social/emotional resource availability. Neuroticism was also negatively associated with college adjustment. Coping styles were also related to the availability of resources, such that the use of Engagement coping was associated with greater resource availability. Furthermore, results indicated the presence of a positive relationship between Engagement coping and college adjustment, and no relationship was observed between college adjustment and Disengagement coping. According to model analyses, life events were not found to be directly related to college adjustment, though additional analyses indicated that an increase in negative life events was associated with an overall decrease in college adjustment. Surprisingly, results suggested the presence of no relationship between resources and adjustment to college. It is important to note, however, that the models demonstrated only adequate fit, and therefore the results must be interpreted with some caution.

The finding of a relationship between negative life events and Neuroticism for men as well as women is not surprising, given that Neuroticism describes individuals who are anxious, angry, depressed, self-conscious, immoderate, and vulnerable to stress (Goldberg, 1999; McCrae & Costa, 2003). Previous research has documented a relationship between stressful life events and Neuroticism, as Neuroticism was found to mediate the pathway between life events and college adjustment (Cole et al., 2007). This relationship may operate in several different paths. For example, it is possible that neurotic individuals may simply perceive their lives in a more negative manner. In fact, the possession of a neurotic personality style has been associated with negative appraisals of events, even those deemed neutral by others (Clark, 1993; Watson et al., 1994). It may also be that stress “activates” a neurotic personality style such that individuals possess a biological predisposition to be more neurotic that it activated when a stress event occurs. This would suggest that neurotic individual are more likely to struggle to cope with daily hassles, and this has been found (Clark, 1993; Watson et al., 1994). Furthermore, Neuroticism has been found to predict the incidence of negative life events even when life events are objectively defined (Bolger & Schilling, 1991; Breslau et al., 1995; Headey & Wearing, 1989; Ormel & Wohlfarth, 1991). Thus, neurotic individuals not only are disproportionately affected by stress, but research suggests that these individuals may be responsible for the creation of their own problems.

Another interesting observation was that Neuroticism was negatively related to college adjustment for men and women. The existence of a relationship between these factors is not surprising, given the extensive linkage of Neuroticism and poorer

adjustment. As stated previously, Neuroticism was found to mediate the relationship between life events and college adjustment for women (Cole et al., 2007), and it is logical that an individual who is described as anxious, angry, depressed, and vulnerable (Goldberg, 1999; McCrae & Costa, 2003) would experience poorer adjustment. Interestingly, it was noted that the strength of this relationship was different for men and women, and it appears that Neuroticism is somewhat more strongly related to college adjustment for females. A similar gender effect was found in previous research (Cole et al., 2008), in which Neuroticism was found to mediate the pathway between life events and college adjustment for women but not for men. There are several possibilities for this gender difference. Research has documented differences in distress levels for men and women, and it appears that women are more likely to experience emotional distress than men (McIntosh, Reifman, Keywell, & Ellsworth, 1994; Mirowsky & Ross, 1995; Sweeting & West, 2003). Other explanations arise from the *response-bias* view (Nolen-Hoeksema, 1987), which notes that women are more aware of their emotions, are more likely to disclose their emotions, and are more inclined to view expression of emotions as acceptable. Men, on the other hand, exhibit decreased self-awareness, reveal fewer emotions, and consider emotional openness to be stigmatizing. Therefore, it may be that men were less inclined to admit to poorer college adjustment and/or increased Neuroticism. It is also possible that the male participants experience similar levels of adjustment but express it in a different manner such as through physical health or risky behavior. The ill effects of stress on health have been well-documented (McEwen, 1998), and cancer, lung disease, skeletal fractures, and liver disease have been implicated as

long-term outcomes for children raised in “risky families” (Repetti, Taylor, & Seeman, 2002). Perhaps this path would have been stronger for men had outcome measures included physical health, substance use, and promiscuity.

Results also suggested a pathway between Neuroticism and Disengagement coping for males and females, which has been supported by previous research. An extensive literature base has documented the existence of a relationship between a neurotic personality style and the employment of less effective coping styles, such as Disengagement coping. For example, path analysis observed that Neuroticism predicted the use of ineffective coping styles, and both were related to distress (Bolger, 1990; Watson & Hubbard, 1996). Significantly, neurotic individuals are also less able to employ mood-lifting strategies (Vollrath et al., 1995) or flexibly adapt their coping styles (DeLongis & Holtzman, 2005; Lee-Baggle et al., 2005). McCrae and Costa (1986) also noted that neurotic individuals were likely to use the least effective coping styles studied. Thus, it makes sense that Neuroticism was associated with the use of Disengagement coping strategies, as Neuroticism is related to ineffective coping styles, and Disengagement coping is associated with an increased number of internalizing and externalizing symptoms as well as poorer overall psychological functioning (Compas et al., 2001).

Neuroticism was not only found to be related to an increase in the experience of negative life events and the use of Disengagement coping, it was also associated with a decrease in social/emotional resource availability for women and men. It is logical that this pathway was observed, as individuals with this personality style may be likely to overburden their social support network. As discussed by Watson and

Hubbard (1996), certain features of a neurotic personality style are likely to contribute to distress, as an individual who is angry or demanding may be substantially more likely to experience difficulty in their work or family situation such that co-workers or family members may be less likely to provide support during stress. The same is also true for potential mentors that may enter an individual's life, as one who is anxious, angry, depressed, or vulnerable may be less likely to attract a mentor who could potentially provide assistance to the individual during the occurrence of negative life events. Furthermore, research supports the negative impact of a neurotic personality on social support, as Neuroticism has been linked to the failure to adequately build, maintain, and maximize one's support network. Compared to emotionally stable individuals, neurotic personality styles are related to the perception of less support from others (Tempelaar, de Haes, de Ruiter, & Bakker, 1989; Winnubst et al., 1988). Thus, it is clear that a neurotic personality style has negative effects on the access an individual has to social/emotional resources such as social support during a stress event.

It was also found that coping was related to social/emotional resource availability for men as well as women, as Engagement coping was associated with an increase in the availability of resources. This study provided support for the hypothesis of positive spirals, as previous researchers have asserted that effective resource use facilitates resiliency and the acquisition of further resources (Aldwin et al., 1996). In other words, it appears that effective coping may ultimately increase or strengthen one's network of resources. For this study, it may be that Engagement coping, operationalized as social support and turning to a special person, increased

the accessibility of social resources. Interestingly, it was not found that Disengagement coping was related to resource availability. Previous research has indicated that coping may also affect resources through loss spirals, whereby an individual overtaxes his or her resources in an effort to cope such that coping behavior leads to decreased availability of resources (Benotsch et al., 2000; Herman-Stahl & Petersen, 1996; Hobfall, 1989). Therefore, evidence for loss spirals was not found in this study, as Disengagement coping was not associated with resource accessibility. This study found that only positive coping was related to the availability of resources.

No evidence was found to support a relationship between social/emotional resource availability and college adjustment, which was an unexpected result. It was hypothesized that a relationship between these variables would be found, as it makes sense that individuals who have increased access to resources such as mentors, intelligence, financial resources, positive caregiving, effective schools, personal talents, self-esteem, and positive family connections would ultimately have more positive outcomes. The importance of these variables for success after stress has been highlighted extensively in research, and these variables have been strongly supported such that each has been described as a protective factor facilitating adjustment for individuals in high-risk situations (Masten & Coatsworth, 1998). For example, Rutter (1979) concluded that children parented with warmth and the absence of severe criticism have a greater chance of success. Furthermore, financial resources availability has been linked to developmental success (Garmezy et al., 1984; Masten & Coatsworth, 1998). Additionally, longitudinal studies highlight the significance of

multigenerational kin networks (Werner & Smith, 1988), and intelligence repeatedly presents itself as facilitating adjustment and success (Garmezy, 1981; Masten et al., 1999; Werner, 2005). Therefore, it is surprising that no relationship was observed between these resources or protective factors and college adjustment.

Several possibilities exist to explain the surprising lack of relationship between social/emotional resources and adjustment. It is possible that the variables defining adjustment for this study were not similar enough to other adjustment variables examined in previous research. Masten et al. (1995) defined her outcome construct as “competence” and defined it based on the variables of academic attainment, conduct, and peer social success for those in late adolescence. The adjustment variables for this study included personal-emotional adjustment, social adjustment, and academic adjustment. Though these variables are similar to those of the Masten et al. (1995) study, it may be that they are different enough that a result was not observed. It is also possible that these variables were too narrowly defined, as they applied only to college adjustment; perhaps a more general assessment of adjustment would have resulted in a finding between social/emotional resources and adjustment. It may also be that these variables operate much earlier in an individual’s life such that the effects are no longer present by the time the individual reaches college. It is possible that these resources produce an effect only at the time of a stress event such that a longitudinal study would be more likely to observe results. Additionally, this study was conducted on college students believed to have already demonstrated a pattern of resilience such that they are attending college. It may be that range restriction occurred so a relationship between these variables could not be

detected. Therefore, it is more likely that the methodology used for this study resulted in an inability to observe effects that were present at one time; it is doubtful that no real relationship exists given the extensive literature base supporting a relationship between these resources and adjustment.

