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A Measurable Model Of Resilience

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Dedication

This work and all it represents are dedicated to

Bill, Heather, Stephen and my mother Mary Lou Hess
for being there during every step of this road less traveled,

Heather and Stephen who give meaning to everything,

My father, Philip J. Hess, and my brothers Stephen and Todd
who planted the seeds of inspiration long ago during dinner debates,
and for supporting me from afar.

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CHAPTER I

Introduction

Among the many themes the field of psychology has explored over the past 50 years, two parallel lines of inquiry have taken place in the literature, one on resilience, the other on explanatory style. Despite the fact that the investigators behind these two abundant bodies of research have consistently used similar terminology (e.g., Biscoe & Harris, 1994a; Rutter, 1987, 1993; Seligman, 1998; Silver & Wortman, 1980), an empirical connection between them has not been investigated. This may be due to the fact that one researcher has been the driving force behind the research on explanatory style (Seligman, 1968, 1972, 1992, 1998, 2002), while several different researchers have investigated the construct of resilience (e.g., Carbonell, Reinherz, & Giaconia, 1998; Fogany, Steele, Steele, Higgitt, & Target, 1994, Luthar, Cicchetti, & Becker, 2000a; Garmezy, 1996, Rutter, 1999a; and Werner, 1995), with each viewing it from a slightly different perspective. This chapter will outline research on resilience and optimistic explanatory style, and propose a model of resilience that incorporates explanatory style as one of the key processes – the individual's unique way of incorporating positive and negative experiences to produce successful outcome.

Background of the Problem

From an historical perspective, the ability to survive, adapt, and succeed has been in existence since the beginning of humankind. Reaching through the centuries and across disciplines, a Greek philosopher, an early dramatist and poet, and a well-known American lecturer all had something to say about facing adversity (see *Webster's Book of*

Quotations, 1995). Epictetus, ca. 90 A.D., is credited with the quote "It is difficulties that show what men are." William Shakespeare wrote in *Hamlet* around 1600 "Whether 'tis nobler in the mind to suffer the slings and arrows of outrageous fortune or to take arms against a sea of troubles, and by opposing end them?" Helen Keller said in the early 1900's, "Although the world is full of suffering, it is full also of the overcoming of it."

More recently, research on this phenomenon centered on studies of survivors of the Holocaust. While much of the literature focused on clinical impressions of emotional trauma inherent in war and the pathologies which "inevitably" arise (Sadavoy, 1997, Solomon 1995, and Whiteman, 1993), there is also a body of literature which supports what Suedfeld, Krell, Weibe, and Steel (1997) referred to as "salutogenesis – the ability to adapt adequately and to use adverse experiences as a source of strength and power" (p. 150).

Valent (1998) agreed that survivors of the Holocaust "contribute to understanding . . . (this concept of) survival against odds and making something worthwhile of life in spite of its ravages" (p. 532). Krell (1993) and Moskovitz (1985) outlined some of the factors common to survivors: adaptability, appeal to adults, assertiveness, "a delicate balance between remembering the past and living in the present" (Krell, p. 387), and intellect.

The following elements are responsible for survivors' ability to rise above undeniably grim circumstances, according to Sigel (1998): endowment, temperament, familial environmental factors, the postwar environment, psychohistory, and mechanisms of defense (p. 583). The above themes will be explored in greater detail under the

psychological construct that describes an ability to overcome obstacles, which is currently referred to in the literature as resilience.

Background on Resilience

The majority of research on resilience over the past two decades has focused on identifying factors in the family, person, and environment that put people at risk, and protective factors that are common to individuals who have survived adverse circumstances. Some protective factors are personal attributes (e.g. independence, intelligence, and creativity), and some are environmental resources (e.g. supportive parents, higher income). Examples of risk factors are dysfunctional family relationships and low socioeconomic status. Gore & Eckenrode (1996) studied the interaction between risk and protective factors. Gilgun, Klein, and Pranis (2000) referred to the importance of identifying the ways people interpret these risk and protective processes to negotiate positive outcomes. What constitutes a positive outcome has also been debated (Luthar, Cicchetti, & Becker, 2000a).

Masten (2001) outlined a variety of resilience models that have support in the literature. The applicability of any given model would depend on individual circumstances, but all the models incorporate risk and protective factors that are processed in some way to result in a successful outcome (see Figure 1). Masten's article also pointed out that empirical studies on resilient outcomes are just beginning.
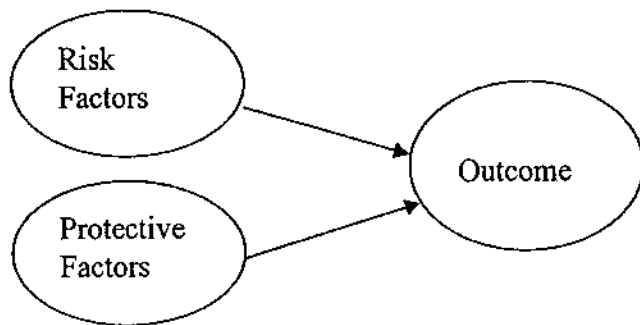
Figure 1. Generic model of resilience.

Background on Explanatory Style

While developmental psychology explored the construct of resilience, parallel

investigations were being undertaken by experimental psychologists on the phenomenon

they called "learned helplessness" (e.g. Seligman, 1972a). Learned helplessness research

with animals led to applications for humans (e.g. Hiroto & Seligman, 1975), and

eventually to the theory of attributional (or explanatory) style (Abramson, Seligman, &

Teasdale, 1978). Seligman (1998; originally published in 1990) refined the model and

began promoting an empirically tested program of optimism that could be learned. A

model representing explanatory style is depicted in Figure 2.
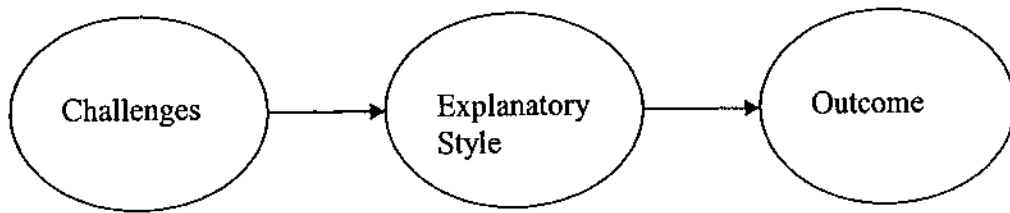
Figure 2. Generic model of explanatory (attributional) style.

Statement of the Problem

It is generally agreed that the construct of resilience is comprised of risk factors, protective factors, the individual's processing of these factors, and resulting successful outcome (Masten, 2001). However, criticisms of resilience as a construct reflect a lack of consensus in the literature over many of the details (Luthar, Cicchetti, & Becker, 2000a). These concerns include "ambiguities in definitions and central terminology, heterogeneity in risks experienced and competence achieved by individuals viewed as resilient, instability of the phenomenon of resilience, and concerns regarding the usefulness of resilience as a theoretical construct" (p. 543). Fonagy, Steele, Higgett, and Target (1994) wondered what practical information the profession has gained by classifying predictors of resilience, and concluded that it hasn't been enough, because no targets for intervention have been identified.

Several studies have been conducted identifying resilient subjects without benefit of a measure of resilience (e.g., Carbonell, Reinherz, & Giaconia, 1998; Dumont & Provost, 1999; Radke-Yarrow & Brown, 1993; Watt, David, Ladd, & Samos, 1995). Pedhazur and Schmelkin (1991) wrote, "the state of measurement in a given discipline affects the degree of agreement attainable among researchers" (p. 169). A comprehensive measure of resilience would help to clarify the construct and unify researchers' conceptualizations of it. In addition to measuring the three foundational components of risk factors, protective factors, and outcome, of particular importance would be to identify and measure the way individuals process their own unique risk and protective factors (Gilgun, 1999; Rutter, 1999a).

A total of five scales based on a variety of theoretical approaches to resilience were uncovered in a survey of the literature from 1950 to the present (Ahn, 1991; Biscoe & Harris, 1994a; Jew, Green, & Kroger, 1999; Klohnen, 1996; Wagnild and Young, 1993). Of those, the Resiliency Attitudes Scale (R.A.S.) (Biscoe & Harris, 1994a) was most comprehensive. It measured skills identified by Wolin and Wolin (1993) as those used by resilient people. The 72 items were grouped under the following subscales: insight, independence, relationships, initiative, creativity and humor, morality, and general resiliency. The total of all 72 items resulted in an overall score of resiliency. This scale is most consistent with current resilience literature, particularly descriptions of protective factors.

An issue that needs clarification, however, is a description of exactly what the R. A. S. measures. The construct of resilience currently has several potential models (Masten, 2001), all of which incorporate risk and protective factors, individual processing of those factors, and outcome. As its title suggests, an examination of the Resiliency Attitudes Scale shows that it is measuring one component of those models - protective factors (see also Mrazek & Mrazek, 1987; Werner, 1995).

An exploration of ways to measure all the components, and an analysis of the relationships between them would bring about a deeper understanding of the construct of resilience in general, and address some of the criticisms mentioned above. As Windle (1999) put it "it would be beneficial to the field if greater effort were directed toward some empirically-based taxonomy of risk and protective factors and resiliency processes that would serve as an organizational tool for existing (and ongoing) research" (p. 173).

During the same decades that resilience researchers have been exploring the construct of resilience, Seligman and his colleagues developed and have been refining the theory of optimistic versus pessimistic attributional style (also called explanatory style). Schulman, Keith and Seligman (1993) described attributional style succinctly: "Individuals who habitually explain bad events as stable, global and internal (it's going to last forever, it's going to undermine everything I do and it's my fault) and good events as unstable, specific and external are said to have a pessimistic style, and the individuals with the opposite explanations are said to have an optimistic style" (p. 569). The Attributional Style Questionnaire (Abramson, Seligman, & Teasdale, 1978) was developed to measure explanatory style.

Rutter (1990), one of the leading researchers on resilience, made the following observation: "Because people differ in how they view bad experiences they had, it seems reasonable to suppose that individual differences in style of cognitive processing could be important in determining whether or not resilience develops" (p. 134). In an argument further suggestive of the model that is the focus of the present research, Rutter (1987) posed and answered, "What is the mediating factor that interacts with the . . . risk factor? Brown et al. have argued that it is a cognitive orientation to helplessness" (p.324). One way to reduce the impact a risk factor has on an individual is an "alteration of the meaning . . . of the risk variable" (p. 325).

Despite the fact that resilience and explanatory style researchers have been using much of the same language, none have explored in depth the relationship between the two constructs. Peterson et al. (1982) stated that scores on the Attributional Style Questionnaire "correlate positively with actual attributions made by subjects for . . . the

occurrence of stressful life events" (p. 297). The General Resiliency subscale on the Resiliency Attitudes Survey (Biscoe & Harris, 1994) was described in terms that have also been used to describe attributional style: "persistence at working through difficulties, confidence that one can make the most of bad situations, belief that one can make things better" (p. 4). In a discussion on resilience, Rutter (1993) stressed the importance of how people appraise life events. Experiences "that have been successfully negotiated may be protective because they alter a child's cognitive appraisal of the event" (Rutter, 1987, p. 319). Silver and Wortman (1980) contributed a chapter on coping to a book on human helplessness – one of the roots of attributional style. They posed the question "what *is* successful adjustment to an aversive life event?" (p. 279), a question that resilience researchers are still trying to sort out.

As indicated in the above paragraphs, there are two related issues that need to be addressed empirically. The first is that the relationship between resilience and explanatory style has not yet been explored, despite the common language found in the two bodies of research. Could explanatory style be the way individuals process risk and protective factors, as implied by Rutter (1993), Seligman (1998), Silver and Wortman (1980), Toth, Cicchetti, and Kim (2002) and others? (See Figure 3). The second is the lack of a way to measure the multidimensional construct of resilience as it is currently conceptualized that, at a minimum, would include measurements for risk factors, protective factors, and outcome, but ideally would also include measurement of the individual's processing that produces outcome.
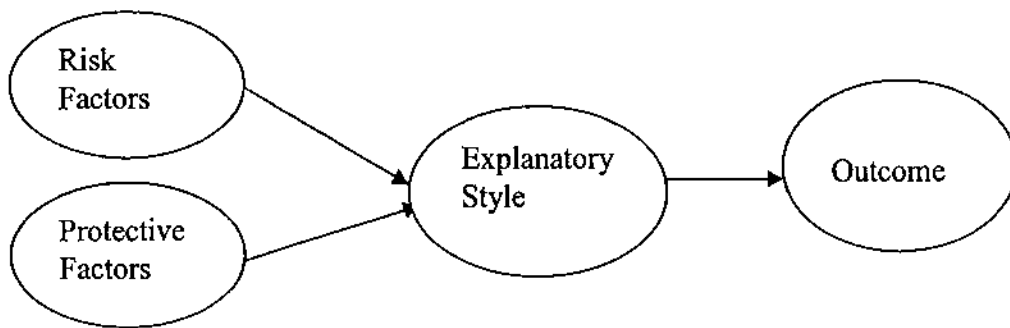
Figure 3. Proposed definition of resilience that includes explanatory style as the individual processing of risk and protective factors.

Definition of Terms

Resilience

Kaufman, Cook, Arny, Jones, and Pittinsky (1994) and Kaplan (1999) reviewed problems in defining resilience. Researchers have not yet agreed upon a precise definition. Masten, Best, and Garmezy (1990) defined it as "the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances" (p. 426). They delineated three different types of resilience: "(1) good outcomes despite high-risk status, (2) sustained competence under threat, and (3) recovery from trauma" (p.426). Jew and Green (1998) described resilience as a "personal characteristic that helps individuals adapt to stressful and maltreatment situations" (p. 675). Masten and Coatsworth (1998) defined it as "manifested competence in the context of significant challenges to adaptation or development" (p. 206). Luthar, Doernberger, and Zigler (1993) observed that resilience is not one-dimensional. Vaillant (1993) concurred, "resilience is certainly as multidimensional a concept as intelligence" (p. 297). Models of resilience as a whole, described by Masten (2001), all include risk and protective factors and successful outcome.

Kaplan (1999) asked "should resilience be defined in terms of the nature of the outcomes in response to stress or in terms of the factors which interact with stress to produce the outcomes?" (p. 19). The present research proposes defining resilience as an incorporation of both of these, i.e. an investigation into the manner in which individuals process their high risk status and/or paucity of protective factors to produce successful

outcome. Figure 3 is a simplified representation of the definition of resilience that was used in the present study.

Protective Factors

Rutter (1985) described protective factors as "influences that modify, ameliorate, or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome . . . (and) simply adding together risk factors and subtracting protective factors is "inadequate to account for the phenomenon" of resilience" (p. 600). Gilgun (1996) referred to protective factors as "assets that individuals actively use to cope with, adapt to, or overcome vulnerability or risks . . . (that) reside within individuals, families, other social groups, and communities" (p. 3). Specific protective factors that have been mentioned most often in the literature that will be used for this study and examples of citations that justify their inclusion are: supportive adult relationships (Werner & Smith, 1982, 1992, 2001), experiences of positive life events within the past year (Dixon & Reid, 2000; Luthar, 1991; Sarason, Johnson, & Siegel, 1978), spirituality (Henderson, 1998; Wolin, Muller, Taylor, & Wolin, 1999) and personal attitudes classified as resilient (Biscoe & Harris, 1994a, Wolin & Wolin, 1993). Further details on each of these can be obtained by consulting the demographic questionnaire and measures in Appendix A.

Level of adult support.

Keller and Panella (2001) found that approximately 95% of participants in a study with a similar population identified at least one supportive adult in their lives. Werner's (2000) review of longitudinal studies of at-risk children, supportive parents, grandparents, teachers, elders, and peers played significant protective roles from infancy

through adulthood. The demographic questionnaire used in the present study asks subjects to rate the degree to which adults in their lives have been supportive on a scale of one (not at all) to five (extremely supportive), and to identify the most supportive adult.

Positive life events.

Stressful life events have been identified as having "direct mental health effects" (Baldwin et al., 1993). Life changes are considered to "require adaptation on the part of the individual" (Sarason, Johnson, & Siegel, 1978, p. 932), who deemed it important to distinguish between positive and negative experiences as defined by the individual. Positive life events, while requiring adaptation, can nonetheless serve a protective role (Dixon & Reid, 2000). Significant events that have occurred over the past year are measured by the Life Experiences Survey (Sarason, Johnson, & Siegel). An example of an item that might be rated positively is engagement to be married. The respondent rates the positive or negative impact of each experience, indicating the strength of the impact. The positive scores are summed to produce a positive change score. Negative scores are discussed in the section describing negative life events.

Spirituality.

Frankl (1984, 1997) and Richards and Bergin (1997) discussed spirituality in the context of finding meaning in suffering and in life through beliefs and experiences that are related to a presence or power higher than oneself. Henderson (1998) put it simply: "personal faith in something greater" (p. 2). Lee and Waters (2001) found a significant correlation (Pearson's r = .55, p < .01) between a single question on the importance of spirituality in one's life and the total score on the Paloutzian and Ellison Spiritual Well

Being Scale. Spirituality is therefore assessed in the present research via an item on the demographic questionnaire that asks subjects to rate how important spirituality is to them on a scale of one (not at all) to 5 (extremely important).

Resilient attitudes.

Wolin and Wolin (1993) described internal skills used by resilient people (e.g., insight and initiative). The Resiliency Attitudes Survey (R.A.S.; Biscoe & Harris, 1994a) measures the extent to which an individual possesses those attitudes and is represented in this research by the total resiliency score from the R.A.S.

Risk Factors

One definition of risk factors was furnished by Masten and Coatsworth (1995): "predictors of problems in adaptation, judged either in terms of symptoms or competence" (p. 737). Specific risk factors that have been mentioned most often in the literature that will be used for this study and examples of citations that justify their inclusion are: growing up in a troubled family (Wolin & Wolin, 1993), stress from chronic discrimination (Utsey & Ponterotto, 1996; Winfield, 1995), low socio-economic status (Werner & Smith, 1982, 1992, 2001), and the experience of negative life events (Sarason, Johnson, & Siegel, 1978).

Troubled family.

Resilience in the context of family adversity has been the subject of numerous articles and books (e.g. Fergusson & Lynskey, 1996; Rutter, 2002a, 2002b, Wolin & Wolin, 1993). In general, the ultimate problem stems from the effect the dysfunction has on the relationships within the family. See Chapter II for Walsh's (2003) review of dysfunction from a variety of family therapy models.

The demographic questionnaire assesses this. Subjects are asked to describe relationships in their family on a continuum from one (unloving and distant) to five (loving and close).

Chronic discrimination.

Many authors have reported on the debilitating psychological effects of ongoing racial discrimination (see Utsey, Ponterotto, Reynolds, & Cancelli, 2000). Winfield (1995) specifically mentioned chronic discrimination as a risk factor vis-à-vis resilience. Chronic discrimination is evaluated on the demographic questionnaire via four items that tap into the frequency of discriminatory experiences and amount of perceived discomfort caused by those experiences.

Low socio-economic status (SES).

The American Council on Education (2000) reported that for the 1995-96 school year, 26 percent of undergraduates nationwide were considered low income. They defined low income for this population in terms of family income that was below 125 percent of the federally established poverty guidelines based on family size. (Justification for the use of income as the sole indicator of SES is provided in Chapter II). Using poverty levels provided by the U. S. Department of Health and Human Services (n.d.) income is ascertained on the demographic questionnaire by checking one of five income ranges: 0 - $18,000; $18,001 – $33,000; $33,001 – $52,000; $52,001 – $82,000; and > $82,000. The lower the income, the more pronounced the risk (see Werner & Smith, 1982, 1992, 2001).

Negative life events.

Stressful life events were introduced above under positive life events. Negative life events are inherently stressful and can contribute to psychiatric problems (Sarason, Johnson, & Siegel, 1978). Events that had a negative impact and occurred over the past year are measured by the Life Experiences Survey (Sarason, Johnson, & Siegel). An example from the student section that might be rated as having a negative impact is "failing an important exam." The negative scores are summed to produce a negative change score.

Explanatory (Attributional) Style

Pessimistic and optimistic explanatory style will be assessed via the bipolar component of CPCN on the Attributional Style Questionnaire (Peterson et al., 1982). CPCN is calculated by subtracting Composite Negative Attributional Style (CoNeg) scores from Composite Positive Attributional Style (CoPos) scores.

At the high end of the scale, positive attributional style (also known as an optimistic explanatory style) is based on the individual explaining good events as internal, stable, and global, and bad events as external, unstable, and specific. An example of an entirely optimistic explanation about a good event, such as receiving a compliment might be "I'm happy they noticed that I did a good job. Maybe they'll start noticing that I'm pretty good at this. In general, I do try hard at everything I do."

Negative attributional style is the opposite. At the extreme pessimistic end of CPCN, the individual explains good events as external, unstable, and specific and bad events as internal, stable, and global. Using the same example of receiving a

compliment, the pessimistic explanation might be "I did a good job because I got a lot of help. I'm not very good at this job. In fact, I'm not very good at anything I do."

Successful Outcome – Successful Adaptation

One of the primary criticisms of resilience has revolved around how to define successful outcome (Kaufman, Cook, Arny, Jones, & Pittinsky, 1994). Overall, successful outcome has been equated with "behavioral adaptation, usually defined in terms of internal states of well-being or effective functioning in the environment or both" (Masten, Best, & Garmezy, 1990, p. 426). Therefore, successful outcome in the present research will be defined as "successful adaptation" in terms of psychological well being as indicated by a high score on a bipolar measure of depression and happiness (McGreal & Joseph, 1993), a high score on the reversed Center for Epidemiologic Studies – Depressed Mood Scale (CES-D) (Radloff, 1977), and a high score on the brief version of the World Health Organization Quality of Life measure (WHOQOL-BREF) (WHOQOL Group, 1998), all of which are described in detail in Chapter III.

Using depression (or lack thereof) as a measure of successful vs. unsuccessful outcome is consistent with other resilience research. In a study of protective processes in adolescence, Gore and Aseltine (1995) examined patterns of stress resistance in regard to depressed mood. Silver and Wortman (1980) reviewed several theoretical approaches to understanding reactions to aversive life events. Depression was the most commonly described reaction.

The quality of life measure (WHOQOL Group, 1998) was chosen to include an additional multicultural perspective. The World Health Organization Quality of Life Group (e.g., Saxena & Orley, 1997) defined quality of life as "individuals' perception of

their position in life in the context of culture and their value systems in which they live and in relation to their goals, expectations, standards, and concerns" (p. 263).

Race/Ethnicity

The designation of race/ethnicity is based on the New Jersey Department of Human Services Unified Services Transaction Client Registry Form (USTF) categories: American Indian/Alaskan Native; Asian/Pacific Islander; Black, not of Hispanic origin; Hispanic; White, not of Hispanic origin; and Other. On the demographic form, participants will be asked to put a check next to the category they most closely identify with. This item will be used for descriptive purposes.

Significance of the Study

Epidemic of Depression

Seligman (1989) referred to an "epidemic of depression (that has) sweeping societal implications and . . . immediacy for undergraduate students" (p. 80). The National Institute of Mental Health (2001) estimated that about 9.5% of the adult population in the United States has a depressive disorder. In their examination of sex differences in depression among college students, Gladstone and Koenig (1994) found that 24.5% of their undergraduate sample scored from mildly to severely depressed on the Beck Depression Inventory. Sandler (1999) reported that college students have "two to eight times the risk of developing a depressive disorder" (p. 1). Masten and Coatsworth (1995) reviewed the connection between depression and problems in academic achievement, and programs directed at preventing depression have been the focus of several studies at the University of Pennsylvania (e.g., Gillham, Reivich, Jaycox, & Seligman, 1995).

Adaptation in College Freshmen

Adjustment to university life has been examined as a function of social support (Tao, Dong, Pratt, Hunsberger, & Pancer, 2000), expectations (Pancer, Hunsberger, Pratt, & Alisat, 2000), and parental relationships (Rice, FitzGerald, Whaley, & Gibbs, 1995; Wintre & Yaffe, 2000). For many, the move from high school to college marks the passage from adolescence to adulthood (Rice, FitzGerald, Whaley, & Gibbs, 1995; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000). Aspinwall and Taylor (1992) wrote about the challenges college life can pose to adaptive strategies and coping abilities. Several studies have recognized the debilitating effects of maladaptive behaviors and attitudes in a college population, as well as the advantages of developing appropriate interventions (e.g., Daley, Hammon, & Rab, 2000; Rawson, Bloomer, & Kendall, 1994).

While not specifically studied as a risk factor by resilience researchers, entering college has been identified as a major life stressor (Sarason, Johnson, & Siegel, 1978). Adding this stressor to preexisting risk factors might be predictive of poor outcome in some (Aspinwall & Taylor, 1992). See also Masten & Coatsworth (1995) regarding the study of cumulative vs. individual risk factors.

Enhancing Resilience by Targeting Depression through Explanatory Style

"If only we knew what it was that enabled people to 'escape' damage from serious adverse experiences, we would have the means . . . to enhance everyone's resistance to stress and adversity" (Rutter, 1993, p. 626). Jaycox, Reivich, Gillham, and Seligman (1994), Seligman (1998), and Seligman, Reivich, Jaycox, and Gillham (1995) promoted

protecting against depression and enhancing resilience through a change in explanatory style.

Resilience and Counseling Psychology

Luthar, Cicchetti, and Becker (2000b) emphasized that resilience researchers are "committed to the notion of maximizing potential and well-being" in individuals (p. 574). Gillham and Seligman (1999) argued for "building a science of positive psychology" (p. S168). Carver (1998) described thriving as going a step beyond resilience after a stressful event and Gilgun (1996) combined the developmental approach to resilience with a strengths-based approach.. These are all consistent with several of the characteristics that distinguish counseling psychology from other branches of the profession enumerated by Gelso and Fretz (2000). They are: relatively intact, rather than severely disturbed personalities; mental health, rather than mental illness, with an emphasis on individual assets and strengths; person-environment interaction, rather than an exclusive concentration on either one or the other; and educational and vocational development. Rak and Patterson (1996) suggested that the counseling profession become actively involved in understanding and promoting resilience.

Culture

Some authors make the case that published research in general (Graham, 1992), and specifically that on resilience has not taken culture into account (Cohler, Stott, & Musick, 1995). However, some studies have addressed a combination of cultural variables (e.g., Hampson, Rahman, Brown, Taylor, & Donaldson, 1998; Werner & Smith, 1982, 1992, 2001), while others have looked at resilience within specific cultural domains. Examples are: race and/or ethnicity (Cummins, Ireland, & Resnick, 1999;

Nettles & Pleck, 1996; Taylor, 1994; Winfield, 1995), disability (Charlson, Bird, & Strong, 1999), giftedness (Bland, Sowa, & Callahan, 1994), sociopolitical control (Zimmerman, Ramírez-Valles, & Maton, 1999), homelessness (Conrad, 1998; Neiman, 1988; Sadow & Hopkins, 1993), spirituality (Wolin, Muller, Taylor, & Wolin, 1999), and resilience across the life span (Staudinger, Marsiske, & Baltes, 1995).

Based on a study done at the same university with freshman undergraduates (Keller & Panella, 2001), it is anticipated that the subjects used may be somewhat homogeneous across certain variables, such as age. However, as recommended by Graham (1992) and S.O. Utsey (personal communication, June 2001), an attempt has been made to include culture as an integral part of this research design. Measurement instruments were chosen with this in mind. Details regarding the instruments are given in Chapter III.

Significance Summary

The significance of this research stems from an epidemic of depression referred to in the literature, the challenges to adaptation experienced by college freshmen, and the possibility of targeting both through explanatory style. As advocated by the Surgeon General's Report on Mental Health (U. S. Department of Health & Human Services, 1999), this study contributes to counseling psychology's science base while being true to its multicultural and strength-based foundations. Existing models of resilience will be extended by 1) proposing ways to measure the various components of the model described above under Definition of Terms and detailed in Chapter III, 2) including a measurable component that is amenable to intervention – explanatory style, and 3) including cultural factors in the measurement model.

Research Questions

1. Does explanatory style fit in a proposed theoretical model of resilience (shown in Figure 3 above) in which risk and protective factors are mediated by explanatory style in order to produce successful outcome?

2. Will a battery of measures evaluating the different components of resilience produce a better understanding of the process of resilience than one individual measure?

Hypotheses

The model depicted in Figure 3 suggests the following general hypotheses, which will be tested through an evaluation of how well the data fit the proposed model and the significance of the paths:

1. The relationship between protective factors and outcome is primarily an indirect effect mediated by explanatory style.

2. The relationship between risk factors and outcome is primarily an indirect effect mediated by explanatory style.

3. There is a significant direct effect of risk factors on explanatory style.

4. There is a significant direct effect of protective factors on explanatory style.

5. There is a significant direct effect of explanatory style on outcome.

6. A close fit of the model to the data suggests that a battery of measures provides a better understanding of resilience than one measure.

Summary

After briefly outlining resilience and attributional style research, this chapter proposed a merging of the two by incorporating explanatory style into a model of resilience. The definition of terms section described the ways risk factors, protective factors, explanatory style and successful adaptation are to be measured in this model. Those descriptions will become clearer in Chapter III. Ways in which this research will add to the literature were discussed under the study's significance section, and then research questions and hypotheses were posed.

CHAPTER II

Review of Literature

This chapter will provide an in-depth discourse on the historical development of the constructs of resilience and attributional style. Significant adult relationships, positive and negative life events, socioeconomic status, chronic discrimination, depression, and quality of life will each be reviewed as they pertain to this research. Chapter II concludes with the literature that proposes enhancing resilience through explanatory style.

Resilience

Holocaust

Understanding children and adults who survived the Holocaust provides rich background for resilience researchers interested in evaluating personal assets that enable humans to rise above some of the most abominable conditions imaginable (Krell, 1985, 1993). Interviews with child survivors were sometimes confounded by the struggle between wanting to remember loved ones and the wish to forget the atrocities (Hogman, 1985). This may account for some of the discrepancies between what clinicians were seeing in practice (trauma reactions in the form of psychopathologies) and researchers' findings on resilient processes (Whiteman, 1993). In any case, many have found that skills that served survivors during the war contributed to their ability to adapt and flourish later in life (Rotenberg, 1985).

With the possible exception of Anne Frank, one of the most well known Holocaust survivors in the fields of psychology and psychiatry is Victor Frankl (1984, 1997). His experiences taught him that there are three ways to survive and to find meaning in one's

life: 1) by creating a work or doing a deed; 2) through an experience, an encounter with another human, a love; and 3) by the attitude we take toward unavoidable suffering (Frankl, 1984, p. 133; 1997, p. 2).

Roots of Resilience

Several theorists have contributed to current thought in the field of resilience. Earlier writings have psychoanalytic underpinnings, but the majority looks at resilience in the context of developmental adversity.

Attachment.

Bowlby's (1988, 1989) research focused on the importance of attachment for survival. He identified three patterns of attachment.

1. "Secure attachment" comes from confidence that an adult caregiver will be "available, responsive, and helpful" when needed.

2. "Anxious resistant attachment" -- Uncertainty about the parent's availability, responsiveness, or helpfulness causes these children to become clingy and anxious.

3. "Anxious avoidant attachment" -- These individuals try to survive without any love or support from others because they have no confidence in the availability of a parent figure (p. 4).

Ainsworth (1985), a member of Bowlby's research team at London's Tavistock Clinic early in her career, found empirical support through the "strange situation" laboratory experiments for the three major patterns of infant-to-parent attachment that Bowlby (1988, 1989) discussed. She also pursued the extension of attachment beyond infancy, and "the nature of other affectional bonds throughout the life cycle" (Ainsworth,

1989, p. 709). Parents' caregiving, sexual pair bonds, childhood and adult friendships, and kinship bonds.

Fonagy et al. (1994) described the connection between attachment theory and resilience via the representation of the self's relationship to others formed from either a secure or insecure attachment to a primary caregiver. Many others have agreed with the contribution a significant adult relationship can make toward resilience (e.g., Werner, 2000; Wintre & Yaffe, 2000).

Invulnerability.

Anthony (1974a) introduced the syndrome of psychologically vulnerable children who as infants were "perturbed by the unfamiliar and tended to have tempestuous" reactions to strangers (p. 3). Anthony (1974b) and Anthony and Cohler (1987) used the term "invulnerable" for thriving children who were as risk due to parental psychiatric disorders. Invulnerability had its foundations in psychoanalytic and attachment theories, with an implied "survival of the fittest" expectation. Rutter (1993) outlined the reasons the concept of invulnerability is unhelpful in trying to understand adaptive development. It implies total resistance to damage in all risk circumstances, and suggests that it is an ingrained and unchanging characteristic of the individual.

Ego defenses and explanatory style.

While many resilience researchers have concentrated on childhood and adolescent development (e.g., Compas, Hinden, & Gerhardt, 1995; Garmezy & Masten, 1990; Luthar, 1991), Vaillant (1977, 1993) focused on adult development and adaptation, specifically in adult males. He proposed several sources of resilience based on his work with men who had adapted well to their circumstances, and some who had not. Four

levels comprised a hierarchy of adaptive mechanisms that Vaillant (1977) drew from the literature.

1. Psychotic (common in psychosis, dreams, and childhood; included denial of external reality, distortion, delusional projection)

2. Immature (common in severe depression, personality disorder, and adolescence; denial through fantasy, hypochondriasis, and acting out, for example)

3. Neurotic (common in everyone; e.g., intellectualization, repression, phobias)

4. Mature (common in "healthy" adults; included altruism, anticipation, and humor) (p. 80).

Vaillant (1977) compared 25 men who used mainly mature defenses to 31 men who used the most immature ones. He found a marked positive association between mature adaptive mechanisms and success as indicated by adjustment in the following categories: overall, career, social, and psychological. Not everyone would agree with the criteria used to ascertain adjustment. For example, an indicator of career adjustment was being listed in *Who's Who in America* or *American Men of Science*. Nonetheless, this study helped to shift the focus from pathology to positive adaptation.

Vaillant (1993) attempted to convince the reader that mind and heart are inextricably entwined, and the level of one's ego defenses was the critical factor in resilience. He delineated the following sources of resilience, then used examples from case studies.

1. Cognitive Strategies

   a. Attributional Style

   b. Temperament

2. Social Supports

   a. Ability to internalize social supports

   b. Psychosocial maturity

   c. Hope and faith

   d. Social attractiveness

3. Ego mechanisms of defense

4. Absence of risk factors and presence of protective factors

5. Luck

6. Timing and/or context

7. Self-esteem and self-efficacy (p. 298)

Despite claims that ego defenses were the critical factor in resilience, the examples Vaillant (1993) used often referred to a cognitive way of interpreting events as the crucial resilience mechanism. Regarding luck, he wrote "some may see resilience as simply the lucky reverse of bad fortune" (p. 299). In the discussion of timing and context, he pointed out "in part how we view an event is a product of . . . our cognitive style of attribution" (p. 299). In the same discussion on timing and context he described one man's successful adaptation and concluded "he simply never missed noting the silver lining in the clouds of life" (p. 301).

In viewing resilience as a function of social supports, Vaillant (1993) confirmed the importance of meaningful relationships – one of the most frequently mentioned protective factors in the literature. However, two of the components of social support could easily be filtered through an attributional style lens: ability to internalize past social supports and hope.

Vaillant (1993) used one example to "illustrate the importance of clever cognitive strategies that reflect both an optimistic attributional style and a sunny temperament" (p. 306). His affinity toward explanatory style, despite an emphasis in the majority of the book on ego and defenses, supports the hypotheses posed by this researcher. He introduced ego with the following:

> The modern psychoanalytic use of the term *ego* encompasses the adaptive and executive aspects of the human brain: the ability of the mind to integrate, master, and make sense of inner and outer reality . . . how the mind manipulates experience is at the core of ego development (p. 3).

Ego-resiliency.

Block and Block (1980) introduced the idea of ego-resiliency. The "degree of boundary elasticity, or ego-resiliency, has implication for the individual's adaptive or equalibrative capabilities under conditions of environmental stress, uncertainty, conflict, or disequilibrium" (p. 48). Klohnen (1996) equated components of ego-resiliency in adults to those found in stress-resistant children, but defined ego-resiliency as "a superordinate yet unitary personality resource that combines a number of important and more specific facets of personality" (p. 1073). An attempt to measure those facets is described below under the heading Measuring Resilience.

Coping.

Extensive literature (and critique) on the construct of coping can be found (see Livneh, Livneh, Maron, & Kaplan, 1996). Some have compared coping to defense mechanisms (e.g., Cramer, 1998; Sammallahti, Holi, Komulainen, & Aalberg, 1996), while some described the use of defense mechanisms as a style of coping (e.g., Vaillant,

1977). Murphy and Moriarty (1976) conducted "natural history observations" (p. xii) from preschool to late adolescence to ascertain children's reactions to stress. While their book was entitled *Vulnerability, Coping, and Growth*, an entire section was devoted to resilience processes that included coping mechanisms.

What is the difference between coping and resilience? It appears from the literature that developmental psychologists chose "stress and coping" to represent earlier work on resilience (Haggerty & Sherrod, 1996) and some authors used resilience and coping interchangeably (e.g. Prior, 1999). However, no sources were found that specifically compared coping to resilience, with the exception of Gore and Eckenrode (1996) who provided a contextual framework for resilience that included coping as shorter-term processes that might be viewed as contributing to the developmental process of resilience (see Gore & Eckenrode, p. 45 – 49).

Lazarus and Folkman (1984) defined coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141) – independent of the outcome. Frydenberg's work (1999) extended this to include "both individual and situational factors, a person's appraisal of the circumstances and their resources to deal with them, their actual resources and their goals, which include the perception of the self along with individual and psychological needs" (p. 26). Compas et al. (2001) also emphasized determination in their definition of coping as "conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events" (p. 89). The construct of resilience is more multi-dimensional, specific

efforts expended to manage stressful demands are not a consideration, and successful outcome or adaptation is a critical component.

An overview of measures of coping revealed multiple approaches. Examples are: dispositional and situational assessment of children's coping (Ayers, Sandler, West, & Roosa, 1996), a measure on coping with health problems (Endler & Parker, 1990; Endler, Parker, & Summerfeldt, 1998), a problem-focused style of coping (Heppner, Cook, Wright, & Johnson, 1995), children's coping strategies (Sandler, et al., cited in Kliewer, Fearnow, & Walton, 1998), and behavioral attributes of psychosocial competence as a measure of proactive coping (Ewart, Jorgensen, Suchday, Chen, & Matthews, 2002; Zea, Reisen, & Tyler, 1996). See also Cook and Heppner (1997) for a review of the more popular measures of coping: the Ways of Coping Scale, the Coping Strategies Inventory, the COPE, and the Coping Inventory for Stressful Situations. While the popular measures have support in the literature (e.g., Bouchard, Sabourin, Lussier, Wright, & Richer, 1997; Flannery, Perry, Penk, & Flannery, 1994; Parkes, 1986), they are not without psychometric difficulties (Livneh, Livneh, Maron, & Kaplan, 1996; see also Edwards & O'Neill, 1998; Stone, Greenberg, Kennedy-Moore, & Newman, 1991; Strümpfer, Viviers, & Gouws, 1998).

Hardiness.

Hardiness is another related construct that has had its share of support and criticism (see Funk, 1992). According to Kobasa (1979), hardiness in male executives encompassed a strong commitment to their principles, goals, and abilities, an attitude of active connection to the environment, a sense of meaningfulness, and an internal locus of control. They were abbreviated to the personality characteristics of commitment, control,

and challenge (Kobasa, Maddi, & Kahn, 1982), which are learned within a certain type of family atmosphere (Maddi & Kobasa, 1991).

A Hardiness Scale (Bartone, Ursano, Wright, & Ingraham, 1994) measures these three dimensions of hardiness. Funk (1992) and Ramanaiah, Sharpe, and Byravan (1999) referred to this scale as the Dispositional Resilience Scale (DRS). Upon closer inspection, the subscales of the DRS share similarities to subscales of the Resiliency Attitudes Scale (R.A.S.; Biscoe & Harris, 1994a, 1994b), a measure that is used in the present study to represent protective factors. Commitment corresponds to dimensions of the relationships and morality subscales on the R.A.S., control shares features with the independence and initiative subscales, and challenge corresponds to facets of insight and creativity on the R.A.S. (Biscoe & Harris, 1994a, 1994b).

Risk Research to Resilience

As alluded to above, the forerunner to resilience research was a focus on stress, risk, and coping (Garmezy, 1983; Haggerty, Sherrod, Garmezy, & Rutter, 1996). Garmezy (1983) predicted in the 1980's that "the next decade will witness a significant growth in research that may pass under many banners: 'stress-resistance,' 'ego-resilience,' 'protective factors,' 'invulnerability' (p. 73). This has, in fact, been the case (Peng, 1994). Some authors continue to emphasize risk (e.g., Compas, Hinden, & Gerhardt, 1995; Rende & Plomin, 1993). However, most who examine risk factors also investigate corresponding protective factors (e.g., Garmezy & Masten, 1990; Gilgun, Klein, & Pranis, 2000; Grossman et al., 1992; Luthar, 1991; O'Grady & Metz, 1987; Rutter, 1990; "Toward Resiliency," 1998; see also Masten, 2001). In accord with counseling psychology's strength-based credo, many are concentrating primarily on protective

factors and/or processes (e.g., Cicchetti & Rogosch, 1997; Gore & Aseltine, 1995; Loesel & Bliesener, 1994; Mrazek & Mrazek, 1987; Tiet et al., 1998; Werner, 1995).

Kauai Longitudinal Study

Werner (1993, 1995), Werner and Johnson (1999), and Werner and Smith (1982, 1992, 2001) described a longitudinal study of the development of all 698 babies born in 1955 on the Hawaiian island of Kauai. About one third were exposed over the years to high-risk circumstances such as perinatal stress, poverty, parental alcoholism or mental illness, and troubled family environments. Of those, about one third (72) "grew into competent, confident, and caring young adults" (Werner, 1993, p. 504) based on self-report and their records in the community. Of the 370 who responded to this survey item, 17.8% of males and 24.3% of females rated themselves as happy or delighted. About 43% of males and 47.4% of females rated themselves as "mostly satisfied" with their lives (Werner & Smith, 2001, p. 192). Only about "16% were doing poorly – straddling with domestic problems, substance abuse, and serious mental health problems, and living in precarious financial circumstances" (Werner & Smith, 2001, p. 54). There were groups of protective factors that Werner (1993) and Werner and Smith (1992, 2001) identified as those contributing to successful adaptation: individual temperament, skills and values that contributed to innate abilities, positive parental care-giving style, faith that life had meaning, internal locus of control, and supportive adults. Around age 30, factors within the individual tended to be more protective for high-risk females than males, while external sources of support tended to be more protective for high-risk males (Werner & Smith, 1992), but these differences weren't as significant by age 40 (Werner & Smith, 2001).

Rochester Longitudinal Study

The Rochester Child Resilience Project (RCRP) has been described by several of the investigators (e.g., Cowen, Wyman, et al., 1997; Cowen, Work, & Wyman, 1997; Parker, Cowen, Work, & Wyman, 1990; Wyman et al., 1991). In general, stress-resistant (SR) and stress-affected (SA) outcomes of adjustment were compared in 8 – 12-year-old urban children exposed to major life stressors. The primary purpose of the study was to identify antecedents and correlates of resilience. Results showed that family predictors of stress-resistance included close relationships with primary caregivers, consistent and appropriate discipline, and stable family circumstances (Wyman et al., 1991). Personal characteristics that combined to differentiate between SR and SA groups were: self-esteem, global self-worth, realistic control, problem solving, empathy (Cowen et al., 1997; Parker, Cowen, Work, & Wyman, 1990) and children's perceptions of a positive future (Wyman et al., 1991).

Sameroff and Seifer (1990) described another longitudinal study begun in Rochester in 1970. They investigated developmental risk in children of schizophrenic mothers. This was consistent with Garmezy's (1968) and Garmezy & Streitman's (1974) early work on schizophrenia that ultimately led him to the study of resilience. Sameroff and Seifer cited social status and parental psychopathology as "general risk factors that produce general incompetencies in young children" (p. 64). In a follow-up study with about half of the families, Baldwin, Baldwin, and Cole (1990) examined cognitive competence in the children as a function of stress-resistance within the families.