Results also indicated that Engagement coping was positively associated with enhanced college adjustment for men and women, whereas Disengagement coping was unrelated to college adjustment for men and women. It is not surprising that Engagement coping was associated with an improvement in adjustment to college, as previous research has found Engagement coping responses to be associated with better overall outcomes (Compas et al., 2001). Specifically, Engagement coping is linked to a decrease in internalizing symptoms, enhanced competence (Compas et al., 2001), and problem resolution (Courbasson et al., 2002). It is interesting, however, that the use of ineffective coping styles did not lead to poorer college adjustment, as an extensive literature base documents the relationship between Disengagement coping and greater internalizing and externalizing symptoms as well as overall poorer psychological functioning (Compas et al., 2001). In an attempt to understand such a finding, it may be that the use of such coping strategies as behavioral disengagement and aggression has little effect on college adjustment.

Other possibilities for the lack of a relationship between Disengagement coping and college adjustment exist. It is also possible that the factor structure of the College Coping Skills resulted in this observation. Though this measure was intended to assess a wide variety of coping styles including religious coping, active coping, physical activity, remaining positive, therapy services, drug and alcohol, aggressing

toward others, disengagement, social support, and relying on a special person, only social support, relying on a special person, behavioral disengagement, and aggression were clarified sufficiently to be supported through Confirmatory Factor Analysis (CFA) methods. Previous work has demonstrated the susceptibility of coping measures, even widely-used measures such as the Ways of Coping Questionnaire (Folkman & Lazarus, 1988), to inapplicable items. Inapplicable items are described as those to which a respondent indicates that a coping skill was not used, and this may imply that the respondent did not use this skill, or simply that this skill does not apply to the respondent in a specific situational context (Waller, 1989). Analyses of the factor structure of such measures have found that inapplicable items can dramatically alter the factor structure, even when only a small percentage of items are inapplicable (Ben-Porath, Waller, & Butcher, 1991; Waller, 1989). Therefore, it may be that inapplicable items altered the factor structure of the College Coping Skills scale, and this resulted in the absence of a relationship between Disengagement coping and college adjustment. Such thinking also seems relevant for coping behaviors within a college population, for example use of drugs and alcohol in coping efforts. It may be that college students are engaging in these behaviors but see the behaviors as unrelated to coping; for example, perhaps college students are using alcohol and drugs regularly but see their use as irrelevant for, and unrelated to, coping under stress.

The significant reduction of the College Coping Skills measure through CFA is itself interesting. Though the presence of inapplicable items is itself a likely explanation, it is also possible that other factors contributed to resultant factor

structure. As previously mentioned, this measure was constructed to assess a variety of coping methods, and only a few were supported by data analysis. As previous work has observed this range of coping skills in the general population (Carver, Scheier, & Weintraub, 1989), it may be that college students are not utilizing the full range of coping skills available to them. Perhaps college students are at a point in their lives in which they have not made sufficient developmental progress to recognize the array of possible ways to cope with stress. Berzonsky (1992) studied college students' identity development and found that coping skill employment was associated with stage of identity development. Therefore, it is possible that college students undergo developmental transformation in terms of their likelihood to engage in a particular coping behavior. Perhaps seniors in college would have been more likely to report using a wide variety of coping methods, as compared to the high percentage of freshman studied in the present research.

Though support for a direct path between life events and college adjustment was not found in this study, additional analyses explored the relationship between these variables. Though effects were small, it was noted that individuals experiencing significantly more negative life events reported experiencing decreased levels of adjustment to college across a wide variety of domains, including overall adjustment, personal-emotional adjustment, social adjustment, and academic adjustment. Not surprisingly, participants reporting more negative life events also disproportionately experienced events which would be considered by most to be most traumatizing, such as having immediate family members and friends pass away, having immediate family members go to jail, and being a victim of violence. It is not surprising that

individuals reporting more negative life events experienced lower levels of adjustment, as Rutter (1999) notes that risk level is highly significant, and the cumulative effect of risk involves synergistic interactions among the risk factors. In other words, adjustment level and risk of psychopathology increases as adversity increases. What is interesting, however, is that the degree of difference in adjustment between the two groups was small. It appears that the effect of adversity had ebbed substantially by the time these individuals displayed enough resiliency to attend college, but it is important to note that the costs of such adversity were still present in terms of levels of relative adjustment.

Limitations and Directions for Future Research

Several limitations to this study exist. One limitation was related to the nature of data collection. For example, data collection was retrospective, and participants were required to remember and report the occurrence of stressful events in their lives. Data was therefore dependent on the accurate recollection of life events, and potential bias always exists when recall is included in data collection. Furthermore, as data collection was based on self-report, it is possible that participants did not accurately report information from their lives. Self-report procedures are also always subject to bias, as participants may feel compelled to misrepresent information to make themselves appear more attractive when reporting.

An additional limitation of this study was range restriction. As previously noted, participants were college students and thus had demonstrated some level of resilience in order to be successful enough to attend college. In other words, all participants sampled for this study were resilient and had overcome some amount of

trauma in their lives such that they were able to being their college career. It may be that different results would have been obtained if a more diverse and representative sample had been used. For example, an effect of resources on adjustment could have been detected if participants included those who had attended college as well as those who had not. It is important to note, however, that participants displayed a range of college adjustment that was normally distributed. The majority of participants reported average levels of college adjustment, but the sample ranged from low functioning (<1st percentile) to remarkably high functioning (98th percentile).

Restricted sampling procedures were also a limitation. As participants were all obtained from an Introductory Psychology student pool, this study analyzed a convenience sample. Additionally, participants were asked to self-select for available studies. Thus, participants may have been drawn to this study due to the experience of negative life events, and the generalizability of this study may therefore be questionable. Perhaps a different pattern of results would have been obtained in a different and more representative sample, and different conclusion may have been drawn.

A final limitation is that the models tested in this study demonstrated only fit approaching adequacy. Though most fit indices neared adequacy, no model reached cutoff criteria for good fit (CFI=.90). Therefore, the models must be interpreted with some caution. It may be, however, that good fit would have been observed had a more representative sample been used. Also, this model was the first of its kind to be tested and was necessarily somewhat exploratory in nature.

Future research studies should explore models of adjustment in longitudinal studies. This study was the first to combine life events, personality variables, coping, resources, and adjustment in one model to explore the factors contributing to success after adversity. It will be important in future studies to explore these variables in a longitudinal model and with a more representative sample to determine their interrelation. Future researchers could collect information as to negative life events, Neuroticism, coping styles, social/emotional resources, and adjustment. Data collection would be facilitated by gathering these variables early in life, as participants will not be called upon to retrospectively provide information. Additionally, early data collection may also offset some of the negative effect of social desirability. Such a study would provide more conclusive information as to a complete model of adjustment and resilience.

Implications

Previous literature has documented the linkage between the constructs of life events, personality, coping, social/emotional resources, and adjustment. This study adds to the literature base by providing a possible model highlighting the interrelations between each of these variables. This information could be used to provide many benefits to at-risk populations and could be used to inform the development and implementation of interventions potentially able to provide assistance to such individuals. Additionally, this model could assist in the identification of at-risk youth such that they could be reached by interventions. For example, interventions could be targeted toward the coping strategies of at-risk youth, and this population could be assisted in decreasing its use of less effective coping

methods and strengthening employment of positive coping styles. Specifically, as this study found a relationship between Engagement coping and adjustment, and Engagement coping is associated with better outcomes overall (Compas et al., 2001; Courbasson et al., 2002), professionals could instruct at-risk youth to employ coping methods such as seeking social support or finding a solution to the problem. Additionally, the results of this study could be used to help youth dealing with trauma find more resources in their network that they can use to maximize their coping effort. As it is clear that having few social/emotional resources in one's life compounds stress, interventions could focus on increasing the number of resources in one's life, such as having a mentor, identifying talents, and strengthening family or prosocial friendship connections. Furthermore, this study highlights the role of Neuroticism in adjustment, and youth predisposed to this personality style could be taught strategies to offset this potentially detrimental personality style. For example, youth tending toward a neurotic personality could be taught to alter perceptions of daily stress and learn more effective means of navigating one's environment. Instruction could focus on self-soothing statements to cope with stress at the time of the stress event; communication skills could be learned to offset the possibility of an anxious, angry, and vulnerable individual damaging important relationships while dealing with stress. As the field of resilience continues to grow, mental health professionals will be better equipped to help youth at-risk of poor adjustment, and this study is a positive step in that direction.