Cognitive competence was related to parental "restrictiveness, clarity, vigilance and warmth" (p. 274).

Project Competence

Theoretical foundations of competence were reported in a chapter from the Yearbook of the International Association for Child Psychiatry and Allied Professions (Garmezy, 1974). Project Competence (Garmezy, Masten, & Tellegen, 1984) sought to study resilience and competence in three cohorts of children: 200 children exposed to a variety of stressful life events from two urban areas, 32 children with congenital heart defects, and 29 severely handicapped children who were mainstreamed into a public school. The authors offered tentative results that higher levels of SES and IQ may serve as protective factors, while an abundance of stressful life experiences were negative predictors of achievement. Masten, Morison, Pellegrini, & Tellegen (1990) supported SES & IQ, as well as quality family characteristics, as correlates of school competence.

Masten et al. (1999) used data from one of the populations investigated in this longitudinal research to look at three observable indicators of competence over time: academic achievement, conduct, and peer social competence. The 200 elementary school students who were recruited from two urban schools were followed over the course of ten years. Of those, 189 had completed data for the variables being studied. Higher IQ and better quality parenting in childhood and adolescence accounted for better outcomes in the three competence domains, regardless of adversity status.

The distinction made by Masten et al. (1999) between resilience (adequate competence, high adversity), maladaptation (low competence, high adversity) and competence (adequate competence, low adversity) hinges on the presence (and

definition) of adversity (Masten & Coatsworth, 1995; see also Gest, Neemann, Hubbard, Masten, & Tellegen, 1993). That point will not be debated here. See the definition of resilience in Chapter I for a brief discussion.

International Resilience Research Project

Grotberg (2000) described this international effort, the purpose of which was to uncover the actions that parents, caregivers, and children themselves take that appear to promote resilience in children prior to adolescence. Cultural factors contributing to resilience were also investigated.

Their definition of resilience was slightly different from previous investigators in that they maintained that it may also be "developed in anticipation of (not necessarily because of) inevitable adversities" (p. 381). Approximately 1,200 children between four and 11 years old, and 2,200 parents and caregivers responded. For children under age four, resilience-promoting behaviors centered around making fewer demands on parents and caregivers. For children 4 – 11, resilience-promoting behaviors carried themes of helping others, self-esteem, confidence, autonomy (depending on culture), and ability to solve problems (p. 390 – 391).

Measuring Resilience

Jew, Green, and Kroger (1999) published a Resiliency Belief Scale (RBS) based on an article by Mrazek and Mrazek (1987) on skills and abilities that might contribute to resilience in at risk children. However, much has been learned about risk and protective factors since 1987. Therefore, the RBS would need to be modified to include current theory.

The Resilience Scale (Wagnild & Young, 1993) tapped into items that the authors grouped under "personal competence" and "acceptance of self and life" (p. 174). The literature supports a more encompassing view of resilience than that measured by this scale.

The Washington Resilience Scale (Ahn, 1991) measured self-reported problem solving attitudes, familial support, sociability, endurance, emotional coping, and goal persistence. An inspection of the individual questions revealed that endurance reflected physical endurance, a factor not emphasized in the resilience literature.

Klohnen (1996) used a subset of 26 items from the 100-item California Adult Q-set (Block, 1978) to measure the construct of ego-resiliency (Block & Block, 1980). When factor-analyzed, these items grouped under the following four factors (Klohnen, 1996): confident optimism, productive activity, interpersonal warmth and insight, and skilled expressiveness. Careful attention was required to trace the background on this scale, described in the following two paragraphs.

The Q-sort method of personality assessment consisted of an evaluator sorting 100 cards to reflect the most to least characteristic personality traits in the person they were evaluating. Examples were "Has fluctuating moods" or "Is power oriented; values power in self and others" (Block, 1961, p. 10). Block (1961) had nine clinical psychologists (including himself) choose 26 cards that reflected what he called the "optimally adjusted personality" (p. 144). One might assume that those twenty-six personality traits would be equivalent to the subset used by Klohnen (1996, p. 1079; attributed to Block, 1991) to measure the construct of ego-resiliency, but only about half were the same.

Block and Kremen (1996) developed an Ego-Resiliency Scale (ER89). There were 14 items, none of which were the same as any of those in Block (1961) or Klohnen (1996). The only published study using the ER89 was by Al-Naser and Sandman (2000) on evaluating resiliency patterns in students at Kuwait University five years after Kuwait's liberation. Kneff, Bodensteiner, Vodde, and Gynther (1969) referred to Block's Ego-Resiliency Scale (ER-S) that consisted of 40 items culled from the MMPI. However it was the only reference found on that version of an ego-resiliency scale.

Criticisms of Resilience

There have been many criticisms of resilience as a construct (Bartelt, 1994, Luthar, Cicchetti, & Becker, 2000a, 2000b). These range from definitional inconsistencies and lack of empirical evidence (Tolan, 1996) to methodological problems in assessment of resilience (Kinard, 1998) and criticisms of the value of individual over collective resilience (Smith, 1999). However, most of the criticisms have been discussed (e.g., Luthar, Cicchetti, & Becker, 2000a, 200b; Rutter, 1999b) or are in the process of being investigated empirically (e.g., Biscoe & Harris, 1994a, 1994b; Keller & Panella, 2001; Masten, 2001). As stated in Chapter I, development of a comprehensive model and means of measuring the components within the model would help to address many of the criticisms directed toward resilience.

Learned Helplessness and Explanatory Style

Animal Research

From the early 1970's to the early 1980's the phenomenon of learned helplessness was studied in rats and dogs (e.g., Hannum, Rosellini, & Seligman, 1976; Rosellini & Seligman, 1975; Seligman, Weiss, Weintraub, & Schulman, 1980). This research on

learned helplessness was grounded in the electric shock research done in the 1960's by Seligman (e.g., Seligman, 1968; Seligman & Campbell, 1965). Animals who were exposed to inescapable shock learned that avoiding the shock was out of their control. In conditions where they later had the ability to escape being shocked, they not longer tried. Even when the possibility of escape was demonstrated, the animals only attempted to escape after repeated trials (Seligman, 1972a). Rosellini and Seligman (1975) illustrated the transfer of learned helplessness "from one aversive motivator, shock, to another, frustration" (p. 149). Hannum, Rosellini, and Seligman (1976) showed that helplessness learned in young rats interfered with their adaptive responses as mature rats. In addition, escapable shock experiences shortly after weaning "immunized" them against maladaptive helplessness when exposed to inescapable shock as adult rats. Seligman and Weiss (see Seligman, Weiss, Weintraub, & Schulman, 1980) debated the learned helplessness hypothesis of the effects of inescapable shock vs. norepinephrine depletion and/or learned inactivity.

Learned Helplessness in Humans

Undeterred by the above-mentioned discourse, Seligman went on to examine the relationship between learned helplessness in animals and maladaptive behaviors in humans (Seligman, 1972a). Under conditions of inescapable aversive tones, Gatchel and Proctor (1976) evaluated some physiological symptoms in humans that were correlated with depression. Tonic skin conductance levels were lower; phasic skin conductance responses were smaller; and electrodermal activity was more spontaneous in the group that had been exposed to inescapable tones.

Depression and Learned Helplessness

Around 1975, Seligman and his colleagues began investigating the similarities between depression and laboratory-induced learned helplessness (e.g., Hiroto & Seligman, 1975; Miller & Seligman, 1975). Klein and Seligman (1976) and Miller and Seligman (1976) demonstrated that non-depressed subjects who received inescapable noise showed similar performance and perceptual deficiencies to those who were depressed (and had not been exposed to noise). Klein, Fencil-Morse, & Seligman (1976) obtained similar results when the condition was unsolvable anagrams rather than inescapable noise. Miller, Rosellini, and Seligman (1977) proposed that learned helplessness might be similar enough to reactive depression (depression caused by external events) in the areas of symptoms, causes, treatment and prevention that further investigation of learned helplessness could "help sharpen the definition of depression" (p. 105).

Most of the books devoted to learned helplessness were written or edited by Seligman (e.g., Peterson, Maier, & Seligman, 1993; Seligman, 1972b). One exception was Mikulincer (1994), who promoted a coping perspective of helplessness. "A coping analysis of learned helplessness effects should take into account the cognitions and emotions that affect mobilization of coping effort, the selection of particular coping strategies, and the organization and implementation of those strategies" (p. 242). This coping perspective provides a mental framework for the shift in the literature around 1978 from helplessness and depression to a theory of a construct that had the potential for helping people to adapt to their circumstances called attributional style.

Reformulation to Attributional (Explanatory) Style

Abramson, Seligman, and Teasdale (1978) presented a reformulation of learned helplessness in response to inadequacies of applying the theory to humans. The reformulation centered on people's tendency to look for a cause for the deficits produced under conditions of helplessness. The three main tenets of attributional style theory refer to the generality and chronicity of the deficits and eventually to self-concept (Abramson, Seligman, & Teasdale, 1978, p. 50).

The first, generality, refers to attribution of outcomes across multiple situations (global) vs. attribution to only a couple of specific situation(s) (specific). The second tenet refers to the attribution of outcomes to either stable factors – chronic deficits arising from the belief that the individual not only has no control over this situation now, but will also not in the future, or unstable factors – temporary poor performance from the belief that helplessness will not necessarily result the next time that task is attempted. The third, poor self-concept, results when the individual attributes outcomes to internal instead of external factors (also referred to respectively as personal vs. universal helplessness by Abramson, Seligman, & Teasdale, 1978). To summarize, the individual attributes good and bad events to factors that are: 1) global or specific, 2) stable or unstable, and 3) internal or external.

Depression and Measuring Attributional Style/Optimism

The next several years saw multiple studies on the link between attributional style and depression (e.g., Alloy, Peterson, Abramson, & Seligman, 1984) particularly after the development of the Attributional Style Questionnaire (ASQ) (Peterson, et al., 1982). It was in the same time frame that investigators started to refer to explanatory style (e.g.,

Peterson & Seligman, 1984; Nolen-Hoeksema, Girgus, & Seligman, 1986). The two terms have since become interchangeable. Internal, stable, and global attributions to bad events coupled with external, unstable, and specific attributions toward good events became known as a pessimistic explanatory (or attributional) style (e.g., Nolen-Hoeksema, Girgus, & Seligman, 1992). An optimistic explanatory style was based on external, unstable, and specific attributions for bad events, and internal, stable, and global ones for good events. These are the dimensions measured by the ASQ (Peterson et al., 1982).

Peterson and Seligman (1984) reviewed several studies conducted by Seligman and colleagues in which the ASQ was used to show the connection between depression and an internal, stable, and global orientation to bad events. Seligman, Abramson, Semmel, & vonBaeyer (1984) obtained similar results in a sample of 145 college students. Nolen-Hoeksema & Girgus, (1995), Nolen-Hoeksema, Girgus, and Seligman (1991) and Seligman, Peterson et al. (1984) replicated these results with children.

Meta-analyses of the relationship between depression and attributional style reported by Sweeney, Anderson, and Bailey (1986) generally supported that depression increased as attributions for bad events became more internal, stable, and global (p. 984). Thirty-nine individuals with unipolar depression were given the ASQ before starting a cognitive therapy program, after its completion and one year later (Seligman et al., 1988). A change in explanatory style between intake and completion correlated with a change in depressive symptoms (r = .65, p = .0001). This study also supported findings reported above via a correlation between pessimistic explanatory style and severity of depression

at all three stages – intake (r = .56, p < .0002), completion of therapy (r = .57, p < .0008), and one year later (r = .64, p < .0005) (Seligman et al., 1988, p. 13).

Depression is a psychological disorder that has been linked to explanatory style. A connection has also been found between pessimistic explanatory style and physical illness (e.g., Kamen & Seligman, 1989; Peterson & Seligman, 1984; Peterson, Seligman, & Vaillant, 1988), and between pessimistic explanatory style and mortality (e.g., Peterson, Seligman, Yurko, Martin, & Friedman, 1998; Seligman, 2002).

Explanatory style may have a genetic component, and it also appears that an optimistic explanatory style cannot be faked. A study with 142 sets of twins reared together (Schulman, Keith, & Seligman, 1993) showed identical twins to be very similar in explanatory style, while fraternal twins were not. In an attempt to see whether "faking good" was possible when taking the ASQ, Schulman, Seligman, & Amsterdam (1987) compared the following three groups: 1) college students who were offered an incentive to achieve the best overall score, plus a vague description of what the ASQ measures, 2) students who were offered only the incentive, and 3) the control group of students who just took the ASQ. No significant differences were found.

To summarize the discussion on the development and use of the ASQ (Peterson et al., 1982), it should be mentioned that, while abundant reliability and validity information is available for the ASQ (see Sweeney, Anderson, & Bailey, 1986), it is not the solitary technique for assessing explanatory style (Burns & Seligman, 1991). Another method for measuring explanatory style – the content analysis of verbatim explanations (CAVE) – was developed by Peterson, Luborsky, and Seligman (as cited in Schulman, Castellon, & Seligman, 1989). This technique "uses independent trained judges to rate verbatim

causal statements extracted from spoken or written material on a scale of 1 to 7 for the same three dimensions (of internality, stability, and globality)" (Burns & Seligman, 1991).

In a comparison of the CAVE approach to the ASQ, Schulman, Castellon, & Seligman (1989) demonstrated comparable content validity between the two measures and to the Beck Depression Inventory (BDI). CAVEing has been used to ascertain stability of explanatory style over the life span (Burns & Seligman, 1989), to extract an optimism-pessimism scale (PSM) from the MMPI (Colligan, Offord, Malinchoe, Schulman, & Seligman, 1994), and to scan historical records for relationships between explanatory style and personal or societal actions (Zullow, Oettingen, Peterson, & Seligman, 1988). In short, the CAVE technique offers the possibility of retrospective studies on attributional style that are not possible with the ASQ.

Limitations of Attributional Style Theory

As mentioned above, Vaillant (1993) argued a point similar to the one made by Demasio (1994) in his book about brain trauma, namely that cognitions cannot exist independent of emotions. The cognitions informed by explanatory style also evoke emotions, but the affective component to attributional style has been under-emphasized in the literature. Articles connecting mood to attributional style have been exclusively about depression. In addition, only the cognitively astute can participate in research on explanatory style, and interventions aimed at changing one's style may not work with cognitively challenged individuals.

Significant Adult Relationship

Supportive adults have been mentioned as one of the strongest moderators of risk

(e.g. Baldwin et al., 1993; Werner, 2000). Strong parenting that included clear

boundaries and flexibility contributed to healthy functioning (Walsh, 2003). According

to Thomlison (1997), a history of good parenting is an "enduring protective factor" (p.

53) for children. Werner (2000) found that support from grandparents, teachers, and

mentors can be as protective as parental support. Ainsworth (1989) also recognized the

importance of significant adults (not only parents) in a child's life.

Troubled Family

A dysfunctional family environment can be a substantial risk factor (Fergusson &

Lynskey, 1996; Rutter, 2002a, 2002b; Wolin & Wolin, 1993). A recent book edited by

Walsh (2003) explored family functioning. Symptoms of family dysfunction were

reviewed from the standpoint of the major family therapy models. They included

inflexibility, maladaptive behaviors that are reinforced, communication deficits,

unsuccessful negotiation of stressful events and transitions, unresolved conflicts and

losses, and poor differentiation of the self in relation to others in the family. As Slap

(2001) put it, "family connectedness protects (only) when a family is present and

functioning" (p. 76).

Positive and Negative Life Events

Some form of stressful life event or combination of events has been the cornerstone

of almost all resilience research (e.g., Carbonell, Reinherz, & Giaconia, 1998; Fogany et

al., 1994; Luthar, Cicchetti, & Becker, 2000a; Garmezy, 1996, Rutter, 1999a; and

Werner, 1995). Holmes and Rahe (1967) developed a list of both positive and negative

events and weighted each to produce a total life stress score. Sarason, Johnson, and Siegel (1978) maintained that positive life experiences could serve a protective function (see also Dixon & Reid, 2000), while negative experiences were the ones that were associated with risk. They also asserted that an individual should be allowed to evaluate the relative positive or negative effect an event had. A revamping of the Holmes and Rahe schedule of life events resulted in the Life Experiences Survey (Sarason, Johnson, and Siegel). This survey also included ten items that were geared toward college students, as well as space to identify events that may have had an impact on the individual, but were not included in the survey.

Spirituality

Wolin, Muller, Taylor, and Wolin (1999) discussed the spiritual dimensions of resilience from the standpoint of three major world religions – Buddhism, Judaism, and Christianity. The "alienation between religion and psychology" was a concern cited by Richards and Bergin (1997, p. 21). They advocated bringing spirituality back into the folds of counseling to better address a culturally sensitive approach to enhancing resilience. Pargament (1997) devoted an entire book to bridging this gap via a psychology of religion and coping. Spirituality within these contexts was seen through a lens of religious practices.

Following deep-seated religious beliefs partially accounted for individuals' resilience in a majority of subjects in study by Gordon and Song (1994). Kumpfer (1999) reported that "spirituality has been highly predictive of positive life adaptations" (p. 199). These studies included having a purpose in life as a component of spirituality.

Socioeconomic Status

The difficulty of operationalizing socioeconomic status (SES) has been well

documented (e.g., American Academy of Pediatrics, 2000; MacArthur Foundation, n.d.;

Radner, 1996; and Schulman, Rubenstein, Chesley, & Eisenberg, 1995). Aside from

income, other variables such as educational level, housing, social class, and occupational

category can influence SES (American Academy of Pediatrics, 2000; Werner & Smith,

1982, 1992, 2001)

In a statement particularly relevant for the undergraduate population that is the

focus of this research, Radner (1996) pointed out that "examining detailed age groups or

detailed socioeconomic subgroups within and age group emphasizes the heterogeneity

present within a group. Also, the examination of such subgroups can produce insights

that are not apparent using summary groups" (p. 13) Undergraduates can be classified

fairly homogeneously in regard to current educational level, housing arrangements, and

occupational category. However, in addition to the statistics provided in Chapter I from

the American Council on Education (2000), a government publication on How Low

Income Undergraduates Finance Postsecondary Education: 1992 - 93 (n.d.) reported that

18.2 percent of undergraduates at private, not-for-profit and 42.2 percent at private, for-

profit institutions were considered low income. Both of these reports defined low-

income students as those whose family incomes fell below 125 percent the poverty

threshold for their family size.

Other sources described "middle class" as 75 – 125 percent of the national median

income (Youmans, n.d.). In 2000 figures, this translated to a range of $32,667 - $54,445

(see U. S. Census Bureau, n.d. for median income figures). This is consistent with the

above definition of low income, which for 2000 ranged from 10,430 to about 30,000 depending on family size (see the chart under the definition of SES in Chapter I).

Further support for these general income classifications was based on figures provided by the U. S. Census Bureau (n.d.) and the U. S. Department of Health and Human Services (n.d.). Mean yearly income received by each fifth of households for the year 2000 was as follows: Lowest fifth = 0 - $17,950; Second fifth = 17,951 – 33,005; Third fifth = 33,006 – 52,272; Fourth fifth = 52,273 – 81,960; and Highest fifth = greater than 81,960.

Chronic Discrimination

Chronic discrimination has been investigated primarily in terms of racial discrimination (e.g. Utsey & Ponterotto, 1996; Utsey, Ponterotto, Reynolds, & Cancelli, 2000). Utsey (1999) maintained "chronic exposure to invidious forms of racism and discrimination has been implicated in the development of several stress-related diseases prevalent in the African American community" (p. 149). The MacArthur Foundation (n.d.) has been studying the "role of racism and discrimination in the lives of African Americans and other minorities for whom higher SES status does not always serve as a protective factor" (p. 2). Zimmerman, Ramírez-Valles, and Maton (1999) examined the protective effects of sociopolitical control toward resilience in urban African American adolescent males. Utsey, Chae, Brown, and Kelly (2002) expanded race-related stress to include Latinos and Asian Americans.

Depression

There is no dearth of studies in the psychological literature on depression (e.g. Block & Gjerde, 1990; Cicchetti & Toth, 1998; Hautzinger, 1988; Steinhausen &

Metzke, 2000). Interest in depression for the present research focuses on three main areas: depression and causal attributions, depression and resilience processes, and depression in a college population.

The role attributional style plays in depression has been well studied by Seligman and his colleagues who maintain that the impact of negative life events on a depressive symptomology depends on the causal attributions made by the individual (e.g., Peterson et al., 1982; Robins & Hayes, 1995). However, some have found that attributional style is not a predictor of depression in those experiencing negative life events (e.g., Spence, Sheffield, & Donovan, 2002). The connection between depression and resilience has been investigated by researchers such as Dumont and Provost (1999), who studied the protective function of social support, coping, self-esteem, and social activities in depression. Depression in college students has been the focus of several studies (e.g., Aspinwall & Taylor, 1992; Gladstone & Koenig, 1994; Rawson, Bloomer & Kendall, 1994; Wells, Klerman, & Daykin, 1987).

Quality of Life

The World Health Organization (WHO) defined quality of life as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (Orley, Saxena, & Herman, 1998, p. 291). Patrick, Wild, Johnson, Wagner, and Martin (1994) pointed to the importance of developing psychometrically sound quality of life measures that are culturally appropriate for a variety of cultures. The response was the development of the WHOQOL, to be used in 15 different cultural groups worldwide (see Power, Bullinger, Harper, & The WHOQOL Group, 1999; Skevington, 1999;

Skevington, Bradshaw, & Saxena, 1999). This assessment and its shorter counterpart (The WHOQOL Group, 1998) tap into four life domains: physical health, psychological health, social relationships, and environment (p. 551). Utsey, Bolden, Brown, and Chae (2001) advocated the use of the WHOQOL as a culturally sensitive measurement of quality of life.

Enhancing Resilience through Explanatory Style

"If only we knew what it was that enabled people to 'escape' damage from serious adverse experiences, we would have the means . . . to enhance everyone's resistance to stress and adversity" (Rutter, 1993, p. 626). Rak and Patterson (1996) also recognized the difficulty in determining appropriate interventions. They proposed using a diagnostic interview guided by resilience literature to ascertain which strengths counselors should emphasize when designing an intervention. Henderson and Milstein (2002) advocated promoting resilience through the schools by mitigating risk factors and building resilience in the environment. Cowen (1994) described preventive methods of "short-circuiting the predictably negative consequences of stress and strengthening people's resources and skills for dealing with future stressors" (p. 170).

Fonagy et al. (1994) proposed the idea that an internal model of relationships described by Bowlby (1988, 1989) and others in the context of attachment theory is somehow passed on to children through a parent figure. They further suggested that since secure attachment contributes to resilience, attachment could be a target for intervention by recreating it in the therapeutic relationship. This seems like a throwback to the stereotype of the patient lying on the couch every week for years. Fonagy et al. counteracted this image with support for a change in explanatory style. "The patient's

thinking is facilitated and he or she can conceive of his or her world in new, more resilient . . . ways" (p. 251).

Much of Seligman's (e.g., 1992) research in the past decade has focused on how an optimistic explanatory style predicts achievement in college and other populations, while a pessimistic explanatory style (both alone and combined with negative events) predicts depression (e.g., Nolen-Hoeksema, Girgus, & Seligman). In a meta-analysis of 104 studies with over 15,000 subjects, Sweeney, Anderson, and Bailey (1986) showed that an optimistic attributional style predicted good outcome (lack of depression), while a pessimistic style predicted poor outcome (depression). Schulman (1995) reviewed studies in support of explanatory style as a predictor of college achievement. Jaycox, Reivich, Gillham, and Seligman (1994), Seligman (1998), and Seligman, Reivich, Jaycox, and Gillham (1995) promoted protecting against depression and enhancing resilience through a change in explanatory style.

The Penn Prevention Program (Jaycox, Reivich, Gillham, & Seligman, 1994) was developed to prevent symptoms of depression in 10 to 13-year-olds who are at risk for the disorder. Results from this cognitively-based treatment program showed a decrease in and preventative effects toward depressive symptoms. Treatment participants were less likely to attribute bad events to stable causes after treatment was completed. Gillham, Reivich, Jaycox, & Seligman (1995) did a study over the course of two years to follow the effects of this program. Fifth- and sixth-graders who received the prevention training were "much less depressed that the control subjects, and the prevention effect grew over time" (p. 344).

Summary

As described in this chapter, the literature on attributional style and its measurement is extensive. Although the theoretical construct of resilience continues to be developed in the literature, there is clearly a need to begin to address resilience empirically. Once reliable and valid means of measuring resilience are found, methods for enhancing resilience can be developed.

CHAPTER III

Method and Procedures

The purpose of this chapter is to communicate the specifics of the research outlined in Chapter I. The measures used are described, as well as the participants, the administration procedures, study design and an overview of the statistical analyses performed. The chapter concludes with a discussion of the study's implications for theory, research, and practice.

Participants

Participants were undergraduates in Freshman Studies seminars and introductory psychology courses at a private university in the northeastern United States. They ranged generally from 18 – 22 years of age, with the majority being 18 or 19. It was anticipated based on a similar study done at the same university (Keller & Panella, 2001) that approximately 70 percent of the participants would be Caucasian, and about half would be female. Most of the participants would have the protective factor of relatively supportive adult relationships. The majority would not have been exposed to the risk factor of low socioeconomic status. However, all participants would have experienced at least two major life stressors within the six months previous to data collection: the attack on the World Trade Center (about 12 miles from the university) and entering college. Participant demographics will be detailed in Chapter IV.

Measures

All measures were used with permission of their respective authors. Verification is on file with the author of this research.

Resiliency Attitudes Scale (R.A.S.) (Biscoe & Harris, 1994a)

Description, administration, and scoring.

The R.A.S. was designed to tap into skills that were outlined by Wolin and Wolin (1993) as those used by resilient people who were raised in troubled families. There are 72 self-report items on this paper-and-pencil survey. The respondents rate their views of themselves on a Likert-type scale ranging from one (Strongly Disagree) to five (Strongly Agree) in the following categories (Biscoe & Harris, 1994a).

1. Insight – the mental habit of asking searching questions and giving honest answers

2. Independence – the right to safe boundaries between yourself and significant others

3. Relationships – developing and maintaining intimate and fulfilling ties to other people

4. Initiative – determination to master oneself and one's environment

5. Creativity and Humor – safe harbors of the imagination where you can take refuge and rearrange the details of your life to your own pleasing

6. Morality – knowing what is right and wrong and being willing to stand up for those beliefs

7. General resiliency – persistence at working through difficulties, confidence that one can make the most of bad situations, belief that one can make things better (p. 4).

Several items are reverse-coded, then all 72 items are used to produce a raw "total resiliency score." This raw score is then divided by the total possible points (360) and

multiplied by 100 to compute what Biscoe and Harris (1994a) called the standardized score, which "represents a percent agreement with the total items to yield a strength index, (and which) can range from 20% to 100%. Higher scores indicate higher resiliency" (p. 2). As described in Chapter II, "higher resiliency" on the R.A.S. (Biscoe & Harris, 1994a) translates to a higher number of internal protective factors.

Reliability and validity.

The R.A.S. is a relatively new scale. No reliability information was available for the adult version of the scale, but the adolescent version demonstrated Cronbach's alphas from .799 to .869 (Clemente, 2001). Coleman, Karcher, and Biscoe (2001) conducted a factor analytic and content study on the adolescent version. They reported internal consistency coefficients for the total resiliency score of .83 and .85 for five-factor and three-factor models, respectively. The authors of the R.A.S. (Biscoe & Harris, 1994b) showed concurrent validity for the total resiliency score through a significant ($p < .001$) negative correlation of -.48 with the Beck Depression Inventory and significant ($p < .001$) positive correlation of .50 with the Rosenberg Self Esteem Scale.

Life Experiences Survey (LES)(Sarason, Johnson, & Siegel, 1978)

Description, administration, and scoring.

The LES is a self-report paper-and-pencil instrument that measures positive and negative events that have been experienced by the respondent in the past year. It is modeled after a listing of recent experiences (Holmes & Rahe, 1967) that assigned values to each event to yield a total life stress score. The LES allows respondents to rate the relative weight of an item in terms of the impact it had on them, rather than assigning a predetermined value.

For the items checked (such as marriage, or major change in financial status), the respondent circles a rating on a 7-point scale ranging from –3 (the event had an extremely negative impact at the time it occurred) to +3 (an extremely positive impact). If the event had no impact, 0 would be circled. Section one includes 47 items that could potentially have happened to anyone. Section two is for students only, with events such as failing an important exam.

Items 30 and 31, which ask about borrowing more or less than $10,000 were adjusted to $25,000 to take into account inflation from 1978 when the scale was developed to the present (U. S. Census Bureau, n.d.).

The sum of all positive scores equals the positive change score (PosCS). Conversely the sum of all negative scores equals the negative change score (NegCS). Based on research that demonstrated that positive life events can act as protective factors (Dixon & Reid, 2000; Luthar, 1991), the PosCS will be entered into the model as a protective factor. By the same token, the NegCS will function in the model as a risk factor (see Dixon & Reid, 2000; Sarason, Johnson, & Siegel, 1978).

Reliability and validity.

The negative change score (NegCS) showed moderate reliability coefficients of .56 (p < .001) and .88 (p < .001) over a six-week test-retest period. The reliability coefficients for the positive change score (PosCS) were .19 and .53 (p <. 001). The lower initial coefficient was explained in part by the observation that "test-retest reliability coefficients found with instruments of this type are likely to underestimate the reliability of the measure" (Sarason, Johnson, & Siegel, 1978, p. 936).

The NegCS showed significant correlations with depression in a regression analysis, $F(1,151) = 19.26$, $p < .0001$ (Dixon & Reid, 2000). Sarason, Johnson, & Siegel (1978) found significant correlations with state and trait anxiety of .46 ($p < .001$) and .40 ($p < .01$) respectively. Their comparisons of mean positive and negative change scores showed no significant differences between males and females.

Attributional Style Questionnaire (ASQ) (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982)

Description, administration, and scoring.

The ASQ measures the manner in which respondents explain positive and negative events in their lives. It poses 12 hypothetical situations – six good events and six bad events. There are four questions to be answered after each of the scenarios. The first question is not scored, but helps the respondent to frame the remaining three answers for each vignette. Question two measures whether the response for that situation was internal or external, question three measures whether the response is stable or unstable, and question four measures whether the response is global or specific. The answers for the last three questions are on a Likert-type scale from 1 to 7. For bad events, the range of 1 – 7 reflects highest (worst) to lowest (best). For good events, the opposite is true. A sum of all the bad event scores divided by 6 (the number of bad events), yields a Composite Negative Attributional Style (CoNeg) score that ranges from the worst score of 21 to the best score of 3. A sum of all the good event scores divided by 6 (the number of good events), yields a Composite Positive Attributional Style (CoPos) score that ranges from the worst score of 3 to the best score of 21. Composite Positive minus Composite Negative yields a total bipolar CPCN score that ranges from the worst score

(most pessimistic) of –18 to the best score (most optimistic) of +18. This range was modified for comparative purposes and statistical analysis by adding 18 to the total score so that the range became zero to 36.

Reliability and validity.

Peterson et al. (1982) reported internal consistency ratings using Cronbach's coefficient alpha. The Composite Negative coefficient was .72 and the Composite Positive coefficient was .75. A correlation of .02 demonstrated that these two composite scores were unrelated to each other. Five-week test-retest correlations were .64 and .70 for CoNeg and CoPos respectively.

Average reliability estimates of .73 for Composite Negative and .69 for Composite Positive were calculated from eight different studies by Sweeney, Anderson, and Bailey (1986). A meta-analysis conducted by Sweeney et al. showed that, on the whole, the literature supported the correlation between depression and attributional style described by Peterson et al. (1982). Attributions for negative outcomes were positively related to depression, and those for positive outcomes were negatively related to depression, supporting convergent and discriminant validity, respectively.

Depression-Happiness Scale (D-HS) (McGreal & Joseph, 1993)

Description, administration, and scoring.

As the name of this instrument implies, it is a bi-polar measure that quantifies mood on a continuum from happy to depressed. Respondents are directed to rate 25 items as to how frequently they were true in the past 7 days. 0 = never, 1 = rarely, 2 = sometimes, 3 = often. Twelve items are related to feeling happy (e.g., I felt life was rewarding). Thirteen items are reverse scored and relate to feeling depressed (e.g., I felt lethargic).

The total score ranges from 0 to 75, with higher scores indicative of greater feelings of happiness, while lower scores denote depressed feelings.

   Reliability and validity.

Internal consistency of the D-HS has been fairly high with Cronbach's alphas from .87 to .93 (e.g., Lewis & Joseph, 1995; Lewis & Joseph, 1997; Lewis, McCollum, & Joseph, 1999; McGreal & Joseph, 1993). In a confirmatory factor analysis (Joseph & Lewis, 1998), the 25 items all loaded on one factor at greater than .35 (.38 to .77).

Higher D-HS scores have been shown to correlate with higher scores on the Oxford Happiness Inventory; $r = .59$, $p < .001$, and lower scores on the Beck Depression Inventory; $r = -.75$, $p < .001$ (Joseph & Lewis, 1998). A Pearson product-moment correlation between Purpose in Life and Depression-Happiness was .67 (Robak & Griffin, 2000). Convergent validity was also demonstrated with three well-established measures of depression: the Beck Depression Inventory ($r = -.75$, $p < .001$), the Self-Rating Depression Scale ($r = -.81$, $p < .001$), and the Center for Epidemiological Studies Depression Scale ($-.85$, $p < .001$) (Joseph, Lewis, & Olsen, 1996). Additional convergent validity was shown with Bradburn's Affect Balance Scale ($r = .51$, $p < .001$) (Lewis, McCollan, & Joseph, 2000).

Center for Epidemiologic Studies – Depressed Mood Scale (CES-D) (Radloff, 1977)

   Description, administration, and scoring.

The CES-D is a self-report measure of depressive symptomology, particularly depressed mood. Twenty items are to be rated from one to four, reflecting how often the respondent felt or behaved during the past week. One means "rarely or none of the time (less than one day), while four means "most or all of the time (5 – 7 days)" (Radloff,

1994). Sample items are: My sleep was restless" and "I felt lonely" (Radloff, 1994).

After reverse-scoring four of the items, scores are summed to obtain a total score from 0

– 80, with higher scores indicating a greater level of depressive symptomology. For

comparative purposes, this scoring system was reversed so that higher scores reflected a

lower level of depressive symptomology.

Reliability and validity.

Internal consistency in the development studies for the CES-D were reported by

Radloff (1977): Coefficient alphas of .85 - .90, split-halves of .76 - .85, and Spearman

Brown estimates of .86 - .92. Concurrent validity was demonstrated via significant

correlations (p < .05) between the CES-D and the Bradburn Negative Affect Scale of .55

- .60, negative correlations between the CES-D and the Bradburn Positive Affect Scale of

-.21 to -.55, and positive correlations between the CES-D and interviewer ratings of

depression of .46 to .53 (Radloff, 1977).

Subsequent studies reported internal consistency reliability coefficients of .87 to .92

(Roberts, Vernon, & Rhoades, 1989). A study comparing mean CES-D scores from five

psychiatric populations to mean total scores from clinician ratings and the SCL-90

symptom checklist showed significant correlations (p < .001) in all populations

(Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977).

World Health Organization Quality of Life Measure (WHOQOL-BREF) (WHOQOL

Group, 1998)

Description, administration, and scoring.

The WHOQOL-BREF is a 26-item instrument derived from the longer WHOQOL-

100 (WHOQOL Group, 1994). Like its predecessor, it taps into 24 facets that

representatives from 15 different cultures around the world deemed important in assessing quality of life. The scale includes questions that address such issues as work capacity, positive feelings, social support, and financial resources that embody the four domains of physical health, psychological, social relationships, and environment. The remaining two questions assess overall quality of life and general health (WHOQOL Group, 1998).

Subjects are directed to circle a number from one to five in response to questions such as "How satisfied are you with yourself?" The number one is at the low end of the spectrum and represents very poor, very dissatisfied, not at all, or never, depending on the question. A five represents very good, very dissatisfied, very much, or always. The total score ranges from 0 to 130. The higher the score, the more positive the perception of the individual's quality of life.

Reliability and validity.

The WHOQOL Group (1998) reported Cronbach alphas for each of the four domains from .66 (social relationships) to .84 (physical health) They note that the lower alphas for the social relationships domain may have been due to only three facets to base internal consistency of that domain on, compared to between six and eight for the other domains. Utsey, Chae, Brown, and Kelly, (2002) reported coefficients of .63 (physical health), .79 (psychological), .83 (social relationships), .85 (environment), and .91 for overall QOL. Discriminant validity was demonstrated with WHOQOL-BREF scores for healthy subjects significantly different across each of the four domains from scores of ill subjects (WHOQOL Group, 1998).

Demographic Questionnaire

The following descriptive items are solicited from the demographic questionnaire: Age, gender, race/ethnicity, parents' marital status, whether they live on campus, off campus, or with parent(s), number of siblings, birth order, and which adult in their lives has been *most* supportive. As described in detail in Chapter I, experience of chronic discrimination, low income status, degree of adult support, level of family functioning, and importance of spirituality will be used as measured variables in the model described below under statistical design. The format of the questions can be obtained from Appendix A. A summary of all variables and the range of total scores are outlined in Chapter IV.

Limitations of the Measures

Internal reliability for two of the four measures to be used was either inconsistent (LES) (Sarason, Johnson, & Siegel, 2978) or unavailable (R.A.S.) (Biscoe & Harris, 1994a). In addition, since reliability is sample specific, the alphas for all the scales with the college population to be surveyed in this study were carefully checked as the first step in the statistical analysis phase. This lack of sufficient reliability information was one of the reasons the Structural Equation Modeling statistic (described below) was ultimately revised (see Chapter IV).

Many measures in the social sciences have cultural limitations (Matsumoto, 1994; Suzuki, Meller, & Ponterotto, 1996) and these are no exception. For example, the R.A.S. (Biscoe & Harris, 1994a) includes protective factors that may not be applicable to all cultures (for instance, their understanding of independence may not be as valued in collectivist cultures). By using an overall Total Resiliency Score, this limitation should

not have as great an impact. As mentioned above, the evaluation of chronic discrimination and the WHOQOL-BREF were specifically chosen to enhance the model's multicultural sensitivity. The Depression-Happiness Scale, the CES-D, and the demographic questions avoid external criteria on what constitutes adjustment by focusing on the individual's self-reported mood and perceptions.

Procedures

After obtaining approval to conduct the study from Seton Hall's Institutional Review Board, the Dean of Freshman Studies, and the undergraduate psychology research review board, data collection began during the fall semester and was completed in the spring semester of the same academic year.

As part of a 50-minute class module on understanding depression, the researcher administered the packet of surveys to the Freshman Studies students who elected to participate. Students in the introductory psychology classes took the packet with them at the end of class and returned them the following week to receive extra credit from the professor. It was made clear to all that participation was completely voluntary and anonymous, the student could withdraw at any time without penalty, and their completion of the packet indicated their consent to participate. No identifying information was collected. Students in the Freshman Studies seminars who elected not to fill out the surveys were given the option to read through the packet without completing it. The surveys were counter-balanced to control for instrumentation effects and response patterns. Completed surveys were stored in a locked file cabinet in an office at Seton Hall University.

It was originally anticipated that completion of the packet would take 20 – 25 minutes. In reality, it took students 30 – 35 minutes. Once the students were finished, the remaining class time consisted of a brief lecture on avoiding depression and enhancing resilience in the college years that tied into the surveys they filled out or read.

Guidelines furnished by Seton Hall's Institutional Review Board were followed. Debriefing was conducted as part of the classroom discussion following the completion of the surveys. In addition, students were provided with the researcher's phone number and e-mail address for further questions or concerns, as well as the number for University Counseling Services.

Study Design and Statistical Analysis

This study was of a non-experimental design. It tested a causal model, using survey research. As mentioned above, the first step was to verify adequate reliability of each of the scales (see Chapter IV). The goal of the data analyses in this research was to determine whether the proposed causal model was viable and whether the constructs were being correctly measured. Therefore, Structural Equation Modeling (SEM) was used. Munro (2001) described how SEM accomplishes this.

> SEM tests two models simultaneously: a measurement model and a theoretical model. Together these two models are referred to as the full model. The measurement model is a model of how theoretical constructs are measured. The theoretical model is a model of the hypothesized relationships between the theoretical constructs. Valid tests of the theoretical model are dependent on a good fit of the measurement model to the data. The statistics produced in SEM help the researcher determine how good this fit is (p. 380).

Terminology.

The following terms refer to components of theoretical and measurement models (Munro, 2001), and to the specific components addressed by the present research.

1. Theoretical model – hypothesized relationships between latent variables

2. Endogenous variables – influenced by other variables in the model (Explanatory Style and Successful Adaptation)

3. Exogenous variables – independent of other variables (Protective Factors and Risk Factors)

4. Latent variables – theoretical constructs, represented in figures by ovals (Protective Factors, Risk Factors, Explanatory Style, and Successful Adaptation)

5. Measurement model – shows how the theoretical constructs are measured

6. Indicators – measured variables, represented in figures by rectangles (For protective factors, they are: PosCS, Total Resiliency Score, level of spirituality, and level of adult support. For risk factors: NegCS, low SES, family functioning score, chronic discrimination score. For explanatory style: CPCN - the ASQ composite positive minus composite negative. For successful adaptation: Depression-Happiness Score, CES-D Score, and the WHOQOL score)

7. Measurement error – imprecision inherent to most research measures; will be shown on the final SEM diagram (see Chapter IV).

8. Model fit statistics: GFI (goodness of fit index) and CFI (comparative fit index) range from 0 to 1.0, but should be at a minimum greater than 0.90 (according to Munro, perhaps even higher). The model chi-square looks at the difference between observed

data and statistics from the full model. Since it is desirable to show that the data matches the model, a non-significant chi-square would indicate that there is no difference between the data and the model. A model may be interpreted as fitting the data even when the chi-square is statistically significant if the CFI or GFI is greater than 0.90 (p. 389).