Conclusion

A model of resilience was investigated in a college sample. Participants provided information about negative life events, personality styles, coping styles, social/emotional resources, and college adjustment. Results provided evidence for a model linking the incidence of negative life events to a neurotic personality style, and neuroticism was related to a decrease in college adjustment. Additionally, Neuroticism was found to be negatively related to the availability of social/emotional resources, and it was also related to the use of less effective coping styles. Furthermore, positive coping was positively related to resource availability such that effective coping increased the accessibility of social/emotional resources. It was also found that coping was related to college adjustment, such that Engagement coping was positively related to college adjustment while Disengagement coping was unrelated to college adjustment. Surprisingly, this study did not provide evidence for a relationship between social/emotional resources and adjustment, despite a large literature base documenting this association. Additional analyses were also conducted to examine differences between individuals reporting more and fewer negative life events, and it was found that those experiencing more adversity reported poorer adjustment in college. Future studies will shed more light on this comprehensive model of adjustment, as such studies can use more rigorous methodology unavailable at this time or make use of a longitudinal model.

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Table 1

Structure Matrix—Final EFA of College Coping Skills Subscales

	Factor								
	1	2	3	4	5	6	7	8	9
Emotional Social support 1	0.804	-0.056	-0.017	0.254	0.113	0.100	0.115	0.539	0.072
Emotional Social support 2	0.796	-0.163	0.030	0.210	0.069	0.156	0.068	0.519	-0.041
Instrumental Social support 1	0.783	-0.191	-0.007	0.113	0.060	0.146	0.055	0.444	-0.027
Instrumental Social support 2	0.780	-0.086	-0.011	0.188	0.109	0.127	0.104	0.408	0.015
Emotional Social support 3	0.725	-0.063	-0.026	0.242	0.108	0.121	0.089	0.557	0.043
Instrumental Social support 3	0.675	-0.142	0.054	0.167	0.094	0.232	0.023	0.436	-0.027
Denial 1	-0.144	0.828	-0.003	-0.038	0.119	-0.244	0.334	-0.145	0.258
Behavioral Disengagement 1	-0.133	0.761	-0.040	-0.104	0.078	-0.230	0.295	-0.088	0.202
Behavioral Disengagement 2	-0.120	0.720	-0.084	-0.091	0.117	-0.150	0.321	-0.086	0.218
Procrastination 1	-0.077	0.690	-0.042	-0.057	0.114	-0.231	0.257	-0.126	0.181
Denial 2	-0.114	0.666	0.046	-0.008	0.203	-0.201	0.319	-0.093	0.206
Physical Activity 1	0.028	-0.062	0.899	0.123	-0.015	0.162	-0.020	0.058	-0.001
Physical Activity 2	-0.039	-0.085	0.861	0.115	-0.040	0.176	-0.050	0.062	-0.032
Physical Activity 3	0.009	-0.100	0.821	0.081	-0.067	0.104	-0.022	0.083	0.021
Mental Disengagement 1	0.029	0.142	0.750	0.135	-0.040	0.075	0.068	0.089	0.067
Religion 1	0.233	-0.065	0.129	0.962	0.047	0.198	-0.012	0.245	-0.137
Religion 2	0.218	-0.069	0.133	0.937	0.035	0.163	-0.018	0.259	-0.145
Religion 3	0.258	-0.109	0.117	0.936	0.056	0.183	-0.017	0.240	-0.105
Therapy 1	0.115	0.166	-0.023	0.061	0.891	-0.085	0.224	0.056	0.179
Therapy 2	0.085	0.196	-0.030	0.047	0.862	-0.097	0.223	-0.001	0.222
Therapy 3	0.116	0.085	-0.074	0.028	0.812	-0.008	0.098	0.051	0.087
Stay Positive 1	0.182	-0.255	0.158	0.166	-0.074	0.941	-0.298	0.148	-0.183
Stay Positive 2	0.164	-0.239	0.106	0.172	-0.020	0.830	-0.302	0.138	-0.191
Stay Positive 3	0.134	-0.224	0.125	0.137	-0.080	0.719	-0.224	0.101	-0.149
Aggression 1	0.106	0.330	-0.013	0.014	0.154	-0.282	0.895	0.148	0.205

Aggression 2	0.066	0.341	0.019	-0.002	0.215	-0.273	0.814	0.018	0.280
Aggression 3	0.084	0.391	-0.036	-0.039	0.154	-0.281	0.806	0.074	0.213
Special Person 1	0.673	-0.157	0.075	0.204	0.058	0.152	0.072	0.941	-0.093
Special Person 2	0.652	-0.146	0.066	0.289	0.042	0.165	0.105	0.892	-0.082
Special Person 3	0.558	-0.114	0.082	0.242	0.029	0.124	0.096	0.848	-0.102
Alcohol/Drugs 1	0.055	0.235	0.046	-0.075	0.060	-0.185	0.264	-0.060	0.766
Alcohol/Drugs 2	-0.055	0.196	-0.020	-0.142	0.215	-0.134	0.146	-0.127	0.758

Extraction Method = Principle Axis Factoring

Rotation Method = Promax with Kaiser Normalization

N = 672

Table 2

Structure Matrix—Final EFA of Social/Emotional Influences Inventory Subscales

		Factor							
	1	2	3	4	5	6	7	8	9
Effective Parenting 1	0.861	0.249	0.142	0.307	0.291	0.258	0.384	0.287	0.348
Effective Parenting 2	0.858	0.249	0.167	0.303	0.268	0.247	0.360	0.268	0.372
Reliable Parent/Guardian 1	0.815	0.180	0.244	0.270	0.259	0.190	0.399	0.259	0.432
Reliable Parent/Guardian 2	0.814	0.231	0.166	0.190	0.248	0.188	0.490	0.272	0.302
Effective Parenting 3	0.786	0.271	0.121	0.218	0.235	0.221	0.427	0.221	0.230
Reliable Parent/Guardian 3	0.746	0.173	0.175	0.229	0.216	0.188	0.384	0.326	0.471
Faith 1	0.239	0.952	0.094	0.039	0.194	0.220	0.256	0.177	0.049
Faith 2	0.259	0.912	0.125	0.023	0.190	0.225	0.255	0.174	0.068
Faith 3	0.280	0.897	0.106	0.062	0.128	0.221	0.238	0.125	0.069
Intelligent 1	0.130	0.062	0.924	0.164	0.342	0.205	0.158	0.315	0.333
Intelligent 2	0.174	0.127	0.894	0.155	0.395	0.256	0.169	0.312	0.363
Intelligent 3	0.208	0.109	0.788	0.195	0.343	0.264	0.181	0.335	0.401
Financial Resources 1	0.254	0.049	0.195	0.893	0.223	0.193	0.225	0.295	0.281
Financial Resources 2	0.246	-0.004	0.162	0.877	0.193	0.194	0.148	0.264	0.226
Financial Resources 3	0.310	0.081	0.168	0.740	0.204	0.302	0.272	0.299	0.288
Self-Esteem 1	0.258	0.159	0.353	0.224	0.928	0.337	0.298	0.249	0.204
Self-Esteem 2	0.255	0.180	0.321	0.217	0.857	0.450	0.272	0.269	0.181
Self-Esteem 3	0.300	0.129	0.412	0.162	0.711	0.330	0.318	0.296	0.282
Special Talent 1	0.236	0.273	0.243	0.232	0.344	0.852	0.265	0.292	0.318
Special Talent 2	0.226	0.145	0.190	0.228	0.393	0.844	0.317	0.348	0.253
Special Talent 3	0.198	0.152	0.340	0.189	0.350	0.708	0.251	0.516	0.325
Extended Family Connections 1	0.365	0.245	0.180	0.169	0.247	0.264	0.778	0.326	0.280
Extended Family Connections 2	0.374	0.188	0.162	0.202	0.281	0.238	0.726	0.256	0.290
Extended Family Connections 3	0.413	0.176	0.125	0.199	0.256	0.272	0.723	0.299	0.235
Good Schools 1	0.259	0.178	0.198	0.220	0.219	0.360	0.318	0.782	0.324

Good Schools 2	0.230	0.084	0.278	0.272	0.218	0.294	0.267	0.766	0.322
Good Schools 3	0.291	0.144	0.510	0.304	0.296	0.287	0.301	0.671	0.429
Parental Expectations 1	0.345	0.063	0.357	0.301	0.225	0.300	0.342	0.376	0.790
Parental Expectations 2	0.352	0.047	0.310	0.190	0.180	0.262	0.235	0.342	0.770

Extraction Method = Principle Axis Factoring

Rotation Method = Promax with Kaiser Normalization

N = 672

Table 3

Means, Standard Deviations, and Standardized Factor Loadings for Men and (Women)

Variable	<i>M</i>		<i>SD</i>		<i>FL</i>	
Life Events						
Life events sum	4.97	(5.95)	2.94	(3.40)	.93	(.93) ^a
Impact rating sum	7.98	(9.91)	5.44	(7.04)	1.00	(1.00) ^a
Emotional Stability						
Mood	14.09	(12.50)	3.75	(3.82)	.80	(.78)
Worry	12.66	(10.46)	3.41	(3.09)	.78	(.69) ^a
Disengagement Coping						
Behavioral disengagement	10.44	(10.45)	3.84	(4.43)	.51	(.47)
Aggression	5.83	(6.41)	2.79	(2.87)	.76	(.78)
Engagement Coping						
Social support	17.97	(20.96)	5.46	(5.21)	.72	(.76)
Special person	9.57	(11.67)	3.65	(3.31)	.90	(.82) ^a
Resources						
Positive caregiving	25.00	(26.59)	5.54	(4.45)	.66	(.55) ^a
Intelligence	11.76	(12.29)	2.41	(2.47)	.56	(.55)
Financial resources	10.75	(10.51)	3.27	(3.40)	.50	(.46)
Self-esteem	10.49	(10.32)	3.08	(3.12)	.60	(.59)
Talent	11.70	(11.84)	2.99	(2.75)	.61	(.47) ^a
Family connections	10.67	(11.49)	3.18	(3.36)	.61	(.57)
Good schools	11.73	(12.32)	2.56	(2.30)	.62	(.64)
College Adjustment						
Academic adjustment	138.43	(138.73)	23.19	(26.28)	.65	(.62)
Social adjustment	124.01	(121.02)	22.78	(27.45)	.60	(.54)
Personal-emotional adjustment	87.45	(77.36)	18.86	(20.50)	.89	(.93)

^a Denotes factor loadings that are significantly different for men and women.

Table 4

Summary of CFA Model Fit Indices and Multiple-Group Comparisons

Model	χ^2	<i>df</i>	<i>p</i>	χ^2 / df	CFI	NNFI
Women only CFA	421.037	138	<.001	3.05	.87	.86
Men only CFA	377.015	138	<.001	2.73	.89	.87
Multiple-group comparisons						
No constraints (M1)	798.052	276	<.001	2.89	.90	.86
All parameters constrained (M2)	865.107	295	<.001	2.93	.88	.86
Difference (M2-M1)	67.055	19	<.05			
Final model with 6 parameters released (M3)	818.179	289	<.001	2.83	.89	.87
Difference (M3-M1)	20.127	13	>.05			

Table 5

Summary of Alternative Structural Model Fit Indices

Model	χ^2	<i>df</i>	<i>p</i>	χ^2 / df	CFI	NNFI
Women only						
Model 1	461.492	144	<.001	3.20	.87	.85
Model 2	465.493	143	<.001	3.26	.87	.85
Difference (M2-M1)	4.001	1	<.05			
Model 3	471.089	145	<.001	3.25	.87	.85
Difference (M3-M1)	9.597	1	<.05			
Men only						
Model 1	384.895	144	<.001	2.67	.89	.87
Model 2	388.813	143	<.001	2.72	.89	.87
Difference (M2-M1)	3.918	1	<.05			
Model 3	390.128	145	<.001	2.69	.89	.87
Difference (M3-M1)	5.233	1	<.05			

Table 6

Summary of Optimized Structural Model Fit Indices and Multigroup Analyses

Model	χ^2	<i>df</i>	<i>p</i>	χ^2 / df	CFI	NNFI
Women only						
Optimal model	439.495	146	<.001	3.01	.88	.86
Men only						
Optimal model	392.954	146	<.001	2.69	.89	.87
Multiple-group comparisons						
No constraints (M1)	824.331	292	<.001	2.82	.89	.87
All parameters constrained (M2)	847.517	308	<.001	2.75	.89	.87
Difference (M2-M1)	23.186	16	>.05			

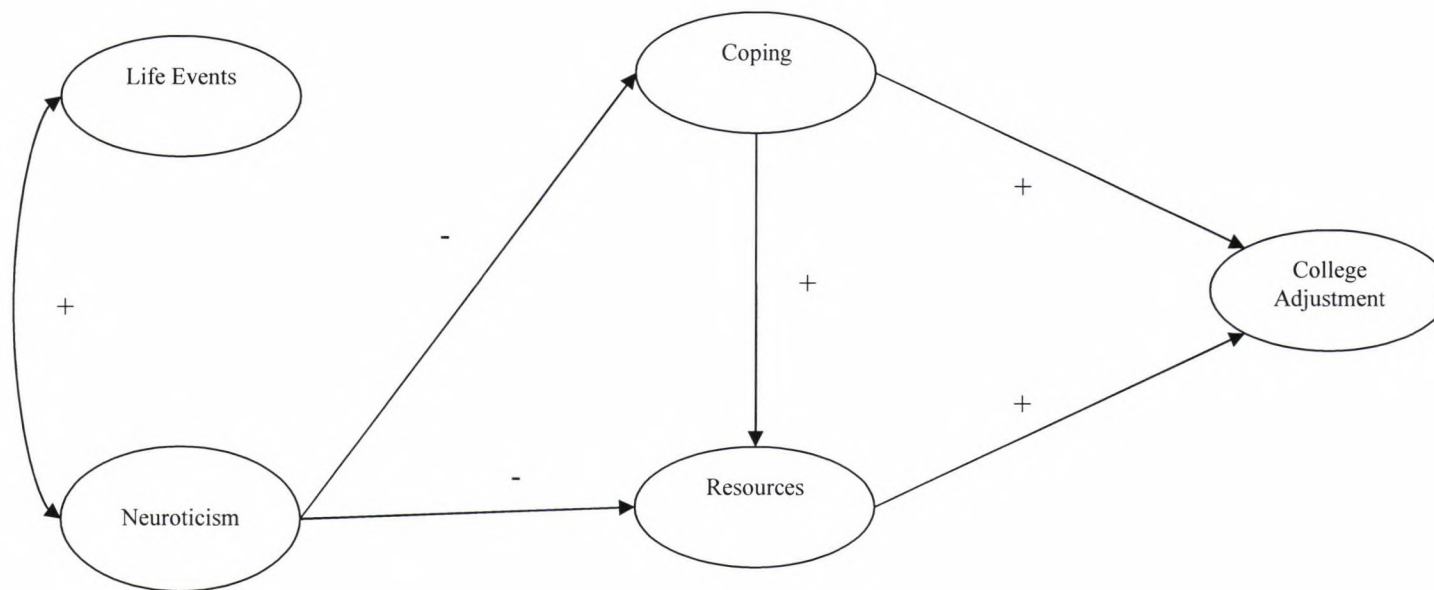
Table 7

Experience of Negative Life Events by Bottom Quartile (0-3 events) and Top Quartile (8+ events)

Life Event event	% of bottom quartile experiencing event	% of top quartile experiencing
Sibling seriously ill or injured	19.2	54.3
Parent seriously ill or injured	21.1	61.8
Victim of violence	3.8	15.6
Family member victim of violence	3.3	27.7
Parent died	.9	8.1
Sibling died	.9	3.5
Grandparent died	62.0	75.7
Close friend died	16.9	64.2
Family member ran away from home	.5	13.3
Parents separated	9.4	53.2
Parents divorced	7.0	50.9
Parent had problems at work	22.1	75.1
Parent lost job	14.1	45.1
Difficult financial situation	23.0	72.3
Family had funds cut off by government	.5	8.1
Family evicted from house/apartment	.5	4.6
Arguments between adults in house	20.7	63.0
Arguments between parent and spouse	3.8	43.4