The proposed theoretical model for resilience is shown in Figure 4. The full model for resilience is depicted in Figure 5.
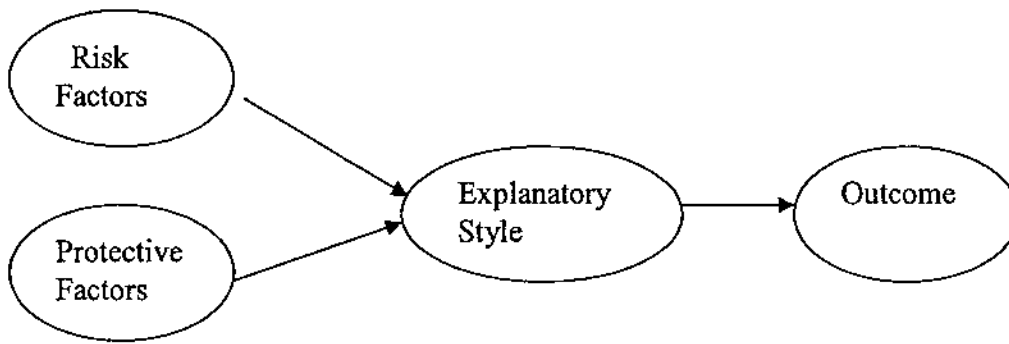
Figure 4. SEM theoretical model showing hypothesized relationships where the latent

variables of risk and protective factors indirectly affect outcome through explanatory
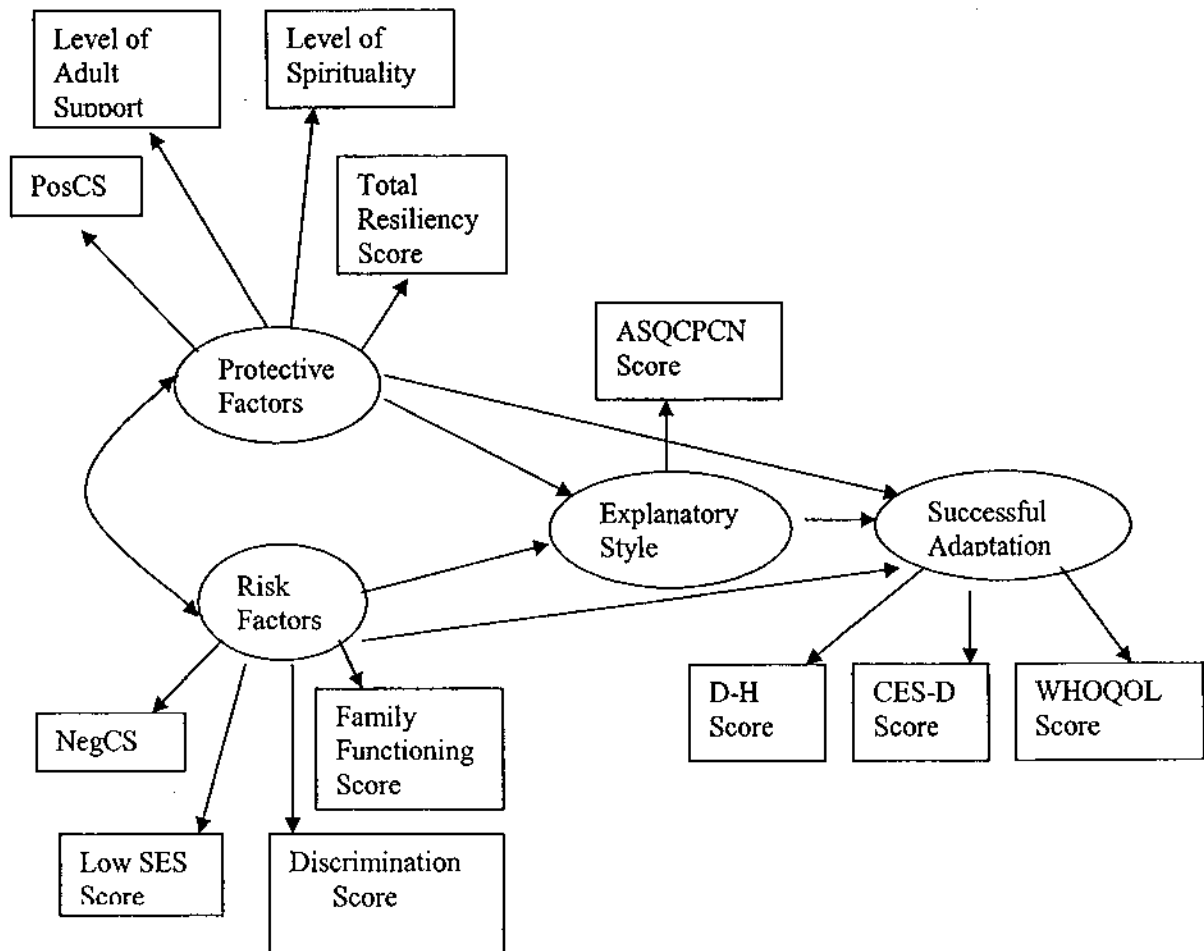
style.

PosCS = Positive Life Events Change Score, NegCS = Negative Life Events Change Score
ASQCPCN = Composite Positive minus Composite Negative Attributional Style Score,
D-H Score = Depression-Happiness Score
CES-D = Center for Epidemiologic Studies -- Depressed Mood
WHOQOL = World Health Organization Quality of Life

Figure 5. SEM full model showing the hypothesized relationships from Figure 4 and

how the latent variables of risk and protective factors, explanatory style, and outcome are

measured.

Implications for Theory, Research, and Practice

An extension of existing models of resilience through the addition of explanatory style may help theorists to better understand how each person processes risk and protective factors. The field of counseling psychology will also benefit from investigating resilience within normal, albeit stressful, developmental milestones, such as the transition from high school to college.

This study is unique in that it proposes a battery of instruments to measure the various components of the proposed resilience model. Researchers will be able to replicate and extend resilience research with similar and divergent populations. In addition, empirical studies can be done to determine treatments that enhance resilience.

Hays (1995) supported the use of cognitive-behavioral therapy with culturally diverse clients, and most empirically supported treatments are cognitively and/or behaviorally based (Barlow, 2001). If the results of this research support explanatory style as one of the means of processing risk and protective factors, clinicians will have a specific target for cognitive intervention.

Summary

This chapter provided a detailed description of the methods and procedures used in this study. A concluding discussion of the implications of this research demonstrated the value of empirically supporting a working measurement model.

CHAPTER IV

Analysis of the Data

This chapter will describe the results of the data collected. It begins with a detailed description of the participants. The data are described, along with data transformations that were needed. Tests of statistical assumptions are outlined, as well as modifications to the hypothesized model required as a result of these tests. Hypotheses were tested via regression analyses and a structural equation model.

Description of Participants

Demographic Questionnaire

Approximately 400 survey packets were collected from students in the Freshman Studies and Introduction to Psychology classes. Several packets were incomplete and therefore discarded. A total of 366 complete packets were retained. Tables 1 – 5 outline general descriptive information for those 366 students. As can be seen, the majority of students were 18 or 19 years old. Approximately 67% were White, 10% Black, 10% Hispanic, 6% Asian, and 6% of other heritages. Over half lived on campus, and about 78 percent were from relatively small families. About 66 percent of the students' parents were married, and about 40 percent indicated that they were the oldest child in the family.

Since about half of the surveys were collected during Freshman Studies class in the fall, with the other half having been collected from Introduction to Psychology classes in the spring, a Multivariate Analysis of Variance (MANOVA) was performed on all the dependent variables to determine whether the two groups of surveys could be combined for the primary data analyses. The only significant differences between the two sets of

surveys collected were in Positive Life Events, $F(1,364) = 6.25, p < .05$ and Negative

Life Events, $F(1,364) = 5.62, p < .05$. However, the effect size of the differences was

relatively small, $\eta^2 = .017$ and .015 respectively. Therefore, data from the two groups

were combined for the remainder of the analyses.

Table 1
Demographic Characteristics - Age

Age	Frequency	Percent
17	11	3.0
18	222	60.7
19	87	23.8
20	24	6.6
21	13	3.6
22	3	.8
25	1	.3
26	2	.5
32	1	.3
33	1	.3
Missing	1	.3

Note. M = 18.62, *SD* = 1.5

Table 2
Demographic Characteristics -- Race/Ethnicity

Race	Frequency	Percent
American Indian/Alaskan Native	5	1.4
Black, not of Hispanic origin	36	9.8
White, not of Hispanic origin	246	67.2
Asian/Pacific Islander	21	5.7
Hispanic	36	9.8
Other	20	5.5
Included: 10 of mixed heritage		
4 Portuguese or Spanish		
Greek, Haitian, Italian, Jamaican, Jewish, Syrian		
Missing	2	.5

Table 3
Demographic Characteristics – Living Arrangements

Living Arrangement	Frequency	Percent
On campus	207	56.6
With parent(s)	130	35.5
Off campus, not with parents	29	7.9

Table 4
Demographic Characteristics – Parents' Marital Status

Parents' Marital Status	Frequency	Percent
Married	243	66.4
Divorced/separated	70	19.1
Never married	20	5.5
Living together but not married	7	1.9
Widowed	17	4.6
Other	7	1.9
Missing	2	.5

Table 5
Demographic Characteristics – Number of Siblings and Birth Order

Siblings	Frequency	Percent	Birth Order	Frequency	Percent
0	43	11.7	Only child	49	13.4
1	137	37.4	Youngest	99	27.0
2	104	28.4	Middle	66	18.0
3	47	12.8	Oldest	146	39.9
4	14	3.8	Other	5	1.4
5	11	3.0	Missing	1	.3
More than 5	7	1.9			
Missing	3	.8			

Note. $M = 1.78$, $SD = 1.36$

Participants' Scores on the Measures

Table 6 illustrates descriptive statistics for the sample on the dependent and

independent measures. A discussion of each follows. Table 8 provides further

descriptions.

Table 6
Descriptive Statistics for Independent and Dependent Variables

Label	Description	Possible Range	Actual Range	M	SD	Mode	Skewness
lespos_1	Positive life events	0 – 180	0 – 41	10.41	6.88	6	.949
supportv	Supportive adults	1 – 5	1 – 5	4.18	1.00	5	-1.141
spirit12	Spirituality importance	1 – 5	1 – 5	3.43	1.22	4	-.384
totras	Resilient attitudes	72 – 360	174 – 307	246.55	23.21	N/A	-.112
lesneg_1	Negative life events	0 – 180	0 – 51	11.43	9.17	6	1.392
Income_1	Income	1 – 5	1 – 5	2.32	1.22	1	.592
totdiscr	Discrimination score	1 – 16	1 – 16	5.24	3.77	1	.284
rfamily9	Family functioning	1 – 5	1 – 5	1.92	.96	1	1.073
asqcpcn	ASQ score	0 – 36	14.5 – 29.5	21.63	2.69	N/A	-.002
totcesd	CES-D score	20 – 80	30 – 80	63.34	10.59	N/A	-.843
totdh	Depr-Happiness Score	0 – 75	4 – 74	49.17	11.41	N/A	-.400
totwhoql	WHOQOL score	26 – 130	56 – 128	95.03	12.09	N/A	-.153

Note. N/A = Not meaningful

Positive Life Events: The number and relative positive effect of positive events was 20 or fewer for about 90% of respondents; the remaining 10% were between 24 and 41. Mean scores for the development sample of college students (N = 345) averaged 9.66 with a standard deviation of 7.37 (Sarason, Johnson, & Siegel, 1978). The mean scores for this sample (10.41) were significantly greater than those from the development sample, t (365) = 2.096, $p <. 05$. It should be noted that while the theoretical range for positive life experiences is 180 (60 items times the extremely positive impact of 3), scores approaching the extreme are very unlikely, as only a few of the life events are applicable to any given individual, and they would probably not all be rated as positive in any case.

Level of adult support: 50% had very supportive adults, 24% reported the adults in their lives as being unsupportive to moderately supportive

Importance of spirituality: 50% reported spirituality as very to extremely important.

Resilient Attitudes: A total score of 270 has a "strength index" of 75 (the closer to 100, the greater the resilience) per Biscoe and Harris (1994a). In this sample, 15% of the respondents had a strength index of 75 or greater, 62% had a strength index of 66 or greater. The mean strength index was 68. In their development of the scale Biscoe and Harris tested a sample of 48 women in treatment for chemical dependency and 20 staff members from the same treatment centers. The women in treatment had a mean score of 65.78, the staff had a mean score of 76.88. These scores are statistically different from the current study, t(365) = 8.03, $p < .001$ for "client" scores, t(365) = -24.91, $p < .001$ for staff scores, which may be in part due to the large differences in sample size. Since no

other studies have been published with this age group, age-related variance might also be hypothesized. This could be a subject for future study.

Negative life events: The number and relative negative effect of negative events was 23 or fewer for about 90% of respondents; the remaining 10% were between 24 and 51. Mean scores for the development sample of college students (N = 345) averaged 6.63 with a standard deviation of 7.09 (Sarason, Johnson, & Siegel, 1978). The mean score of 11.43 for this sample were significantly different from the development sample, t (365) = 10.64, $p <. 001$. See note above regarding positive life events. The same principle holds true for negative life experiences.

Income: Nineteen percent would be considered middle income, 19% would be counted as low income according to the U. S. Census Bureau (n.d.).

Discrimination: 63% have experienced some form of discrimination in their lives and were at least somewhat bothered by it. About 7% had frequent experiences of discrimination and/or were very upset by their experiences.

Family functioning: Seventy-eight percent indicated that the majority of their family relationships were loving and close, 7% viewed theirs as distant and unloving, and 15% reported those relationships as disconnected, but stable.

Explanatory style (attributional style): Nine percent scored on the pessimistic end of this scale, 91% scored on the optimistic end. Of those at the optimistic end, 61% scored between 18 and 23. After translating to comparable terms, the mean of 21.63 was more optimistic compared to the mean in the development sample (N = 130) of 19.13 (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982). This was a significant difference, $t(365) = 17.78, p < .001$.

Depression measured by the CES-D: Weissman, Sholomskas, Pottenger, Prusoff, and Locke (1977) specified that scores of 16 or more constituted depression. This translated in the present study to a score of 63 or less. Forty-three percent of the college students in the present study would be considered moderately to severely depressed. This high percentage could be due to the geographical and chronological proximity of the attack on the World Trade Center, as data were collected between one and six months after September 11, 2001. After translation, the mean score for a psychiatric sample (N = 70) was 55.58 (Radloff, 1977), 71.55 for a large sample from the general population (N = 4996). The sample mean of 63.35 in the present research was significantly different from both the psychiatric sample, $t(365) = 14.02$, $p < .001$ and the general population sample, $t(365) = -14.81$, $p < .001$.

Depression-Happiness: About 80% scored in the slightly to mostly happy range. The mean of 49.17 was significantly different from the mean of 46.22 found in a sample of 200 college student by McGreal and Joseph (1993), $t(365) = 4.95$, $p < .001$, indicating a slightly greater level of happiness than the development sample. This contrasts to the higher levels of depression measured by the CES-D. However, Joseph and Lewis (1998) made the point that the D-H was not meant to be used for clinical diagnosis, as there are aspects of clinical depression that are not measured by this scale.

WHOQOL: The scores for the WHOQOL illustrated an almost perfect normal distribution, with 68% scoring between 84 and 107. The WHOQOL Group (1998) has not yet specified what constitutes an acceptable quality of life according to this scale.

Replacing Missing Data

WHOQOL

During the data entry phase, it was discovered that approximately 30 percent of the surveys were missing one page (six items) of the WHOQOL-BREF – items 10-15. Before attempting to compensate for this missing data, steps were taken to determine whether any systematic differences in responses existed between the surveys that had the page missing and the ones that were complete, and whether replacing the missing data would create different effects. First, the means of each individual item numbered 16-26 were visually compared – those from the 233 cases with all the items answered versus those from the 122 cases that had the six items missing. This was to ascertain whether there was a different way of responding to the items following the missing ones compared to the surveys that did not have those items missing (i.e., did the missing items create a different response set?). Responses to items 16-26 from missing-page surveys had means that were very close to items 16-26 in surveys that did not have the missing page. Table 7 shows comparisons of the means. No visible difference in response patterns could be detected.

Table 7

Means Comparisons of 11 WHOQOL Items

Item Number	M -122 with 6 missing items	M - 233 cases with no missing items
16	2.73	2.83
17	3.62	3.65
18	3.52	3.62
19	3.89	3.90
20	3.57	3.69
21	3.50	3.55
22	3.91	3.88
23	3.57	3.59
24	3.62	3.85
25	3.31	3.39
26	2.64	2.46

Second, repeated measures analyses of variances (ANOVAs) were run to see what effect replacing the missing data would have on overall statistics for all 26 WHOQOL items. The number of items (degrees of freedom) reported below was slightly different than the number of cases due to the method of selecting cases for exclusion. The first ANOVA was to compare means of the 20 items versus means of the six items for the cases who were not missing the six, $F(1,230) = 27.37, p < .001, \eta^2 = .11$. The second ANOVA compared means of the 20 items versus means of the six items for all cases after replacing the missing items with the series mean, $F(1,354) = 57.43, p < .001, \eta^2 = .14$. It appeared that replacing missing items with the series mean did not change the overall look of the WHOQOL data - the differences were comparably significant in both instances ($p < ,001$), and both exhibited almost identically large effect sizes (.11 vs. .14). Therefore, the missing items were all replaced with the series mean – one option for dealing with missing data suggested by Tabachnick and Fidell (1996).

Remaining Data

As with most statistical analyses, missing data can cause difficulties, but this is particularly true when running structural equation models (Kline, 1998). Descriptive information of all the observed variables (indicators) was examined, and it was determined that the number of missing values for each item was relatively small (except as described above for the WHOQOL), ranging from one value missing on some of the ASQ (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) items to 23 values missing from one of the Depression-Happiness (McGreal & Joseph, 1993) items. (This item asked how often the person felt lethargic. It is believed that some students left it blank because they did not know the meaning of lethargic). As recommended by some experts on structural equation modeling (e.g., Hayduk, 1987 and Kline, 1998), the missing values were each replaced by the series mean for that item. A list of the values that were replaced can be obtained from the author.

Recoding of the Data and Calculating Total Scores

Descriptive data and visual inspection were used to find and correct any obvious data entry errors. All the measures required reverse coding of some items, and total scores of two of the demographic items needed to be reverse-scored in order for them to be consistent with their statuses as risk factors. The family functioning score needed to be reversed so that higher scores translated to a lower level of family functioning. Income ranges were also reversed so that higher numbers translated to lower income. Total scores were then calculated for all the measures as directed by their respective manuals. As mentioned in Chapter III, the total CES-D (Radloff, 1977) scores were reversed so that higher scores meant a lower level of depression. Successful adaptation

on the Depression-Happiness Scale (McGreal & Joseph, 1993) and the WHOQOL-BREF (WHOQOL Group, 1998) was indicated by high scores, and the CES-D was made consistent with those. Table 8 shows the possible ranges of all of the observed variables.

Table 8

Labels, Descriptions, and Range of Scores for Latent Variables and Indicators

Label	Description	Possible Range/Description of Range	
PROTFACT	Protective factors		
lespos_1	Positive life events	0 – 180	lowest – highest #/impact of positive life experiences – extremes unlikely
supportv	Supportive adults	1 – 5	lowest – highest level of support
spirit12	Spirituality importance	1 – 5	lowest – highest level of spirituality
totras	Resilient attitudes	72 – 360	least to most resilient attitudes
RISKFACT	Risk factors		
lesneg_1	Negative life events	0 – 180	lowest – highest #/impact of negative life experiences – extremes unlikely
income_1	Income	1 – 5	highest – lowest income
totdiscr	Discrimination score	1 – 16	lowest to highest level of discrimination
rfamily9	Family functioning	1 – 5	highest – lowest level of family functioning
EXPLSTYL	Explanatory style/attributional style		
asqcpcn	ASQ score	0 – 36	least – most optimistic
ADAPT	Successful adaptation		
totcesd	CES-D score	20 – 80	most – least depressed
totdh	Depr-Happiness Score	0 – 75	most depressed – happiest
totwhoql	WHOQOL score	26 – 130	least – most satisfied with quality of life

Assumptions of the Data

Normality

One of the assumptions of structural equation modeling is that the data are normally distributed. An inspection of skewness and kurtosis statistics and bar graphs with a normal curve superimposed on them showed that the following indicators were relatively normally distributed (see Table 8 for label descriptions): spirit12, totras, discrim, asqcpcn, totdh, totwhoql. Lespos_1, lesneg_1, rfamily9, and income_1 were all positively skewed, while totcesd and supportv were negatively skewed. McDonald and Ho (2002) point out that the "ML estimation and its associated statistics seem fairly robust against violations of normality" (p. 70). Nevertheless, one method for compensating for violations of normality was attempted when running the final structural equation model (using robust standard errors – see Kline, 1998), but the results were virtually the same as with the original maximum likelihood (ML) estimation procedure, indicating that the violations were not serious enough to warrant further attention.

Reliability

Means, standard deviations, Cronbach alpha reliability estimates, and intercorrelations for the 12 indicators are depicted in Table 9. Internal reliability was acceptable for all the indicators, ranging from an estimated .70 for positive life events (lespos) to .89 for the depression measures. Nunally and Bernstein (1994) suggested a cutoff of .70. Positive life event and negative life event reliability calculations reported in Table 9 and used to estimate error variance in the structural equation model were based on reliabilities reported in the literature.

A more serious concern arose when the first attempt was made to run the model depicted in Figure 6 (again, see Table 8 for label descriptions). The inability to either estimate or calculate reliability coefficients for the single-question indicators of spirituality, level of family functioning, and level of adult support made it necessary to eliminate them and reconfigure the model. Figure 7 depicts the resulting model.

Correlations

An inspection of the correlations showed that the relationships were generally as expected, and proceeding with the more robust structural equation model was warranted. Almost all the protective factors were significantly and positively correlated with the successful adaptation measures, while almost all risk factors were significantly and negatively correlated with the successful adaptation measures. The three adaptation measures were significantly correlated with each other, and (albeit to a lesser degree) with attributional style.

Table 9

Means, Standard Deviations, Internal Consistency Reliabilities, and Intercorrelations for Observed Variables

Variable	1a	1b	1c	1d	2a	2b	2c	2d	3	4a	4b	M	SD	α
1. Protective Factors														
a. Spirituality	-											3.43	1.22	-
b. Adult support	.086	-										4.18	1.00	-
c. Resilient attitudes	.148**	.113*	-									246.55	23.21	.88
d. Positive life events	.234***	-.001	.192***	-								10.41	6.88	.70[+]
2. Risk Factors														
a. Discrimination	.103*	-.107*	-.053	.151**	-							5.23	3.76	.81
b. Low income	.141**	-.129*	-.063	.089	.106*	-						2.32	1.22	-
c. Low family functioning	-.106*	-.602***	-.120*	-.007	.097	.227***	-					1.91	.96	-
d. Negative life events	.018	-.153**	-.108*	.297***	.212***	.104*	.095	-				11.43	9.17	.75[+]
3. Attributional Style	.075	.090	.359***	.146**	-.046	.061	-.096	.057	-			21.63	2.69	.71
4. Successful adaptation														
a. Low level of depression	-.022	.155**	.433***	.082	-.157**	-.014	-.221***	-.340***	.309***	-		63.34	10.59	.89
b. Depression-happiness	.034	.255***	.547***	.109*	-.202***	-.088	-.252***	-.258***	.367***	.741***	-	49.17	11.41	.89
c. Quality of life	.123*	.291***	.480***	.089	-.207***	-.155**	-.240***	-.306***	.323***	.622***	.713***	95.03	12.09	.88

Note. $N = 366$.

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

[+] = estimate based on literature
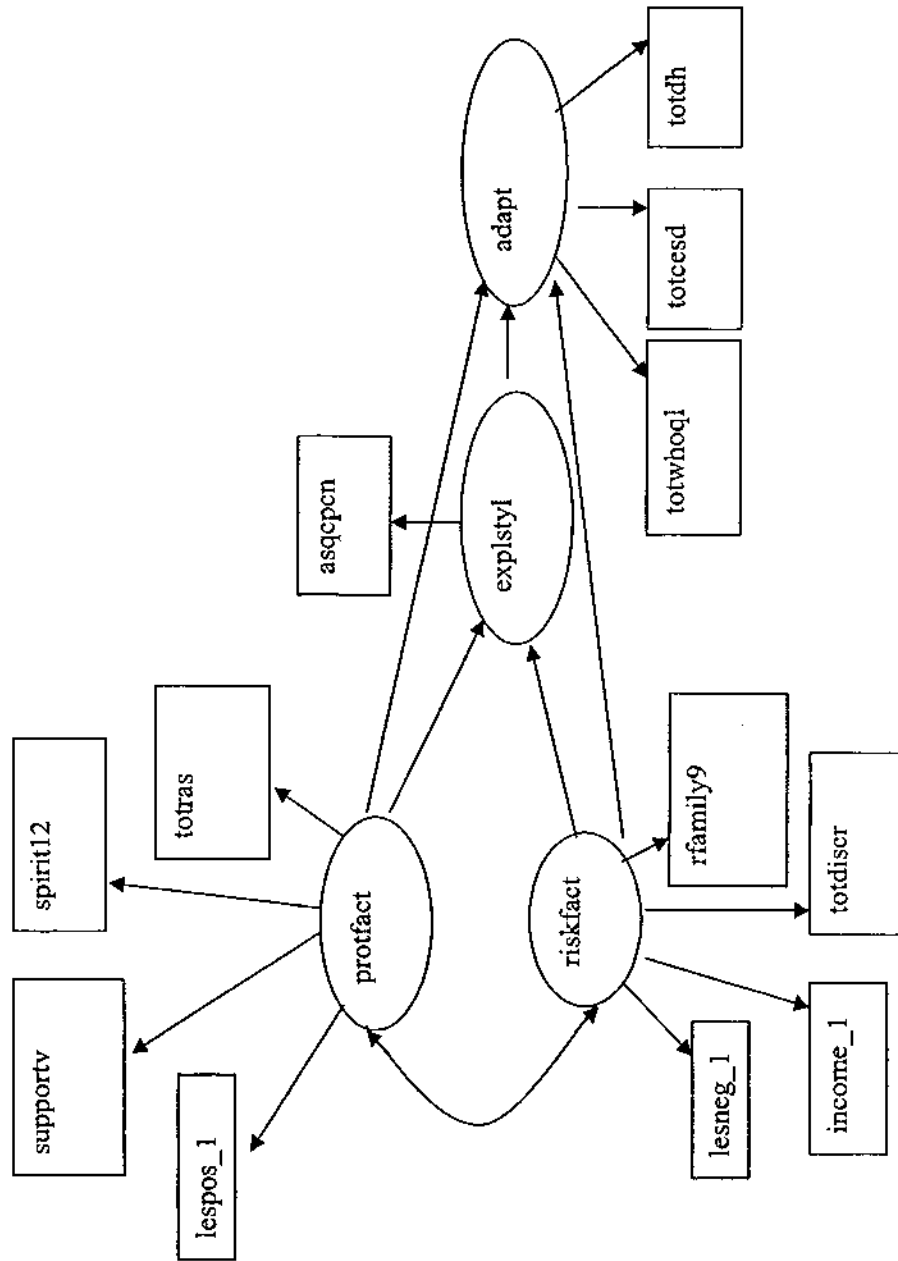
Figure 6. Originally proposed full model with latent variables and indicators labeled.
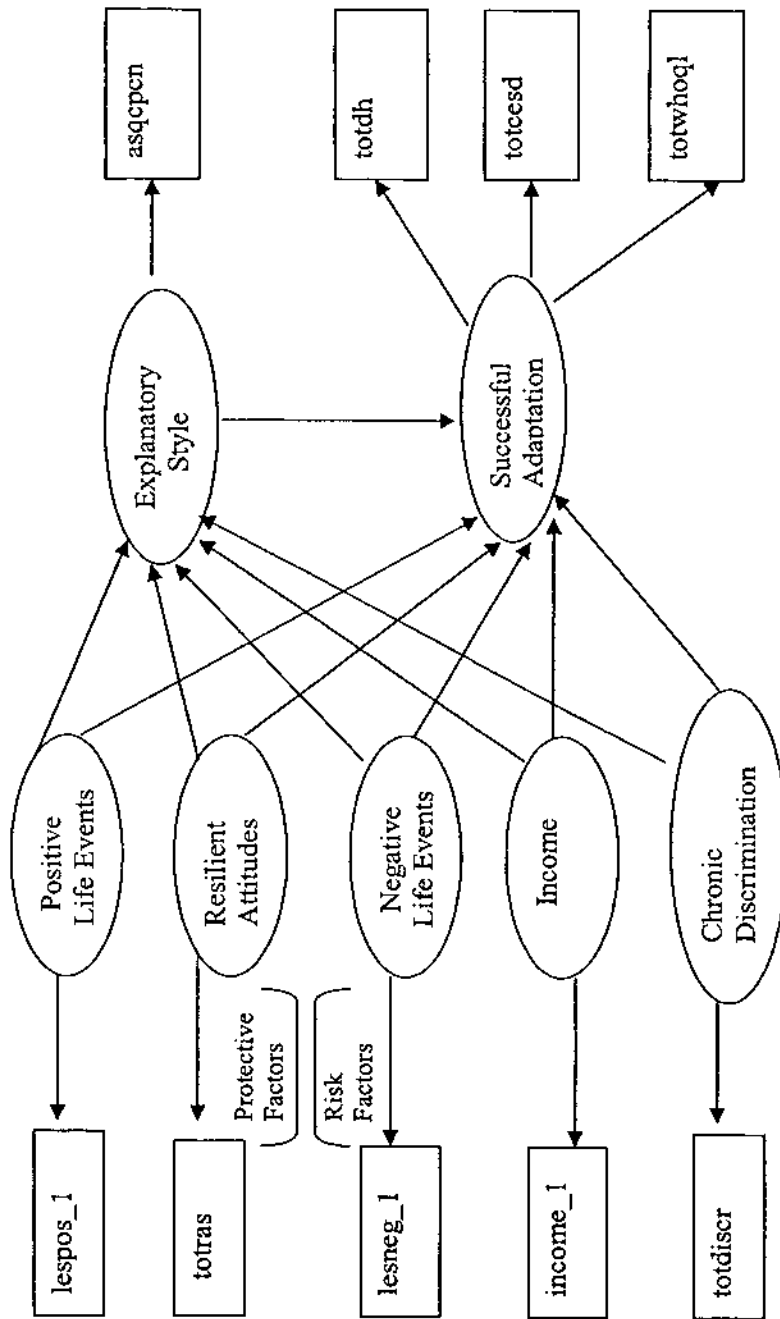
Figure 7. Final structural model

Regression

Linear regressions provided further support for proceeding with the structural equation model. They also furnished information about the ability of all nine indicators (including the three that had to be eliminated from the final model due to the lack of reliability information) to predict successful adaptation as measured by the CES-D (Radloff, 1977, the Depression-Happiness Scale (McGreal & Joseph, 1993) and the WHOQOL-BREF (WHOQOL Group, 1998). The regression analyses are shown in Table 10.

As can be seen by the table, the three variables that were dropped from the final model were inconsistent in their ability to predict successful outcome. Contrary to the hypothesized relationship, spirituality was somewhat positively predictive of depression. This may have been due to the use of a single question to assess the importance of spirituality. However, Lewis, Maltby and Burkinshaw (2000) also found no association between religion and happiness. The level of adult support was somewhat predictive of quality of life, but not of happiness or depression. Low family functioning positively predicted depression as expected, but was not a significant predictor of happiness or quality of life.

Resilient attitudes as measured by the RAS (Biscoe & Harris, 1994), were the strongest predictors of all three outcome measures. Negative life events (Sarason, Johnson, & Siegel, 1978) were positive predictors of depression, $\beta(9, 356) = -.34, p < .001$, happiness, $\beta(9, 356) = -.21, p < .001$, and quality of life, $\beta(9, 356) = -.25, p < .001$. Positive life events predicted happiness and lack of depression, but not quality of life. Beta weights were lower than expected in regard to the ability of attributional

style to predict depression, happiness, and quality of life (all were .19), but were

significant nonetheless. In any case, these analyses did support further testing of the data

through the structural equation model.

Table 10

Regression Analyses to Predict Depression, Happiness, and Quality of Life - β^a

Variable	Reversed CES-D	D-H	WHOQOL
1. Protective Factors			
a. Spirituality	-.13**	-.07	.05
b. Adult support	-.05	.04	.15**
c. Resilient attitudes	.31***	.42***	.33***
d. Positive life events	.13**	.09*	.09
2. Risk Factors			
a. Discrimination	-.06	-.12**	-.12**
b. Low income	.08	-.00	-.09*
c. Low family functioning	-.19***	-.13	-.03
d. Negative life events	-.34***	-.21***	-.25***
3. Attributional Style	.19***	.19***	.19***
F	22.40***	29.69***	26.16***
df	9,356	9,356	9,356
R^2	.36	.44	.39

Note. $N = 366.$ [a] = Standardized regression coefficients (betas).
* $p < .05.$ ** $p < .01.$ *** $p < .001$

Structural Equation Modeling Analysis of Hypotheses

Structural equation modeling was used to test the hypotheses outlined in Chapter

I. The model was analyzed with LISREL 8.52 (Jöreskog & Sörbom, 2002), using the

maximum-likelihood method of estimation. The final model that was run is shown in

Figure 8, with all path coefficients and error terms included. The number of cases (366)

exceeded the "Critical *N*" specified in the LISREL output of 308 cases for the model fit

statistics to be meaningful.

Specification and Identification

This model is specified as recursive due to the assumption that its disturbances are

not correlated and the fact that all paths flow in one direction. According to McDonald

and Ho (2002), "the parameters of an SEM are the independently estimated loadings and

error variances and covariances in the measurement model, and the independently

estimated directed arc coefficients and disturbance variances and covariances in the path

model" (p. 75). The structural model (measurement and path model combined) has all

the parameters identified, so is considered an identified model. (See Kline, 1998 and

McDonald & Ho, 2002 for more information).

Fit Statistics

The decision of which fit statistics to report was guided primarily by Kline

(1998), McDonald and Ho (2002), and Quintana and Maxwell (1999). While most

researchers using structural equation modeling procedures report the global chi-square,

only a small percentage have been "in the enviable position of having a conventionally

nonsignificant chi-square" (McDonald & Ho). Although the chi-square obtained in the

present research was significant, χ^2 (12, $N = 366$) = 31.16, $p<.01$), other fit statistics showed a fair to close fit to the data.

The comparative fit index (CFI) was .98, the normed fit index (NFI) was .97, the non-normed fit index (NNFI) was .94, and the goodness of fit index (GFI) was .98. Values greater than .90 generally indicate acceptable fit (McDonald & Ho, 2002). The standardized root mean square residual (SRMR) was .02. Quintana and Maxwell (1999) suggested that a small SRMR (of .02 for example) is an indication that the model "reproduces the nature of relationships among all variables with a small degree of error" (p. 505). A root mean square error of approximation (RMSEA) of .06 suggested a fair fit, as a value of <.05 would be needed to claim a close fit.

Path Coefficients

The path coefficients and error terms are shown in Figure 8. Figure 9 depicts the correlations between protective and risk factors that are noted but not explained by the model. In other words, it is acknowledged that risk and protective factors are related in some way, (e.g. Masten, 2001) but the relationship is not investigated in this research. Error terms were set within the LISREL program based on the reliability estimates for the indicators (seen in Table 9).
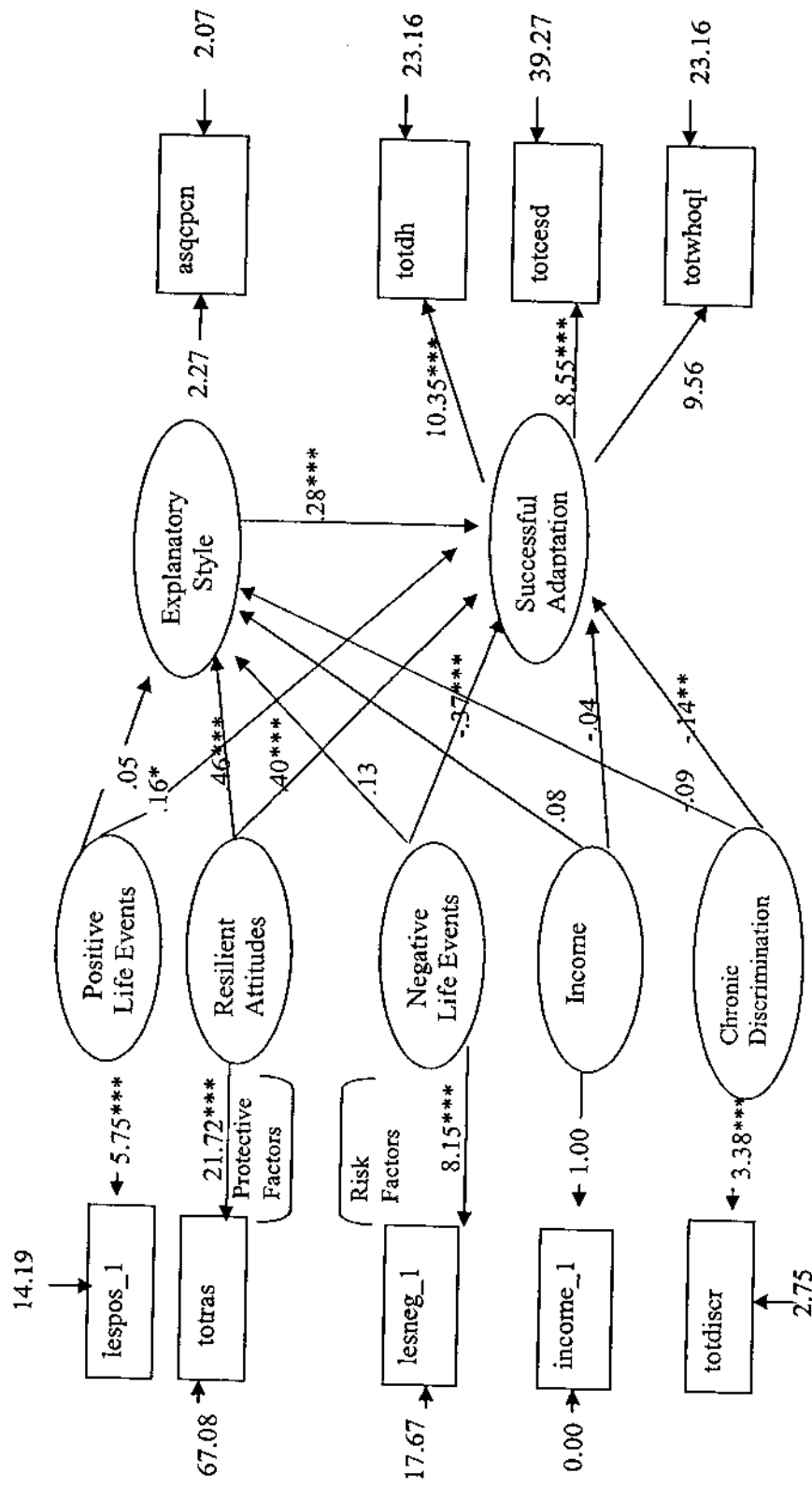
Figure 8. Final structural model predicting successful adaptation with path coefficients and error terms
* *p* < .05. ** *p* < .01. *** *p* < .001
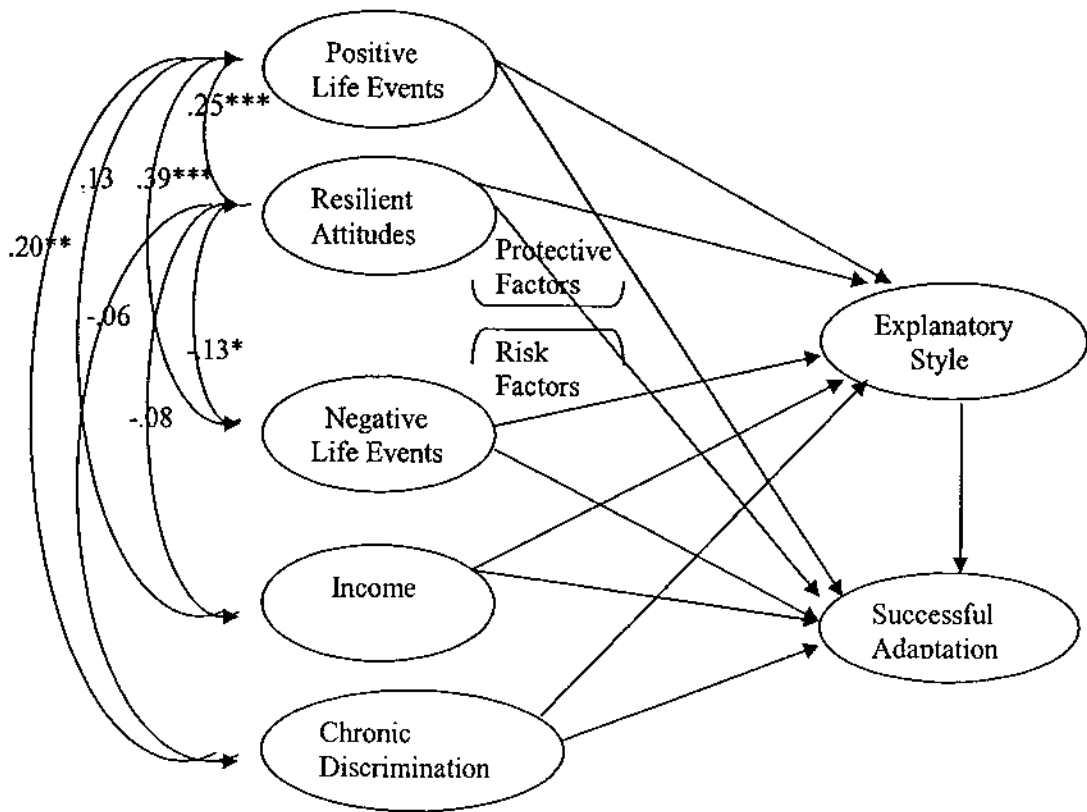
Figure 9. Correlations between protective and risk factors that are noted but not explained by the model

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

Discussion of Hypotheses

Careful inspection of the path coefficients reveals the following in regard to first five hypotheses stated in Chapter III. They are repeated here:

1. The relationship between protective factors and outcome is primarily an indirect effect mediated by explanatory style.

2. The relationship between risk factors and outcome is primarily an indirect effect mediated by explanatory style.

3. There is a significant direct effect of risk factors on explanatory style.

4. There is a significant direct effect of protective factors on explanatory style.

5. There is a significant direct effect of explanatory style on outcome.

Of these five, the only hypothesis that was supported by a significant path coefficient was number five, with a significant direct effect between explanatory style and successful adaptation ($p < .001$). With the exception of resilient attitudes, there were no significant direct effects of any of the risk or protective factors on explanatory style. In addition, the fact that significant *direct* effects still existed between four of the antecedent variables and successful adaptation with explanatory style as potential mediator suggested that the effects were in fact not mediated by explanatory style. (Income had no significant direct or indirect effect on successful adaptation).

The sixth hypothesis (A close fit of the model to the data suggests that a battery of measures provides a better understanding of resilience than one measure) was fairly well supported through the various model fit statistics described above. Although there were certainly limitations, the structural equation model fit statistics were strong enough to lend credence to the idea of using several instruments to measure the construct of resilience.

CHAPTER V

Conclusions and Recommendations

Chapter V summarizes and makes conclusions about the data presented in Chapter IV. It begins by restating the purpose of this research, then commenting on how well the data collected and analyses performed supported the hypotheses. Alternative ways of understanding the constructs investigated are proposed. The chapter concludes with implications for future research on resilience.

Restatement of the Purpose of the Study

The purpose of this research was twofold. The first was to explore the relationship between resilience and explanatory style. It was hypothesized that explanatory style might be the way individuals process risk and protective factors, as implied by Rutter (1993), Seligman (1998), and Toth, Cicchetti, and Kim (2002). The second was to propose a multidimensional way of measuring the construct of resilience as it is currently conceptualized that included measurements for risk factors, protective factors, measurement of the process that produces outcome, and outcome.

Rak and Patterson (1996) suggested that the counseling profession become actively involved in understanding and promoting resilience, and Quintana and Maxwell (1999) advocated the use of structural equation modeling in counseling psychology research. In keeping with these recommendations, an adjunct purpose of this study was to contribute to counseling psychology's science base while being true to its multicultural and strength-based foundations. Existing models of resilience were to be extended by proposing a way to measure the various components of a simple model of resilience,

including a measurable component that is amenable to intervention – explanatory style, and including cultural factors in the measurement model.

Explanatory Style's Role in a Model of Resilience

It was thought that a structural equation model would demonstrate that explanatory style could function as a mediator between risk and protective factors. The statistics did not support this hypothesis. The fact that only nine percent of the sample scored on the pessimistic end of this measure may have accounted for this. However, the regression analyses combined with the structural equation model did suggest an alternative hypothesis. It appeared that explanatory style, as a significant positive predictor of each of the measures of successful adaptation, functioned as a protective factor. The path coefficient in the structural equation was .28, $p < .001$. Beta weights in the regression analysis for each outcome measure were $\beta(9,356) = .19, p < .001$. Toth, Cicchetti, & Kim (2002) demonstrated similar results in their study of maltreated children. As a moderator between child maltreatment and developmental outcomes their findings suggested that "children and attributional styles exert a protective role against the harmful effect of child maltreatment on externalizing symptomology" (p. 495). This idea was further supported by Petersen and Steen (2002) in a chapter on optimistic explanatory style from a recently published book on positive psychology (Snyder & Lopez, 2002). The chapter on optimistic explanatory style was organized under cognitive-focused approaches to positive psychology, while resilience in development (Masten & Reed, 2002) was considered under the section on emotion-focused approaches.

In the present investigation, both the structural equation model (Path coefficient of .40, P < .001) and the regression analyses showed the strongest predictor of successful adaptation to be resilient attitudes as measured by the Resiliency Attitudes Scale (Biscoe & Harris, 1994a). Beta weights for predicting lack of depression, happiness and quality of life were, respectively: $\beta(9,356) = .31$, $p < .001$, $\beta(9,356) = .42$, $p < .001$, $\beta(9,356) = .33$, $p < .001$. Both cognitive style and resilient attitudes could be considered protective factors in future research.