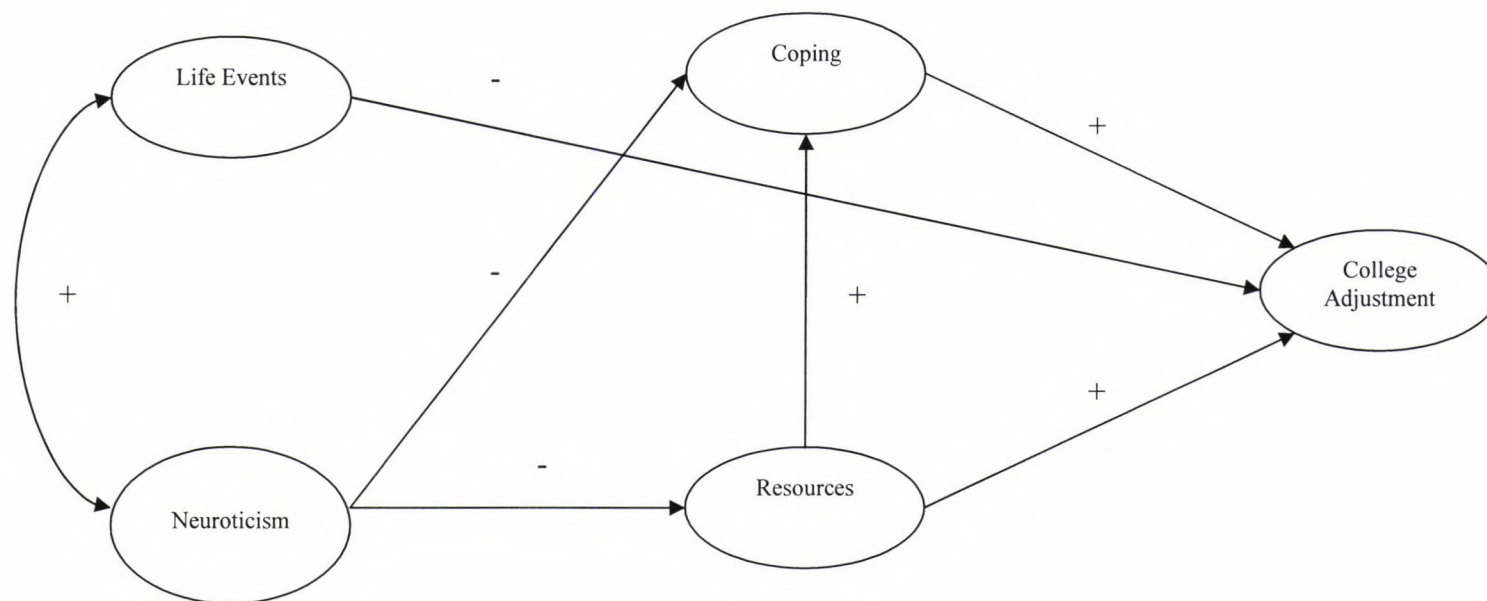
Family member committed suicide	.9	9.2
Family member had severe emotional problems	15.5	52.6
Sibling involved with drugs/alcohol	16.0	57.2
Parent involved with drugs/alcohol	3.8	34.1
Sibling arrested/went to jail	4.7	23.1
Parent arrested/went to jail	4.2	20.2

Figure 1



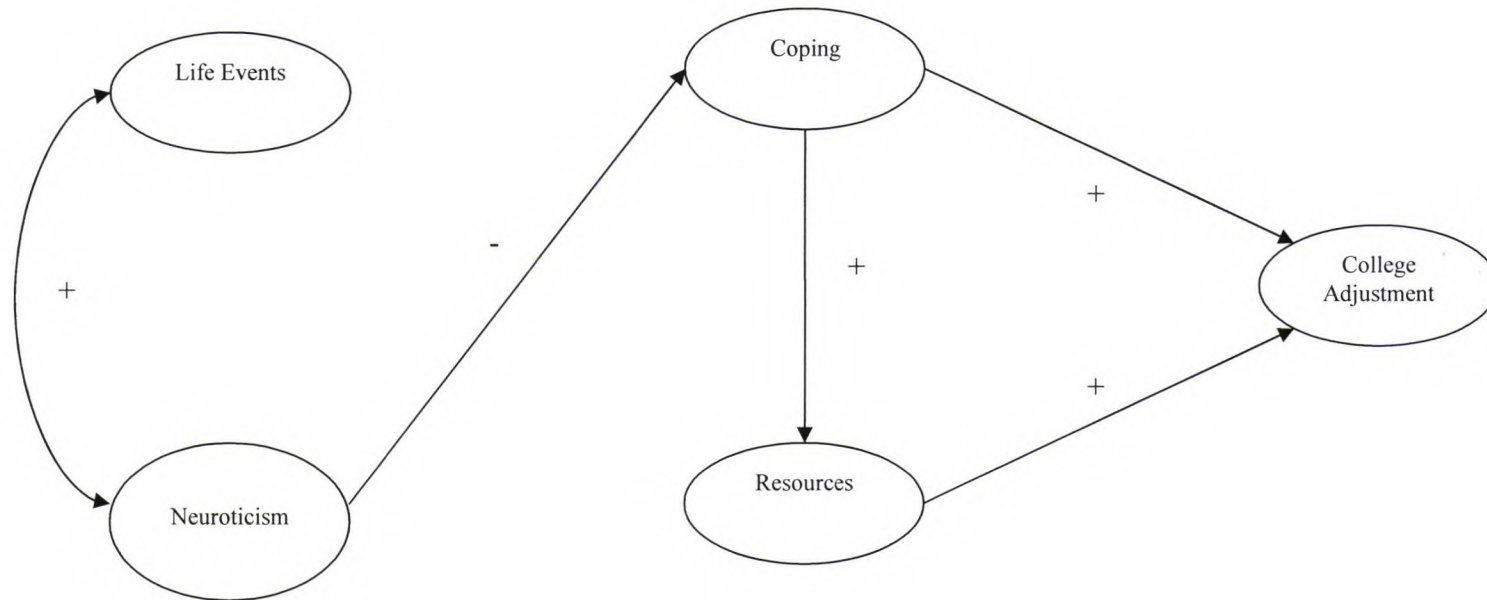
Hypothesized Model 1.

Figure 2



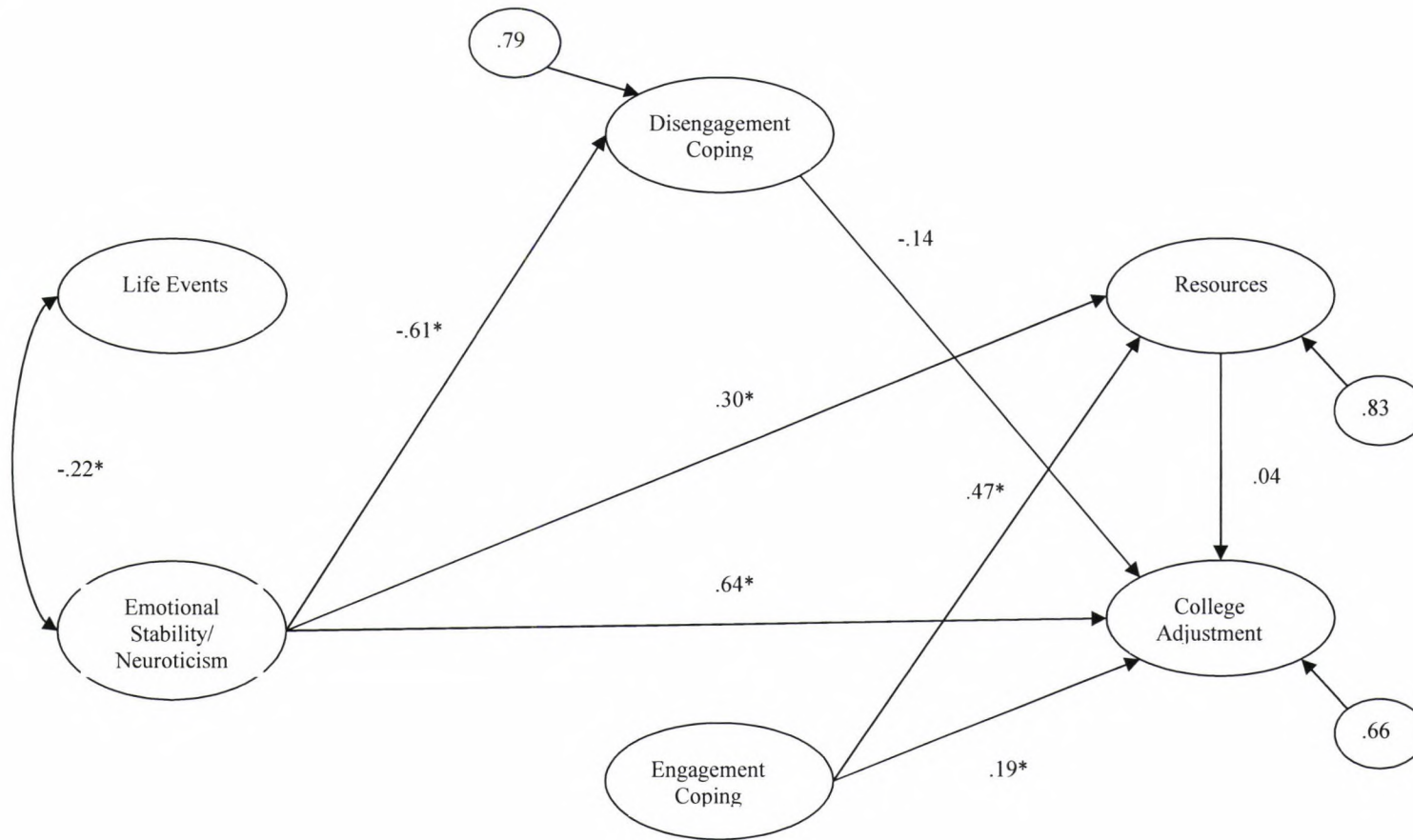
Hypothesized Model 2.

Figure 3



Hypothesized Model 3.

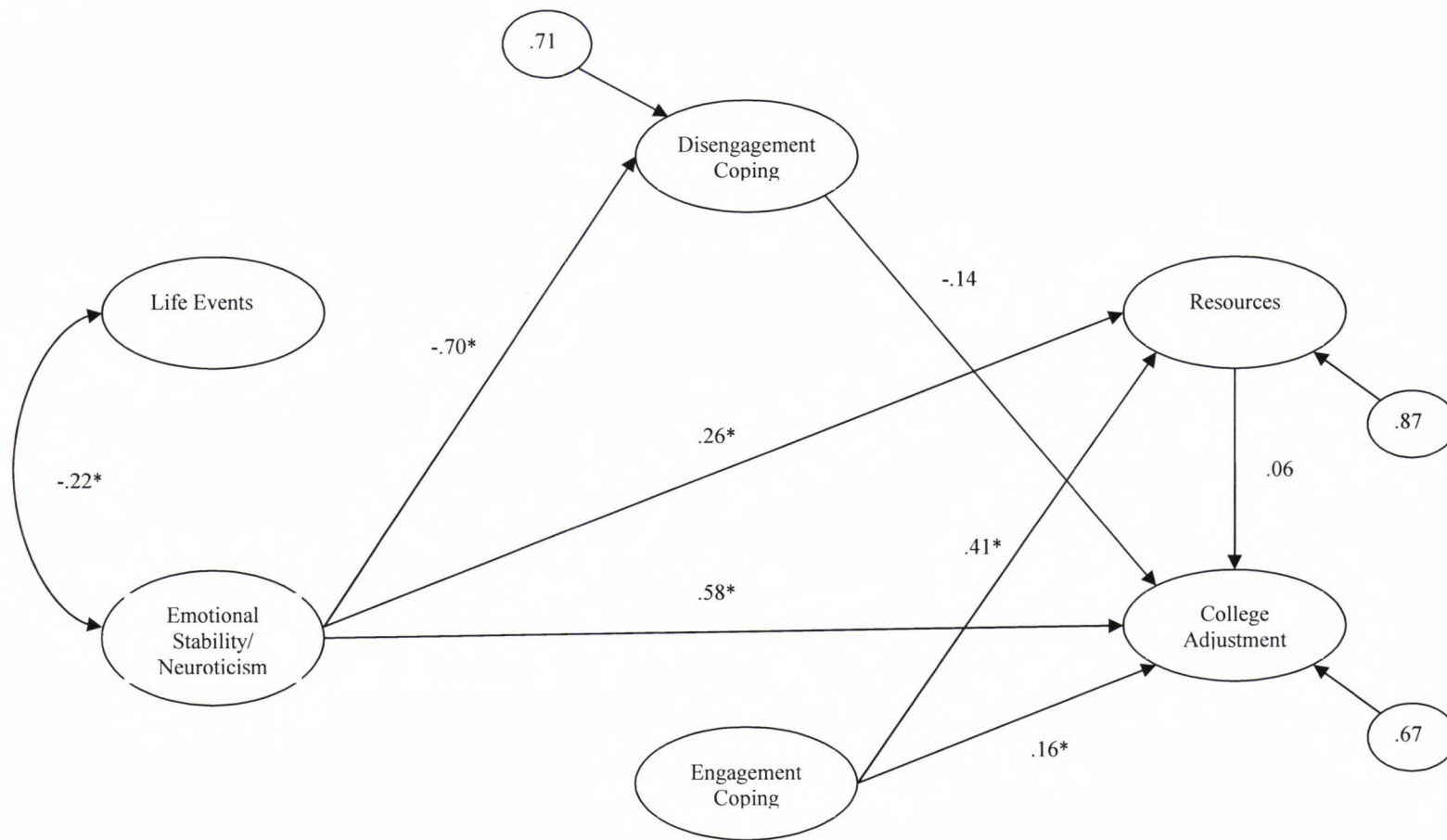
Figure 4



Standardized path coefficients and disturbance terms for the final model for women.

* Denotes $p < .05$.

Figure 5



Standardized path coefficients and disturbance terms for the final model for men.

* Denotes $p < .05$.

APPENDIX A

Life Events Questionnaire

This questionnaire contains statements describing events that can happen in the life of any young adult or in any family. Some of these will apply to your family, meaning you, your parents, and brothers and sisters. Many will not. Please read each statement very carefully and decide whether it is something that has happened to you (or your family) during your lifetime, and whether it has happened in the last 12 months. Next, please assign an impact rating *only to those events that have happened to you*. The impact rating ranges from 1 to 5; a rating of 1 signifies little impact on your life, a rating of 3 implies moderate impact, and a rating of 5 means that an event had a strong impact on your life.

If the event *did not* happen to you or your family, please fill in "Has Not Occurred in My Lifetime." If the event has happened in your lifetime, please fill in "Has Occurred in My Lifetime." If the event also took place in the last 12 months, please also fill in "Has Occurred in the Last 12 Months." Note: If an event happened in the last 12 months, you should fill in "Has Occurred in My Lifetime" as well as "Has Occurred in the Last 12 Months."

Please answer all of the items as honestly and quickly as you can.

If yes, what impact has this had on you?

	HAS NOT OCCURRED IN MY LIFETIME	HAS OCCURRED IN MY LIFETIME	HAS OCCURRED IN THE LAST 12 MONTHS	LITTLE IMPACT	MODERATE IMPACT	STRONG IMPACT
1. I had a new brother or sister who was born	☐	☐	☐	☐ 1	☐ 2	☐ 3
2. Our family moved to a new home or apartment	☐	☐	☐	☐ 1	☐ 2	☐ 3
3. I changed schools	☐	☐	☐	☐ 1	☐ 2	☐ 3
4. I became seriously ill or was injured	☐	☐	☐	☐ 1	☐ 2	☐ 3
5. My brother or sister became seriously ill or was injured	☐	☐	☐	☐ 1	☐ 2	☐ 3
6. At least one parent became seriously ill or was injured	☐	☐	☐	☐ 1	☐ 2	☐ 3
7. I was involved in a serious accident	☐	☐	☐	☐ 1	☐ 2	☐ 3
8. I was left with a visible physical handicap due to an accident, injury, or illness	☐	☐	☐	☐ 1	☐ 2	☐ 3
9. I had an important change in physical appearance which upset me (acne, braces, glasses, physical development, etc.)	☐	☐	☐	☐ 1	☐ 2	☐ 3
10. I was a victim of violence (mugging, sexual assault robbery)	☐	☐	☐	☐ 1	☐ 2	☐ 3
11. A member of my family was a victim of violence (mugging, sexual assault, robbery)	☐	☐	☐	☐ 1	☐ 2	☐ 3
12. One of my parents died	☐	☐	☐	☐ 1	☐ 2	☐ 3
13. A brother or sister died	☐	☐	☐	☐ 1	☐ 2	☐ 3
14. A grandparent died	☐	☐	☐	☐ 1	☐ 2	☐ 3
15. One of my close friends died	☐	☐	☐	☐ 1	☐ 2	☐ 3
16. Another adult came to live with my family	☐	☐	☐	☐ 1	☐ 2	☐ 3
17. I left home to live under the care of another parent, relative, or others	☐	☐	☐	☐ 1	☐ 2	☐ 3
18. I left home to live on my own	☐	☐	☐	☐ 1	☐ 2	☐ 3
19. I ran away from home	☐	☐	☐	☐ 1	☐ 2	☐ 3
20. A member of my family ran away from home	☐	☐	☐	☐ 1	☐ 2	☐ 3
21. My parents separated	☐	☐	☐	☐ 1	☐ 2	☐ 3
22. My parents divorced	☐	☐	☐	☐ 1	☐ 2	☐ 3
23. One of my parents remarried	☐	☐	☐	☐ 1	☐ 2	☐ 3
24. I had at least one outstanding personal achievement	☐	☐	☐	☐ 1	☐ 2	☐ 3
25. I was voted or appointed to a leadership position (for example, class office, team captain, etc.)	☐	☐	☐	☐ 1	☐ 2	☐ 3