Measurement of Resilience

Regarding using a battery of instruments to measure the construct of resilience as a whole, the final structural model demonstrated a close fit overall to the data. The fit indexes ranged from .94 to a respectable .98, and the standardized root mean square residual (SRMR) was small at .02. Overall, the path coefficients from the structural equation model, combined with the regression analyses, provided strong support for a multidimensional measurement of resilience, with the hypothesized risk factors showing negative predictive powers, and the protective factors showing positive predictive qualities.

Measurement of Depression and Happiness

Depression

In the discussion of descriptive statistics in Chapter IV, it was noted that 43 percent of the college students in the present study would be considered at least moderately depressed based on their CES-D (Radloff, 1977) score (Weissman et al., 1977). This is a much higher percentage than found in other similar populations. For example, Gladstone and Koenig (1994) found that 24.5% of their undergraduate sample

scored from mildly to severely depressed on the Beck Depression Inventory. As mentioned before, a possible explanation for this high percentage could be the chronological and geographical proximity of the World Trade Center attack (see Dunkel, 2002). Participants completed the CES-D between on and six months after September 11, 2002, and the university campus is within visual range of lower Manhattan – approximately 12 miles.

Higher incidences of depression following trauma have been well documented (e.g., Carlson & Rosser-Hogen, 1991; Shalev et al., 1998). Although research on the impact of the 9/11 terror attacks is just beginning to be published, one study was found that showed a higher incidence of anxiety in 17 – 25-year-olds following 9/11.

Happiness

In contrast, only 20% of participants scored in the "depressed" range on the Depression-Happiness Scale (McGreal & Joseph, 1993). However, this scale does not measure several of the criteria used in diagnosing depression, and is not meant to be used in clinical diagnosis (Joseph & Lewis, 1998), whereas the CES-D is designed for that purpose.

<center>*Limitations*</center>

Measurement of Successful Adaptation

One of the primary criticisms of resilience has revolved around how to define successful outcome (Kaufman, Cook, Arny, Jones, & Pittinsky, 1994). Overall, successful outcome has been equated with "behavioral adaptation, usually defined in terms of internal states of well-being or effective functioning in the environment or both" (Masten, Best, & Garmezy, 1990, p. 426). Successful adaptation in the present research

was indicated by a low level of depression, high levels of happiness, and a positive quality of life.

Using depression (or lack thereof) as a measure of successful vs. unsuccessful outcome is consistent with other resilience research. In a study of protective processes in adolescence, Gore and Aseltine (1995) examined patterns of stress resistance in regard to depressed mood. Silver and Wortman (1980) reviewed several theoretical approaches to understanding reactions to aversive life events. Depression was the most commonly described reaction.

Seligman and his colleagues have targeted depression as the outcome to avoid through learned optimism (e.g., Seligman, Abramson, Semmel, & von Baeyer, 1984). The present research measured psychological well-being on a continuum of depression and happiness and quality of life as the barometers of adjustment. There are many other possible indicators of adjustment that were not addressed by this research.

Risk and Protective Factors

Just as there are many indicators of adjustment that were not covered, it would be impossible to incorporate every possible risk and protective factor that an individual may experience. This study attempted to address some of the most critical factors that have been identified in the literature. Risk factors were negative life experiences, low SES, chronic discrimination, and growing up in a troubled family. Protective factors were positive life experiences, importance of spirituality, resilient attitudes, and significant adult relationships in one's life.

Although theory supported their inclusion, psychometric issues required the removal of three of the originally proposed risk and protective factors, and the regression

analyses furnished mixed results. The importance of spirituality as measured by the one question on the demographic questionnaire was not a significant predictor of happiness or quality of life. It was interesting to note that it was a negative predictor of lack of depression in this study, $\beta(9,356) = -.13, p < .001$. The level of adult support as indicated by the one question on the demographic questionnaire was not a predictor of lack of depression or of happiness, but predicted quality of life, $\beta(9,356) = .153, p < .01$. Low family functioning negatively predicted lack of depression, $\beta(9,356) = -.19, p < .001$, but not happiness or quality of life.

The resulting model therefore only considered five risk and protective factors, and each one was measured by a single indicator. A more effective test of the hypotheses proposed in this research would be to find three psychometrically sound indicators of each of the original eight latent risk and protective factors (including other indicators of SES in addition to income), as recommended by most proponents of structural equation modeling (e.g., Kline, 1999; McDonald & Ho, 2002; Quintana & Maxwell, 1999).

Other Limitations

Some of the models of resilience depicted by Masten (2001) include potential variables, such as moderating events, which were not considered by this research. In order to test the role explanatory style might have played in the resilience process, the most generic model was chosen.

Since the subjects were drawn from a pool of undergraduate students at a private university, a disproportionately high socio-economic status was represented, and a vast majority of the students at least one significant adult in their lives (Keller & Panella, 2001). Since poverty has been identified as a relatively strong risk factor, and a

significant adult relationship as one of the strongest protective factors (Werner & Smith, 1982, 1992, 2001), additional study would need to include a greater diversity of subjects. This limitation also affects the generalizability of the results.

On the other hand, the timing of the data collection was approximately three months after the attack on the World Trade Center in New York City (about 12 miles from, and within visual range of, the university). Thus, all subjects had been exposed in varying degrees to a major risk factor in the form of that traumatic event. While this may have accounted for increased variability in their responses to the surveys (particularly the negative life events and the outcome measures), it also limits the generalizability of the results across time.

Along the same lines, resilience is not a fixed personality attribute. As circumstances change, resilience can also change (Rutter, 1987). This research covered a specific developmental stage in the students' lives and was cross-sectional in nature, so should be interpreted as such.

Over 90 percent of the students in this sample scored as having an optimistic explanatory style. Further study would need to investigate a sample with a greater range of explanatory styles.

Implications for Practice

Explanatory style and resilient attitudes were both shown to function as protective factors in this research, and both are amenable to cognitive interventions (Gillham, Reivich, Jaycox, & Seligman, 1995; Wolin & Wolin, 1993). Cognitive and/or cognitive-behavioral therapies have been empirically supported and are taught in many clinical

training programs (Barlow, 2001; Chambless & Hollon, 1998). In addition, Hays (1995) supported their use with culturally diverse clients.

The idea of therapist as a significant adult in a client's life has support in the literature (e.g., Rossman, 1982). Bailey (2002) recently wrote about the concept of "evolutionary kinship therapy" (p. 367), in which the therapist acts as a protective person and secure interpersonal foundation. Since having a significant, supportive adult relationship has been shown to have protective effects (e.g. Werner, 2000), especially for children and adolescents, perhaps the therapeutic alliance could serve to enhance resilience, especially if combined with cognitive-behavioral therapies.

Further study could shed light on prominent risk factors that therapists may be able to ameliorate, as well as protective factors to be strengthened. Fraser and Galinsky (1997) advocated the mitigation of risk and the enhancement of protection as the foundation of a resilience-based practice.

Implications for Future Research

"If only we knew what it was that enabled people to 'escape' damage from serious adverse experiences, we would have the means . . . to enhance everyone's resistance to stress and adversity" (Rutter, 1993, p. 626). This has been a theme across resilience research to date, and the present research attempted to shed some light on this issue. Future research could build on the results from this study in many ways.

The results of the present study point to the option of measuring risk and protective factors, as well as outcome. A replication of this research with two major adjustments could shed further light on the role of explanatory style in resilience processes. First, a sample that included a greater range of explanatory styles should be

used. Another adjustment would be to employ multiple instruments for each latent variable as described below.

One of the most powerful aspects of structural equation modeling is its ability to evaluate latent variables using three or four instruments for each latent variable, thereby evaluating the ability of the instruments to represent that variable at the same time the model itself is being evaluated (e.g. Kline, 1998). This was demonstrated in the present study with the three instruments that were used to measure successful adaptation. Appropriate instruments could be found and/or designed that would measure risk and protective factors in multiple ways, or each one in multiple ways as described above.

An example of an attempt to devise one such comprehensive instrument is the Baruth Protective Factors Inventory (Baruth & Caroll, 2002). This instrument included categories on what the authors termed "protective factors: adaptable personality, supportive environment, fewer stressors, and compensating experiences" (p. 237). However, some would argue that fewer stressors could not be considered a protective factor, but rather a part of "normal" development (e.g. Masten, 2001), and the inventory was also based on a fairly simplistic view of protective factors. A protective factors inventory would need to include an assessment of the majority of protective factors identified in the literature, many of which have been described as part of the present research. If one were to design measurements of risk and protective factors, they could be self-report instruments, with the addition of a parents' and/or teacher's versions to satisfy the mandate of using a minimum of three instruments per latent variable.

A variety of outcomes should also be included in the measurement of resilience. While quality of life and happiness are laudable goals for successful adaptation (e.g.

Lyubomirsky, 2001; Seligman, 2002), many other indicators of successful outcome should also be considered to provide a more complete picture of the individual, an idea that is "well suited to studying diverse lives through time" (Masten, 2002, p. 78). For example, McGloin and Widom (2001) looked at eight domains for successful functioning: satisfactory employment, housing, education, social activity, and the avoidance of : major psychiatric disorder, substance abuse, and criminal behavior as evidenced by arrest record and/or self reported violence.

Resilience is a complex developmental process that is difficult to understand by examining cross-sectionally, and by using a model as simple as the one used in this research. The interaction of risk and protective factors was not taken into account, but could perhaps be included in future research. As Masten and Reed (2002) put it, "in reality, there are few 'one-way arrows' in life" (p. 80). Rutter (2002a, 2002b) advocated looking at how all parts of a resilient individual's life interact with each other. In addition, longitudinal studies, such as those done by Werner and Smith (1982, 1992, 2001), Cowen, et al (1997), and others could build on the information from this study by measuring the various components of resilience and tracking results using structural equation modeling (Quintana & Maxwell, 1999). The longitudinal effects of trauma (such as that experienced after the World Trade Center attack) could be another avenue of research.

Although there are exceptions, cultural influences have been ignored in many studies on resilience (Cohler, Stott, & Musick, 1995). As the field of psychology in general (e.g. Oettingen, 1995), and counseling psychology in particular (e.g. Gelso & Fretz, 2000; Matsumoto, 1994) have been recognizing, culture is an integral part of

research. Cicchetti and Rogosch (2002) pointed out one effect of culture in models of resilience, in that "the dynamic interplay of risk and protective processes may have differential impact depending on the cultural norms. . ." (p. 14). This can be especially important in the definition of successful adaptation, as views of the self in relation to others can be very different across cultures (Cicchetti & Rogosch, 2002). Future research should include culture, not only in the research design and selection of instruments, but also by incorporating an understanding of resilience and interventions that have been long in use, such as the Native American medicine wheel (see Gilgun, 2002).

Coll and Magnuson (2000) discussed cultural sources of risk that should also be taken into account, such as cultural mismatch, minority status, and historical construction of culture, as well as culture as a developmental resource. The assessment of chronic discrimination should also address the effects of not only racial discrimination, but other forms of discrimination as well. The International Resilience Research Project (see Grotberg, 2000) formed an advisory committee of international organizations in order to provide suggestions to their research team. Advisors from a variety of cultures could inform continued research on the measurement of resilience.

Werner (2002) recognized the need to empirically demonstrate long-term change in those who participate in intervention programs. Finding ways to combine research on the process of resilience with methods of intervention would be the ultimate goal (e.g. Luthar, Cicchetti, & Becker, 2000a) of any of the above pursuits.

In summary, this research investigated the measurement of resilience, the role of explanatory style in resilience models, and introduced the construct in a framework consistent with counseling psychology. The literature on optimistic explanatory style and

resilience was reviewed, a study on measuring resilience was described, results and conclusions were outlined, and recommendations for future research directions were suggested.

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Appendix A
Measures Used

R.A.S.

We are interested in how you view yourself. Please be as honest as possible when rating each of the statements below. There are no right or wrong answers. In the blank to the left of each statement below, write in the number that best describes how you feel about that statement. Please read each item carefully and rate how strongly you agree or disagree with it using the following scale:

1	2	3	4	5
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

____ 1. I usually can't predict what other people will do.

____ 2. I avoid accepting responsibility for other people's problems.

____ 3. When others think badly of me, there's probably a good reason for it.

____ 4. I try to notice signals from other people that spell trouble.

____ 5. It doesn't do any good to try and figure out why things happen.

____ 6. Often I find myself taking responsibility for other people's problems.

____ 7. I am willing to ask myself tough questions and answer them honestly.

____ 8. I have a hard time telling what someone new is like until I get to know the person well.

____ 9. I can fix hurts from my past that could keep me from letting people get close to me.

____ 10. I try to figure out why people act the way they do.

____ 11. I will often stay with someone, even though I know that person is bad for me.

____ 12. I am able to step back from troubled family members and see myself as OK.

____ 13. If you care about someone, you should try to do what the person wants, even if it seems unreasonable.

____ 14. I can't help acting like a child around my parents.

____ 15. I am able to recognize when I'm in a bad relationship and end it.

____ 16. I can stay calm around troubled people because I understand why they act the way they do.

____ 17. I realize that I can't change other people; they have to change for themselves.

____ 18. It's hard for me to stay calm when someone I care about is being unreasonable.

____ 19. If I love someone, I can put up with that person hurting me.

____ 20. I often find myself around people who aren't well adjusted.

____ 21. There are few people who I can really count on.

____ 22. I am good at sizing up people.

____ 23. I try to figure out why a relationship was not healthy and avoid repeating it.

____ 24. I am good at starting relationships with other people.

____ 25. I can't do anything about whether people like me or not.

____ 26. It's hard for me to believe that I'll ever find a good relationship.

____ 27. I'm shy around people I don't know.

____ 28. I can't really tell if a relationship is going to be good until I try it.

____ 29. I am good at keeping relationships going.

____ 30. I am able to love others and be loved by them.

____ 31. It's beyond me how most things work.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

____ 32. I often talk myself through a problem.

____ 33. I can learn from the past and use that information to make the future better.

____ 34. I have hobbies or other activities that I take seriously.

____ 35. I often get really frustrated when dealing with problems and can't figure out what to do.

____ 36. I am successful in taking care of my physical and emotional needs.

____ 37. I don't like to try to find out how things work.

____ 38. There are few things that I am good at doing.

____ 39. I do enough to get by, but not much more.

____ 40. I enjoy getting involved in constructive activities.

____ 41. Sometimes I forget my problems when I'm pursuing creative activities.

____ 42. I don't think that I'm creative.

____ 43. I'm good at finding new ways to look at things.

____ 44. One way I express my feelings is through my art work, dance, music or writing.

____ 45. The positive feelings I get from creating help make up for the pain of my past.

____ 46. Using my imagination doesn't help to solve problems.

____ 47. It's hard for me to see the humor in a bad situation.

____ 48. One has to take life very seriously to get by.

____ 49. I am good at using humor to reduce tension between myself and others.

____ 50. Most problems have only one solution.

____ 51. I find it easy to choose between right and wrong.

____ 52. It's a dog eat dog world where one has to do what it takes to get by.

____ 53. I can't help repeating the mistakes that my parents made.

____ 54. I like to help other people.

____ 55. There's no way I could make a difference in other people's lives.

____ 56. I don't always do what I know is right.

____ 57. I stand up to people when I see them being dishonest, petty or cruel.

____ 58. I am willing to take risks for the sake of doing what I think is right.

____ 59. Sometimes I feel like I'm just drifting along with no purpose in life.

____ 60. I almost always stand up for underdogs.

____ 61. I like to help others even if they are not willing to help themselves.

____ 62. I am involved in things that will make people's lives better.

____ 63. No matter what happens, if I keep trying I'll get through it.

____ 64. There are things that I can do to make my life better.

____ 65. Sometimes it's hard, but I don't let things keep me down.

____ 66. Even if bad things happen, I can deal with them.

____ 67. It's not the hand you are dealt, but how you play it.

____ 68. No matter how hard I try, I can't make things right.

____ 69. I am willing to go with any approach that will work.

____ 70. I'm good at making the most of a bad situation.

____ 71. When life gives me lemons, I make lemonade.

____ 72. Failure is something you learn from rather than feel guilty about.

The Life Experiences Survey
(Sarason, Johnson, and Siegel, 1977)

Listed below are a number of events which sometimes bring about change in the lives of those who experience them and which necessitate social readjustment. *Please check those events which you have experienced in the recent past and indicate the time period during which you have experienced each event.* Be sure that all check marks are directly across from the items they correspond to.

Also, for each item checked below, *please indicate the extent to which you viewed the event as having either a positive or negative impact on your life* at the time the event occurred. That is, *indicate the type and extent of impact that the event had.* A rating of −3 would indicate an extremely negative impact. A rating of 0 suggests no impact either positive or negative. A rating of +3 would indicate an extremely positive impact.

Section 1

	0 to 6 mo	7 mo to 1 yr	Extremely negative	Moderately negative	Somewhat negative	No impact	Slightly positive	Moderately positive	Extremely positive
1. Marriage	___	___	-3	-2	-1	0	+1	+2	+3
2. Detention in jail or comparable institution	___	___	-3	-2	-1	0	+1	+2	+3
3. Death of spouse	___	___	-3	-2	-1	0	+1	+2	+3
4. Major change in sleeping habits (much more or much less sleep)	___	___	-3	-2	-1	0	+1	+2	+3
5. Death of a close family member: a. mother	___	___	-3	-2	-1	0	+1	+2	+3
b. father	___	___	-3	-2	-1	0	+1	+2	+3
c. brother	___	___	-3	-2	-1	0	+1	+2	+3
d. sister	___	___	-3	-2	-1	0	+1	+2	+3
e. grandmother	___	___	-3	-2	-1	0	+1	+2	+3
f. grandfather	___	___	-3	-2	-1	0	+1	+2	+3
g. other (specify)	___	___	-3	-2	-1	0	+1	+2	+3
6. Major change in eating habits (much more or much less food intake)	___	___	-3	-2	-1	0	+1	+2	+3
7. Foreclosure on mortgage or loan	___	___	-3	-2	-1	0	+1	+2	+3
8. Death of close friend	___	___	-3	-2	-1	0	+1	+2	+3
9. Outstanding personal achievement ..	___	___	-3	-2	-1	0	+1	+2	+3
10. Minor law violations (traffic tickets, disturbing the peace, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
11. *Male*: Wife/girlfriend's pregnancy	___	___	-3	-2	-1	0	+1	+2	+3
12. *Female:* Pregnancy	___	___	-3	-2	-1	0	+1	+2	+3

	0 to 6 mo	7 mo to 1 yr	Extremely negative	Moderately negative	Somewhat negative	No impact	Slightly positive	Moderately positive	Extremely positive
13. Changed work situation (different work responsibility, major change in working conditions, working hours, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
14. New job	___	___	-3	-2	-1	0	+1	+2	+3
15. Serious illness or injury of close family member									
a. father	___	___	-3	-2	-1	0	+1	+2	+3
b. mother	___	___	-3	-2	-1	0	+1	+2	+3
c. sister	___	___	-3	-2	-1	0	+1	+2	+3
d. brother	___	___	-3	-2	-1	0	+1	+2	+3
e. grandfather	___	___	-3	-2	-1	0	+1	+2	+3
f. grandmother	___	___	-3	-2	-1	0	+1	+2	+3
g. spouse	___	___	-3	-2	-1	0	+1	+2	+3
h. other (specify)	___	___	-3	-2	-1	0	+1	+2	+3
16. Sexual difficulties	___	___	-3	-2	-1	0	+1	+2	+3
17. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
18. Trouble with in-laws	___	___	-3	-2	-1	0	+1	+2	+3
19. Major change in financial status (a lot better off or a lot worse off)	___	___	-3	-2	-1	0	+1	+2	+3
20. Major change in closeness of family members (increased or decreased closeness)	___	___	-3	-2	-1	0	+1	+2	+3
21. Gaining a new family member (through birth, adoption, family member moving in, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
22. Change of residence	___	___	-3	-2	-1	0	+1	+2	+3
23. Marital separation from mate (due to conflict)	___	___	-3	-2	-1	0	+1	+2	+3
24. Major change in church activities (increased or decreased attendance)	___	___	-3	-2	-1	0	+1	+2	+3
25. Marital reconciliation with mate	___	___	-3	-2	-1	0	+1	+2	+3
26. Major change in number of arguments with spouse (a lot more or a lot fewer arguments)	___	___	-3	-2	-1	0	+1	+2	+3

	0 to 6 mo	7 mo to 1 yr	Extremely negative	Moderately negative	Somewhat negative	No impact	Slightly positive	Moderately positive	Extremely positive
27. *Married male:* Change in wife's work outside the home (beginning work, ceasing work, changing to a new job, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
28. *Married female:* Change in husband's work (loss of job, beginning new job, retirement, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
29. Major change in usual type and/or amount of recreation	____	____	-3	-2	-1	0	+1	+2	+3
30. Borrowing more than $25,000 (buying home, business, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
31. Borrowing less than $25,000 (buying car, getting school loan, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
32. Being fired from job	____	____	-3	-2	-1	0	+1	+2	+3
33. *Male:* Wife/girlfriend having an abortion	____	____	-3	-2	-1	0	+1	+2	+3
34. *Female:* Having abortion	____	____	-3	-2	-1	0	+1	+2	+3
35. Major personal illness or injury	____	____	-3	-2	-1	0	+1	+2	+3
36. Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation	____	____	-3	-2	-1	0	+1	+2	+3
37. Major change in living conditions of family (building new home, remodeling deterioration of home, neighborhood, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
38. Divorce	____	____	-3	-2	-1	0	+1	+2	+3
39. Serious injury or illness of close friend	____	____	-3	-2	-1	0	+1	+2	+3
40. Retirement from work	____	____	-3	-2	-1	0	+1	+2	+3
41. Son or daughter leaving home (due to marriage, college, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
42. Ending of formal schooling	____	____	-3	-2	-1	0	+1	+2	+3
43. Separation from spouse (due to work, travel, etc.)	____	____	-3	-2	-1	0	+1	+2	+3
44. Engagement	____	____	-3	-2	-1	0	+1	+2	+3
45. Breaking up with boyfriend/ girlfriend	____	____	-3	-2	-1	0	+1	+2	+3
46. Leaving home for the first time	____	____	-3	-2	-1	0	+1	+2	+3
47. Reconciliation with boyfriend/ girlfriend	____	____	-3	-2	-1	0	+1	+2	+3

	0 to 6 mo	7 mo to 1 yr	Extremely negative	Moderately negative	Somewhat negative	No impact	Slightly positive	Moderately positive	Extremely positive

Other recent experience which have had
An impact on your life. List and rate.