	HAS NOT OCCURRED IN MY LIFETIME	HAS OCCURRED IN MY LIFETIME	HAS OCCURRED IN THE LAST 12 MONTHS	If yes, what impact has this had on you?				
				LITTLE IMPACT	MODERATE IMPACT	STRONG IMPACT		
26. I received a special award (ribbon, trophy, plaque, certificate, etc.) for something <i>done at school</i>	☐	☐	☐	1	2	3	4	5
27. I received a special award for some activity <i>outside of school</i> (ribbon, trophy, plaque, certificate, etc.)	☐	☐	☐	1	2	3	4	5
28. I received special recognition for athletic competition	☐	☐	☐	1	2	3	4	5
29. I did not get into a group or activity that I wanted to get into (music group, sports team, theater, etc.)	☐	☐	☐	1	2	3	4	5
30. I failed a grade or was "held back"	☐	☐	☐	1	2	3	4	5
31. I did much worse than expected in an important exam or course.	☐	☐	☐	1	2	3	4	5
32. I was threatened with suspension or was suspended from school at least once.	☐	☐	☐	1	2	3	4	5
33. I became pregnant (for females)	☐	☐	☐	1	2	3	4	5
34. I got someone pregnant (for males)	☐	☐	☐	1	2	3	4	5
35. An unmarried family member became pregnant.	☐	☐	☐	1	2	3	4	5
36. One of my parents had problems at work (demotion, trouble with boss or co-workers, change in working hours, etc.)	☐	☐	☐	1	2	3	4	5
37. One parent lost his or her job.	☐	☐	☐	1	2	3	4	5
38. My mother began to work	☐	☐	☐	1	2	3	4	5
39. There was a change in a parent's job so that my parent was away from home more often	☐	☐	☐	1	2	3	4	5
40. I had little contact with one parent	☐	☐	☐	1	2	3	4	5
41. I tried to get a job and failed	☐	☐	☐	1	2	3	4	5
42. The family financial situation was difficult	☐	☐	☐	1	2	3	4	5
43. There was some damage or loss of family property (such as apartment, house, car or bike)	☐	☐	☐	1	2	3	4	5
44. The family had funds cut off by some government agency (for example: welfare, food stamps, AFDC, disability, etc.)	☐	☐	☐	1	2	3	4	5
45. My family was evicted from a house or apartment	☐	☐	☐	1	2	3	4	5
46. I had many arguments with brother(s) and/or sister(s)	☐	☐	☐	1	2	3	4	5
47. I had many arguments with my parent(s)	☐	☐	☐	1	2	3	4	5
48. My parent(s) and I had many arguments of my choice of friends, and/or social activities, such as the use of the car or hours to stay out	☐	☐	☐	1	2	3	4	5
49. There were many arguments between adults living in the house	☐	☐	☐	1	2	3	4	5
50. There were many arguments between a parent and a former or separated spouse.	☐	☐	☐	1	2	3	4	5

	HAS NOT OCCURRED IN MY LIFETIME	HAS OCCURRED IN MY LIFETIME	HAS OCCURRED IN THE LAST 12 MONTHS	If yes, what impact has this had on you?				
				LITTLE IMPACT	MODERATE IMPACT	STRONG IMPACT		
51. There were many arguments with in-laws or relatives	☐	☐	☐	1	2	3	4	5
52. I was not accepted by people my age	☐	☐	☐	1	2	3	4	5
53. I had suicidal thoughts	☐	☐	☐	1	2	3	4	5
54. A member of my family committed suicide	☐	☐	☐	1	2	3	4	5
55. A member of my family developed severe emotional problems	☐	☐	☐	1	2	3	4	5
56. I became involved with alcohol or drugs	☐	☐	☐	1	2	3	4	5
57. A brother or sister became involved with alcohol or drugs	☐	☐	☐	1	2	3	4	5
58. A parent had trouble with alcohol or drugs	☐	☐	☐	1	2	3	4	5
59. I got in trouble with the law	☐	☐	☐	1	2	3	4	5
60. I went to jail	☐	☐	☐	1	2	3	4	5
61. A brother or sister was arrested or went to jail	☐	☐	☐	1	2	3	4	5
62. A parent was arrested or went to jail	☐	☐	☐	1	2	3	4	5
63. I began to date	☐	☐	☐	1	2	3	4	5
64. I began "going steady", despite my parent's disapproval	☐	☐	☐	1	2	3	4	5
65. I got married, despite my parent's disapproval	☐	☐	☐	1	2	3	4	5
66. I broke up with a girlfriend or boyfriend	☐	☐	☐	1	2	3	4	5
67. I lost a close friend	☐	☐	☐	1	2	3	4	5

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0	1	2	3	4	5	☒	7	8	9
0	1	2	3	4	5	☒	7	8	9
0	1	2	3	4	5	☒	7	8	9

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APPENDIX B

IPIP Big Five Personality Inventory

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes **you**. In the first column called "Now," describe yourself as you generally are now, not as you wish to be in the future. In the second column called "Then," describe yourself as you generally were as a child and adolescent. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly the same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the choice that corresponds to your chosen response on the scale.

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	NOW					THEN				
	NOT AT ALL TRUE	SOMEWHAT TRUE	VERY TRUE	NOT AT ALL TRUE	SOMEWHAT TRUE	VERY TRUE	NOT AT ALL TRUE	SOMEWHAT TRUE	VERY TRUE	
1. Am the life of the party	1	2	3	4	5	1	2	3	4	5
2. Feel little concern for others	1	2	3	4	5	1	2	3	4	5
3. Am always prepared	1	2	3	4	5	1	2	3	4	5
4. Get stressed out easily	1	2	3	4	5	1	2	3	4	5
5. Have a rich vocabulary	1	2	3	4	5	1	2	3	4	5
6. Don't talk a lot	1	2	3	4	5	1	2	3	4	5
7. Am interested in people	1	2	3	4	5	1	2	3	4	5
8. Leave my belongings around	1	2	3	4	5	1	2	3	4	5
9. Am relaxed most of the time	1	2	3	4	5	1	2	3	4	5
10. Have difficulty understanding abstract ideas	1	2	3	4	5	1	2	3	4	5
11. Feel comfortable around people	1	2	3	4	5	1	2	3	4	5
12. Insult people	1	2	3	4	5	1	2	3	4	5
13. Pay attention to details	1	2	3	4	5	1	2	3	4	5
14. Worry about things	1	2	3	4	5	1	2	3	4	5
15. Have a vivid imagination	1	2	3	4	5	1	2	3	4	5
16. Keep in the background	1	2	3	4	5	1	2	3	4	5
17. Sympathize with others' feelings	1	2	3	4	5	1	2	3	4	5
18. Make a mess of things	1	2	3	4	5	1	2	3	4	5
19. Seldom feel blue	1	2	3	4	5	1	2	3	4	5
20. Am not interested in abstract ideas	1	2	3	4	5	1	2	3	4	5
21. Start conversations	1	2	3	4	5	1	2	3	4	5
22. Am not interested in other people's problems	1	2	3	4	5	1	2	3	4	5
23. Get chores done right away	1	2	3	4	5	1	2	3	4	5
24. Am easily disturbed	1	2	3	4	5	1	2	3	4	5
25. Have excellent ideas	1	2	3	4	5	1	2	3	4	5
26. Have little to say	1	2	3	4	5	1	2	3	4	5
27. Have a soft heart	1	2	3	4	5	1	2	3	4	5
28. Often forget to put things back in their place	1	2	3	4	5	1	2	3	4	5
29. Get upset easily	1	2	3	4	5	1	2	3	4	5
30. Do not have a good imagination	1	2	3	4	5	1	2	3	4	5
31. Talk to a lot of different people at parties	1	2	3	4	5	1	2	3	4	5
32. Am not really interested in others	1	2	3	4	5	1	2	3	4	5
33. Like order	1	2	3	4	5	1	2	3	4	5
34. Change my mood a lot	1	2	3	4	5	1	2	3	4	5
35. Am quick to understand things	1	2	3	4	5	1	2	3	4	5
36. Don't like to draw attention to myself	1	2	3	4	5	1	2	3	4	5

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	NOW					THEN				
	NOT AT ALL TRUE		SOMEWHAT TRUE		VERY TRUE	NOT AT ALL TRUE		SOMEWHAT TRUE		VERY TRUE
37. Take time out for others	1	2	3	4	5	1	2	3	4	5
38. Shirk my duties	1	2	3	4	5	1	2	3	4	5
39. Have frequent mood swings	1	2	3	4	5	1	2	3	4	5
40. Use difficult words	1	2	3	4	5	1	2	3	4	5
41. Don't mind being the center of attention	1	2	3	4	5	1	2	3	4	5
42. Feel others' emotions	1	2	3	4	5	1	2	3	4	5
43. Follow a schedule	1	2	3	4	5	1	2	3	4	5
44. Get irritated easily	1	2	3	4	5	1	2	3	4	5
45. Spend time reflecting on things	1	2	3	4	5	1	2	3	4	5
46. Am quiet around strangers	1	2	3	4	5	1	2	3	4	5
47. Make people feel at ease	1	2	3	4	5	1	2	3	4	5
48. Am exacting in my work	1	2	3	4	5	1	2	3	4	5
49. Often feel blue	1	2	3	4	5	1	2	3	4	5
50. Am full of ideas	1	2	3	4	5	1	2	3	4	5

APPENDIX C

Individual Influences Inventory

The following questions describe various influences people may have had in their lives. Please consider the extent to which each of the items helped *you* to deal with stresses in your life as you were growing up. Please read each statement carefully, and then fill in the number that corresponds to your chosen response on the scale.