	0 to 6 mo	7 mo to 1 yr							
48. _____	___	___	-3	-2	-1	0	+1	+2	+3
49. _____	___	___	-3	-2	-1	0	+1	+2	+3
50. _____	___	___	-3	-2	-1	0	+1	+2	+3

Section 2: Students Only

	0 to 6 mo	7 mo to 1 yr							
51. Beginning a new school experience at a higher academic level (college, graduate school, professional school, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
52. Changing to a new school at same academic level (undergraduate, graduate, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
53. Academic probation	___	___	-3	-2	-1	0	+1	+2	+3
54. Being dismissed from dormitory or other residence	___	___	-3	-2	-1	0	+1	+2	+3
55. Failing an important exam	___	___	-3	-2	-1	0	+1	+2	+3
56. Changing a major	___	___	-3	-2	-1	0	+1	+2	+3
57. Failing a course	___	___	-3	-2	-1	0	+1	+2	+3
58. Dropping a course	___	___	-3	-2	-1	0	+1	+2	+3
59. Joining a fraternity/sorority	___	___	-3	-2	-1	0	+1	+2	+3
60. Financial problems concerning school (in danger of not having sufficient money to continue)	___	___	-3	-2	-1	0	+1	+2	+3

ATTRIBUTIONAL STYLE QUESTIONNAIRE

Directions:
1) Read each situation and <u>vividly</u> imagine it happening to you.
2) Decide what you believe to be the <u>one</u> major cause of the situation if it happened to you.
3) Write this cause in the blank provided.
4) Answer the six questions about the <u>cause</u> by circling <u>one</u> number per question. <u>Do not</u> circle the words.
5) Go on to the next situation.

SITUATIONS

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

1.   *Write down the <u>one</u> major cause:* _____

2.   *Is the cause of your friend's compliment due to something about you or something about other people or circumstances?*

   Totally due to other   1 2 3 4 5 6 7   *Totally due to me*
   people or circumstances

3.   *In the future, when you are with your friend, will this cause again be present?*

   Will never again   1 2 3 4 5 6 7   *Will always be present*
   be present

4.   *Is the cause something that just affects interacting with friends, or does it also influence other areas of your life?*

   Influences just this   1 2 3 4 5 6 7   *Influences all*
   particular situation   *situations in my life*

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

5.   *Write down the <u>one</u> major cause:* _____

6.   *Is the cause of your unsuccessful job search due to something about you or something about other people or circumstances?*

   Totally due to other   1 2 3 4 5 6 7   *Totally due to me*
   people or circumstances

7.   *In the future, when looking for a job, will this cause again be present?*
   Will never again   1 2 3 4 5 6 7   *Will always be present*
   be present

8.   *Is the cause something that just influences looking for a job, or does it also influence other areas of your life?*
   Influences just this   1 2 3 4 5 6 7   *Influences all*
   particular situation   *situations in my lifea*

YOU BECOME VERY RICH.

9. Write down the one major cause:_____

_____

10. Is the cause of your becoming rich due to something about you or something about other people or circumstances?

   Totally due to other   1 2 3 4 5 6 7   Totally due to me
   people or circumstances

11. In the future, will this cause again be present?

   Will never again   1 2 3 4 5 6 7   Will always be present
   be present

12. Is the cause something that just affects obtaining money, or does it also influence other areas of your life?

   Influences just this   1 2 3 4 5 6 7   Influences all
   particular situation   situations in my life

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP HIM/HER.

13. Write down the one major cause:_____

_____

14. Is the cause of your not helping your friend due to something about you or something about other people or circumstances?

   Totally due to other   1 2 3 4 5 6 7   Totally due to me
   people or circumstances

15. In the future, when a friend comes to you with a problem, will this cause again be present?

   Will never again   1 2 3 4 5 6 7   Will always be present
   be present

16. Is the cause something that just affects what happens when a friend comes to you with a problem, or does it also influence other areas of your life?

   Influences just this   1 2 3 4 5 6 7   Influences all
   particular situation   situations in my life

*YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE
AUDIENCE REACTS NEGATIVELY.*

17. Write down the <u>one</u> major cause:_____

_____

18. Is the cause of audience's negative reaction due to something about you or something about
     other people or circumstances?

     Totally due to other   1 2 3 4 5 6 7   Totally due to me
     people or circumstances

19. In the future when you give talks, will this cause again be present?

     Will never again   1 2 3 4 5 6 7   Will always be present
     be present

20. Is the cause something that just influences giving talks, or does it also influence other
     areas of your life?

     Influences just this   1 2 3 4 5 6 7   Influences all
     particular situation   situations in my life

YOU DO A PROJECT WHICH IS HIGHLY PRAISED.

21. Write down the <u>one</u> major cause:_____

_____

22. Is the cause of your being praised due to something about you or something about other
     people or circumstances?

     Totally due to other   1 2 3 4 5 6- 7   Totally due to me
     people or circumstances

23. In the future when you do a project, will this cause again be present?

     Will never again   1 2 3 4 5 6 7   Will always be present
     be present

24. Is the cause something that just affects doing projects, or does it also influence
     other areas of your life?

     Influences just this   1 2 3 4 5 6 7   Influences all
     particular situation   situations in my life

YOU MEET A FRIEND WHO ACTS HOSTILELY TOWARDS YOU.

25. Write down the one major cause:_____

_____

26. Is the cause of your friend acting hostile due to something about you or something about other people or circumstances?

Totally due to other   1   2   3   4   5   6   7   Totally due to me
people or circumstances·

27. In the future when interacting with friends, will this cause again be present?

Will never again   1   2   3   4   5   6   7   Will always be present
be present

28. Is the cause something that just influences interacting with friends, or does it also influence other areas of your life?

Influences just this   1   2   3   4   5   6   7   Influences all
particular situation   situations in my life

YOU CAN'T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

29. Write down the one major cause:_____

_____

30. Is the cause of your not getting the work done due to something about you or something about other people or circumstances?

Totally due to other   1   2   3   4   5   6   7   Totally due to me
people or circumstances

31. In the future when doing work that others expect, will this cause again be present?

Will never again   1   2   3   4   5   6   7   Will always be present
be present

32. Is the cause something that just affects doing work that others expect of you, or does it also influence other areas of your life?

Influences just this   1   2   3   4   5   6   7   Influences all
particular situation   situations in my life

YOUR SPOUSE (BOYFRIEND/GIRLFRIEND) HAS BEEN TREATING YOU MORE LOVINGLY.

33. *Write down the one major cause:* _____

_____

34. *Is the cause of your spouse (boyfriend/girlfriend) treating you more lovingly due to something about you or something about other people or circumstances?*

    Totally due to other   1 2 3 4 5 6 7   *Totally due to me*
    people or circumstances

35. *In future interactions with your spouse (boyfriend/girlfriend), will this cause again be present?*

    Will never again   1 2 3 4 5 6 7   *Will always be present*
    be present

36. *Is the cause something that just affects how your spouse (boyfriend/girlfriend) treats you, or does it also influence other areas of your life?*

    Influences just this   1 2 3 4 5 6 7   *Influences all*
    particular situation   *situations in my life*

YOU APPLY FOR A POSITION THAT YOU WANT VERY BADLY (E.G., IMPORTANT JOB, GRADUATE SCHOOL ADMISSION, ETC.) AND YOU GET IT.

37. *Write down the one major cause:* _____

_____

38. *Is the cause of your getting the position due to something about you or something about other people or circumstances?*

    Totally due to other   1 2 3 4 5 6 7   *Totally due to me*
    people or circumstances

39. *In the future when you apply for a position, will this cause again be present?*

    Will never again   1 2 3 4 5 6 7   *Will always be present*
    be present

40. *Is the cause something that just influences applying for a position, or does it also influence other areas of your life?*

    Influences just this   1 2 3 4 5 6 7   *Influences all*
    particular situation   *situations in my life*

YOU GO OUT ON A DATE AND IT GOES BADLY.

41. Write down the one major cause: _____

_____

42. Is the cause of the date going badly due to something about you or something about other people or circumstances?

Totally due to other   1   2   3   4   5   6   7   Totally due to me
people or circumstances

43. In the future when you are dating, will this cause again be present?

Will never again   1   2   3   4   5   6   7   Will always be present
be present

44. Is the cause something that just influences dating, or does it also influence other areas of your life?

Influences just this   1   2   3   4   5   6   7   Influences all
particular situation   situations in my life

YOU GET A RAISE.

45. Write down the one major cause:_____

_____

46. Is the cause of your getting a raise due to something about you or something about other people or circumstances?

Totally due to other   1   2   3   4   5   6   7   Totally due to me
people or circumstances

47. In the future on your job, will this cause again be present?

Will never again   1   2   3   4   5   6   7   Will always be present
be present

48. Is the cause something that just affects getting a raise, or does it also influence other areas of your life?

Influences just this   1   2   3   4   5   6   7   Influences all
particular situation   situations in my life

Depression-Happiness Scale
(McGreal and Joseph, 1993)

> **INSTRUCTIONS** A number of statements that people have used to describe how they feel are given below. Read each one and circle the number that best describes how frequently each statement was true for you in the past seven days, including today. Some statements describe positive feelings and some describe negative feelings. You may have experienced both positive and negative feelings at different times in the past week.
>
> If this is *Never*, put a ring round ....⓪ 1 2 3
> If this is *Rarely*, put a ring round ....0 ① 2 3
> If this is *Sometimes*, put a ring round ....0 1 ② 3
> If this is *Often*, put a ring round ....0 1 2 ③

Never=0   Rarely=1   Sometimes=2   Often=3

1	I felt sad....................................	0	1	2	3
2	I felt I had failed as a person.................	0	1	2	3
3	I felt dissatisfied with my life................	0	1	2	3
4	I felt mentally alert...............................	0	1	2	3
5	I felt disappointed with myself...............	0	1	2	3
6	I felt cheerful.....................................	0	1	2	3
7	I felt life wasn't worth living.................	0	1	2	3
8	I felt satisfied with my life....................	0	1	2	3
9	I felt healthy......................................	0	1	2	3
10	I felt like crying..................................	0	1	2	3
11	I felt I had been successful.....................	0	1	2	3
12	I felt happy..	0	1	2	3
13	I felt I couldn't make decisions..............	0	1	2	3
14	I felt unattractive.................................	0	1	2	3
15	I felt optimistic about the future.............	0	1	2	3
16	I felt life was rewarding........................	0	1	2	3
17	I felt cheerless....................................	0	1	2	3
18	I felt life had a purpose........................	0	1	2	3
19	I felt too tired to do anything.................	0	1	2	3
20	I felt pleased with the way I am.............	0	1	2	3
21	I felt lethargic....................................	0	1	2	3
22	I found it was easy to make decisions.......	0	1	2	3
23	I felt life was enjoyable........................	0	1	2	3
24	I felt life was meaningless.....................	0	1	2	3
25	I felt run down....................................	0	1	2	3

Center for Epidemiologic Studies – Depressed Mood
Scale (CES-D)

Using The scale below, indicate the number which best describes how often you felt or behaved this way – DURING THE PAST WEEK.

    1 = Rarely or none of the time (less than 1 day)
    2 = Some or a little of the time (1 – 2 days)
    3 = Occasionally or a moderate amount of time (3 – 4 days)
    4 = Most or all of the time (5 – 7 days)

DURING THE PAST WEEK:

_____ 1. I was bothered by things that usually don't bother me.

_____ 2. I did not feel like eating; my appetite was poor.

_____ 3. I felt that I could not shake off the blues even with help from my family or friends.

_____ 4. I felt that I was just as good as other people.

_____ 5. I had trouble keeping my mind on what I was doing.

_____ 6. I felt depressed.

_____ 7. I felt that everything I did was an effort.

_____ 8. I felt hopeful about the future.

_____ 9. I thought my life had been a failure.

_____ 10. I felt fearful.

_____ 11. My sleep was restless.

_____ 12. I was happy.

_____ 13. I talked less than usual.

_____ 14. I felt lonely.

_____ 15. People were unfriendly.

_____ 16. I enjoyed life.

_____ 17. I had crying spells.

_____ 18. I felt sad.

_____ 19. I felt that people disliked me.

_____ 20. I could not get "going."

WHOQOL-BREF

June 1997

U.S. Version

University of Washington

Seattle, Washington

United States of America

Emblem...Soul Catcher: a Northwest Coast Indian symbol of physical and mental well-being. Artist: Marvin Oliver

Instructions

This questionnaire asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the **last two weeks**. For example, thinking about the last two weeks, a question might ask:

For office use		(Please circle the number)				
		Not at all	A little	Moderately	Mostly	Completely
	Do you get the kind of support from others that you need?	1	2	3	4	5

You should circle the number that best fits how much support you got from others over the last two weeks. So you would circle the number 4 if you got a great deal of support from others. You would circle number 1 if you did not get any of the support that you needed from others in the last two weeks.

Please read each question, assess your feelings, and circle the number on the scale that gives the best answer for you for each question.

For office use		(Please circle the number)				
		Very poor	Poor	Neither poor nor good	Good	Very Good
G1 / G1.1	1. How would you rate your quality of life?	1	2	3	4	5

For office use		(Please circle the number)				
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
G4 / G2.3	2. How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

For office use		(Please circle the number)				
		Not at all	A little	A moderate amount	Very much	An extreme amount
F1.4 / F1.2.5	3. To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
F11.3 / F13.1.4	4. How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
F4.1 / F6.1.2	5. How much do you enjoy life?	1	2	3	4	5
F24.2 / F29.1.3	6. To what extent do you feel your life to be meaningful?	1	2	3	4	5

For office use		(Please circle the number)				
		Not at all	Slightly	A Moderate amount	Very much	Extremely
F5.2 / F7.1.6	7. How well are you able to concentrate?	1	2	3	4	5
F16.1 / F20.1.2	8. How safe do you feel in your daily life?	1	2	3	4	5
F22.1 / F27.1.2	9. How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

For office use		(Please circle the number)				
		Not at all	A little	Moderately	Mostly	Completely
F2.1 / F2.1.1	10. Do you have enough energy for everyday life?	1	2	3	4	5
F7.1 / F9.1.2	11. Are you able to accept your bodily appearance?	1	2	3	4	5
F18.1 / F23.1.1	12. Have you enough money to meet your needs?	1	2	3	4	5
F20.1 / F25.1.1	13. How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
F21.1 / F26.1.2	14. To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

For office use		(Please circle the number)				
		Very poor	Poor	Neither poor nor well	Well	Very well
F9.1 / F11.1.1	15. How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good** or **satisfied** you have felt about various aspects of your life over the last two weeks.

For office use		(Please circle the number)				
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
F3.3 / F4.2.2	16. How satisfied are you with your sleep?	1	2	3	4	5
F10.3 / F12.2.3	17. How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
F12.4 / F16.2.1	18. How satisfied are you with your capacity for work?	1	2	3	4	5
F6.4 / F8.2.2	19. How satisfied are you with your abilities?	1	2	3	4	5
F13.3 / F17.2.3	20. How satisfied are you with your personal relationships?	1	2	3	4	5
F15.3 / F3.2.1	21. How satisfied are you with your sex life?	1	2	3	4	5
F14.4 / F18.2.5	22. How satisfied are you with the support you get from your friends?	1	2	3	4	5

For office use		(Please circle the number)				
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
F17.3 / F21.2.2	23. How satisfied are you with the conditions of your living place?	1	2	3	4	5
F19.3 / F24.2.1	24. How satisfied are you with your access to health services?	1	2	3	4	5
F.23.3 / F28.2.2	25. How satisfied are you with your mode of transportation?	1	2	3	4	5

The follow question refers to **how often** you have felt or experienced certain things in the last two weeks.

For office use		(Please circle the number)				
		Never	Seldom	Quite often	Very often	Always
F8.1 / F10.1.2	26. How often do you have negative feelings, such as blue mood, despair, anxiety, depression?	1	2	3	4	5

THANK YOU FOR YOUR HELP

1. Age _____   2. **Gender:** ____ male ____female

3. **Which racial/ethnic classification do you most closely identify with?** (**check one**)

____ American Indian/Alaskan Native   ____ Asian/Pacific Islander

____ Black, not of Hispanic origin   ____ Hispanic

____ White, not of Hispanic origin   ____ Other (Describe): _____

4. **Do you live (check one):** ___on campus

___with parent(s)

___off campus, not with parents

5. **Are your parents (check one):** ___married   ___living together but not married

___divorced/separated   ___widowed

___never married

___other:_____

6. **Check _one_ of the following adults who has been _most_ supportive in your life:**

___ parent(s)   ___ grandparent(s)   ___ other relative   ___ no one

___ coach, teacher, or other non-relative

7. **How many siblings do you have? (circle one)** 0   1   2   3   4   5   6   >6

8. **Where are you in the birth order compared to your siblings? (check one)**

___only child   ___youngest   ___middle   ___oldest

___twin is my only sibling   ___other (Explain):_____

9. **On a scale of 1 to 5, which most generally describes the relationships in your family? (circle one number)** For example, if your family generally gets along pretty well, but you wouldn't go as far as saying loving and close, you would circle a 4.

1	2	3	4	5
(unloving & distant)				(loving & close)

10. **Have you experienced any type of discrimination in your life? (check one)**

__Yes __No

11. **If you answered 'yes" to question 10,**
   a. **how frequently had you experienced discrimination _prior to entering college_? (check one)**
   ___ 1 – 5 times   ___ 6 – 10 times   ___ 11 - 15 times
   ___ 16 – 20 times   ___ > 20 times

   b. **How frequently have you experienced discrimination _since entering college_? (check one)**
   ___ 1 – 3 times   ___ 4 – 6 times   ___ 7 - 9 times
   ___ 10 – 12 times   ___ > 12 times

c. **Rank the amount of discomfort you have experienced as a result of discrimination. (circle one number)**

I have experienced it,
but it did not bother me   1   2   3   4   5   It bothered me quite a bit

12. **On a scale of 1 to 5, how important is spirituality to you? (circle one number)**

    not at all important   1   2   3   4   5   extremely important

13. **On a scale of 1 to 5, how supportive have the <u>adults</u> in your life been? (circle one number)**

    not at all supportive 1   2   3   4   5   extremely supportive

14. **What is the approximate range of your family's yearly income? (check one)**

    ____0 - $18,000   ____ $18,000 – $33,000   ____ $33,001 – $52,000

    ____ $52,001 – $82,000   ____ > $82,000

15. **Did you apply for financial aid to cover educational costs? (check one)**

    ___Yes ___No

16. **If you answered 'yes' to question 15, please estimate what percentage of your college expenses (including room and board) are covered by financial aid *that was awarded on need* (don't include scholarships that were <u>not</u> based on financial need) (check one)**

    ____0 – 25%   ____26% – 50%   ____51% – 75%   ____76% – 100%

17. **List the educational level(s) and occupations(s) of the adult(s) you lived with before entering college. Please be specific** (e.g., high school graduate, 1 year of college, degree from 2-yr. community college, Ph.D., etc.) (e.g., engineer at a utility company, assistant manager of a clothing store, professor of undergraduates, school secretary, custodian in an office bldg., physician in a clinic, unemployed outside the home, administrative assistant to an executive, etc.)

	Highest Education Achieved	Occupation
Mother	_____	_____
Father	_____	_____
Other Adult	_____	_____

18. **How many times have you moved over your lifetime? (check one)**

    ___ 1 – 3 times   ___ 4 – 6 times   ___ 7 - 9 times

    ___ 10 – 12 times ___ > 12 times

Thank you!

Appendix B
Letter to Participants

SETON HALL UNIVERSITY

1 8 5 6

Dear Research Participant:

We appreciate your time and willingness to consider participating in this survey research, part of a dissertation project. The research is being undertaken by a doctoral student in the Counseling Psychology Ph.D. program at Seton Hall, which is in the Department of Professional Psychology and Marriage and Family Therapy.

Purpose, and Benefits to Research

The purpose of this research is to evaluate the construct of resilience. Resilience is an ability to bounce back after negative experiences. With your participation, we hope to learn more about resilience as it applies to college students.

Procedure and Expected Duration

We specifically invite you to take the next 25 – 30 minutes to complete the attached brief paper-and-pencil self-report inventories and demographic questionnaire. It would be particularly helpful if all items are completed. The following surveys are in your packets, although not necessarily in the same order. While some appear long, many take less than five minutes to complete:

- Resiliency Attitudes Survey – Reviews attitudes common to resilient people
- Attributional Style Questionnaire – Evaluates the way people view good and bad events
- CES-D – Evaluates perceived mood over the past week
- WHOQOL-BREF – Asks questions regarding perceived quality of life
- Life Experiences Survey – A checklist of events that may have been experienced over the past year, plus a scale to rate the effect the event had
- Depression-Happiness Scale – As the name implies, evaluates mood from happy to sad
- Demographic Questionnaire – Solicits non-identifying descriptive information

Voluntary participation

Your participation is voluntary, and you are free to ask questions or to discontinue participating without penalty at any time during the administration. Please return your completed packet to the researcher at collection time.

Anonymous and Confidential

Your anonymity will be protected in several ways. First, we ask that you do not place your name or any other identifying information on the survey. Second, your individual

ENRICHING THE MIND, THE HEART AND THE SPIRIT

responses will be consolidated with other responses in order to be analyzed as an anonymous group. All final summaries and conclusions will be based on aggregate data only. Third, your anonymous responses on the self-report inventories will be kept confidential and used only for the purposes of this research project. The surveys will be stored in a locked cabinet with no identifying information attached.

No foreseeable risks

The self-report inventories and demographic questionnaire are designed to be non-threatening, and minimal discomfort is expected from participating in this research. However, if you do experience any discomfort or distress, you are encouraged to contact the investigators, a companion, a mental health professional in your area, or University Counseling Services at 973-761-9500.

Contact Information

Finally, if you have any questions about the study or would like a copy of the results, please feel free to contact the researcher or faculty advisor listed below.

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached at 973-275-2974.

Consent to participate

I have read the material above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time.

Your informed consent is implied if you decide to complete and return your survey to the investigators. Please remove and keep this form with the contact information, should you need to refer to it in the future. We would like to thank you for your time, attention, and cooperation.

Sincerely,

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