When bad things happened to me as a child, I was able to deal with them because...



- | | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| 1. My family was able to afford the things we needed | 1 | 2 | 3 | 4 | 5 |
| 2. I received warm parenting | 1 | 2 | 3 | 4 | 5 |
| 3. Spirituality was a central part of my life | 1 | 2 | 3 | 4 | 5 |
| 4. I had a talent (i.e., I was talented at a sport, music, drama, etc.) | 1 | 2 | 3 | 4 | 5 |
| 5. I had high self-esteem | 1 | 2 | 3 | 4 | 5 |
| 6. My parents were loving | 1 | 2 | 3 | 4 | 5 |
| 7. I had an easygoing disposition | 1 | 2 | 3 | 4 | 5 |
| 8. I could depend on family members other than my parents and siblings | 1 | 2 | 3 | 4 | 5 |
| 9. Others noticed my ability in an activity (sport, music, drama, etc.) | 1 | 2 | 3 | 4 | 5 |
| 10. I was emotionally close to my parents | 1 | 2 | 3 | 4 | 5 |
| | | | | | |
| 11. My family did not have to worry excessively about money | 1 | 2 | 3 | 4 | 5 |
| 12. I was involved in an organized group (i.e., church group, school-related group, Girl or Boy Scouts, etc.) | 1 | 2 | 3 | 4 | 5 |
| 13. I was bright | 1 | 2 | 3 | 4 | 5 |
| 14. I had a parent/guardian I could rely on | 1 | 2 | 3 | 4 | 5 |
| 15. My parents expected me to succeed | 1 | 2 | 3 | 4 | 5 |
| 16. A parent/guardian in the home looked out for me | 1 | 2 | 3 | 4 | 5 |
| 17. Few things in my life got me worked up or excited | 1 | 2 | 3 | 4 | 5 |
| 18. I had an adult mentor | 1 | 2 | 3 | 4 | 5 |
| 19. My school met students' academic needs | 1 | 2 | 3 | 4 | 5 |
| 20. I was skilled in at least one activity | 1 | 2 | 3 | 4 | 5 |
| 21. My school had skilled teachers | 1 | 2 | 3 | 4 | 5 |
| 22. I had a strong sense of faith | 1 | 2 | 3 | 4 | 5 |
| 23. There was an adult outside my family who took an interest in my welfare | 1 | 2 | 3 | 4 | 5 |
| | | | | | |
| 24. I felt connected to a parent/guardian | 1 | 2 | 3 | 4 | 5 |
| 25. I was laid-back | 1 | 2 | 3 | 4 | 5 |
| 26. I had high self-confidence | 1 | 2 | 3 | 4 | 5 |
| 27. I had positive connections to my extended family (grandparents, aunts, uncles, etc.) | 1 | 2 | 3 | 4 | 5 |
| 28. I was involved in groups that served others | 1 | 2 | 3 | 4 | 5 |
| 29. My faith was important to me | 1 | 2 | 3 | 4 | 5 |
| 30. An adult outside of my family motivated me to succeed | 1 | 2 | 3 | 4 | 5 |
| | | | | | |
| 31. I was intelligent | 1 | 2 | 3 | 4 | 5 |
| 32. I received a good education | 1 | 2 | 3 | 4 | 5 |
| 33. My family was financially comfortable | 1 | 2 | 3 | 4 | 5 |
| 34. My parents had high expectations for me | 1 | 2 | 3 | 4 | 5 |
| 35. I had a close relationship to a family member other than my parents/guardians and siblings | 1 | 2 | 3 | 4 | 5 |
| 36. I believed in myself | 1 | 2 | 3 | 4 | 5 |
| 37. My parents believed I was capable | 1 | 2 | 3 | 4 | 5 |
| 38. I was involved in extra-curricular activities (including school-related and non school-related activities) | 1 | 2 | 3 | 4 | 5 |
| 39. I was smart | 1 | 2 | 3 | 4 | 5 |
| 40. I was not able to deal with stress very well as a child | 1 | 2 | 3 | 4 | 5 |

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APPENDIX D

College Coping Skills

The following statements describe various methods of coping with life events. For each item, please consider the degree to which you use that particular coping method to deal with the stresses and pressures of college. Please read each statement carefully, and then fill in the number that corresponds to your chosen response on the scale.

	1	2	3	4	5
1. I use physical activity to deal with the problem	1	2	3	4	5
2. I put off dealing with the problem	1	2	3	4	5
3. I turn to a special person in my life	1	2	3	4	5
4. I quit dealing with the problem	1	2	3	4	5
5. I rely on the support of others to get me through the hard times ..	1	2	3	4	5
6. I think about how to take control of the problem	1	2	3	4	5
7. I use drugs to deal with the problem	1	2	3	4	5
8. I concentrate on my talents and abilities	1	2	3	4	5
9. I seek professional help	1	2	3	4	5
10. I try to stay positive	1	2	3	4	5
11. I rely on God to help me handle the problem	1	2	3	4	5
12. I act as if nothing is wrong	1	2	3	4	5
13. I find myself yelling at my friends and family	1	2	3	4	5
14. I ask for advice from others	1	2	3	4	5
15. I ask for support from a special person in my life	1	2	3	4	5
16. I eat less	1	2	3	4	5
17. I ask others how to deal with the problem	1	2	3	4	5
18. I have unprotected sex	1	2	3	4	5
19. I give up and stop trying to deal with the problem	1	2	3	4	5
20. I plan to deal with the problem later	1	2	3	4	5
21. I become more physically active	1	2	3	4	5
22. I focus on my achievements	1	2	3	4	5
23. I determine the steps I need to take to deal with the problem	1	2	3	4	5
24. I watch television or play video games more	1	2	3	4	5
25. I act aggressively toward friends and family	1	2	3	4	5
26. I look to my friends and family to help me handle the problem	1	2	3	4	5
27. I sit down and plan out how to overcome the problem	1	2	3	4	5
28. I seek therapy	1	2	3	4	5
29. I pretend the problem isn't real	1	2	3	4	5
30. I think positively	1	2	3	4	5
31. I leave it up to God	1	2	3	4	5
32. I rely on a special person in my life for support	1	2	3	4	5
33. I become angry at my friends and family	1	2	3	4	5
34. I use alcohol to deal with the problem	1	2	3	4	5
35. I lean on others	1	2	3	4	5
36. I ignore the problem	1	2	3	4	5
37. I pray	1	2	3	4	5
38. I focus on what I am able to do well	1	2	3	4	5
39. I find other activities to take my mind off the problem	1	2	3	4	5
40. I stop thinking about the problem	1	2	3	4	5
41. I talk to others who have dealt with the same problem	1	2	3	4	5
42. I exercise	1	2	3	4	5
43. I become more active so I don't have to think about the problem ..	1	2	3	4	5
44. I eat more	1	2	3	4	5
45. I think positively about the problem	1	2	3	4	5
46. I request treatment from professionals	1	2	3	4	5
47. I procrastinate	1	2	3	4	5

Code

0 0 0
 1 1 1
 2 2 2
 3 3 3
 4 4 4
 5 5 5
 6 6 6
 7 7 7
 8 8 8
 9 9 9

APPENDIX E

Student Adaptation to College Questionnaire
Sample Questions

11. I have felt tired much of the time lately. (Personal-Emotional Adjustment)
21. I'm not really smart enough for the academic work I am expected to be doing now.
(Academic Adjustment)
42. I am having difficulty feeling at ease with other people at college. (Social Adjustment)
48. I haven't been mixing too well with the opposite sex lately. (Social Adjustment)
60. Lately I have been giving a lot of thought to dropping out of college altogether and for good. (Institutional Attachment)

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