

**LIFE EXPERIENCES AND RESILIENCE IN COLLEGE STUDENTS:
A RELATIONSHIP INFLUENCED BY HOPE AND MINDFULNESS**

A Dissertation

by

AMY BETH COLLINS

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2009

Major Subject: Counseling Psychology

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ABSTRACT

Life Experiences and Resilience in College Students:

A Relationship Influenced by Hope and Mindfulness. (August 2009)

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Chair of Advisory Committee: Dr. Michael Duffy

This study examines the effects of hope and mindfulness on the relationship between life experiences and resilience, as well as the direct relationships among these constructs. Participants were 537 undergraduates who were taking online courses at Texas A&M University. Most participants were traditionally-aged and female. Quantitative self-report measures for each construct were administered online via SurveyMonkey.

The small, positive relationship between life events and resilience approached, but did not reach, statistical significance, and hope but not mindfulness was found to moderate this relationship. Correlations were significant, positive, and linear between resilience and hope ($r = .57, p < .01$), resilience and mindfulness ($r = .50, p < .01$), and hope and mindfulness ($r = .44, p < .01$). Suggestions for clinical interventions aimed at increasing resilience by increasing hope and mindfulness are provided.

DEDICATION

Dedicated to anyone who has resiliently survived writing a dissertation or plans to do so!

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TABLE OF CONTENTS

	Page
ABSTRACT	iii
DEDICATION	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
 CHAPTER	
I INTRODUCTION	1
Statement of Purpose	5
Variable Definitions	5
Resilience	5
Life experiences	6
Hope	6
Mindfulness	6
II LITERATURE REVIEW	7
Early Resilience Studies	9
Second Wave of Resilience Research	10
Third Wave of Resilience Research	13
Variables in the Current Study	21
Life experiences	21
Hope	23
Mindfulness	28
Connecting Hope and Mindfulness	36
Hypotheses	37
III METHODS	39
Participants	39

CHAPTER	Page
Procedures	40
Measures.....	41
Resilience measure	41
Life experiences measure	44
Hope measure	52
Mindfulness measure.....	54
Demographic questionnaire.....	58
IV RESULTS.....	59
Analytic Procedure	61
Hope as a Moderator.....	63
V CONCLUSIONS	65
Discussion of Results	65
Limitations.....	68
Clinical Implications	70
Directions for Future Research.....	74
Summary.....	77
ENDNOTE	78
REFERENCES	79
APPENDIX A	98
APPENDIX B.....	109
APPENDIX C.....	112
APPENDIX D	114
APPENDIX E	122
APPENDIX F	124
APPENDIX G	127
APPENDIX H	130
VITA.....	132

LIST OF TABLES

	Page
Table 1 Zero-Order Correlations between Resilience, Life Events, Mindfulness, Hope, Sex, and Age	99
Table 2 Hierarchical Regression Analyses to Test the Moderating Role of Hope between Life Events and Resilience	100
Table 3 Hierarchical Regression Analyses to Test the Moderating Role of Mindfulness between Life Events and Resilience	101

LIST OF FIGURES

	Page
Figure 1 Hope with Life Experiences	102
Figure 2 Loess Curve of Hope with Life Experiences.....	103
Figure 3 Hope with Mindfulness	104
Figure 4 Loess Curve of Hope with Mindfulness	105
Figure 5 Path Model of Hope as a Moderator of Life Experiences and Resilience.....	106
Figure 6 Moderating Role of Hopefulness on the Relationship between Life Experiences and Resilience.....	107
Figure 7 Path Model of Mindfulness as a Moderator of Life Experiences and Resilience	108

CHAPTER I

INTRODUCTION

Researchers and therapists have long been aware that individuals respond to similar situations in very different ways. Those who seem to remain unaffected or bounce back from hardships quickly are usually considered resilient and researchers used to believe they were invulnerable to stress and trauma (Anthony, 1974; Hjemdal, 2007). Research focused on children and began identifying a wide range of risk factors that seemed to predispose people to develop behavioral or psychological problems, and protective factors that appeared to prevent otherwise expected negative outcomes (Collishaw et al., 2007; Hjemdal). Many risk and protective factors were identified for children and adults who seemed susceptible to mental illness (Hoge, Austin, & Pollack, 2007).

However, the populations (e.g., children of alcoholics), risk factors (e.g., abuse, poverty), protective factors (e.g., intelligence), and outcomes (e.g., academic success, mental health) were so specific it was difficult to generalize them to other population and situations or to consolidate the research on resilience (Agaibi & Wilson, 2005; Carle & Chassin, 2004; Connor & Davidson, 2003; Hines, Wyatt, & Merdinger, 2005). Until recently, measures of resilience were lacking, so resilience was measured as the absence of psychopathology or other negative outcomes (Hoge et al., 2007; White, Driver, & Warren, 2008). Resilience is an important part of the positive psychology field, and is now recognized as being a positive,

This dissertation follows the style of the *Journal of Counseling Psychology*.

adaptive way of coping, and not just the lack of negative outcomes (Almedom & Glandon, 2007; Keyes, 2007; White et al., 2008).

More recently, it has become apparent that resilience is multi-faceted and must be studied in an interdisciplinary manner and at multiple levels because it involves individual genetic, biological, and psychological factors, as well as social connections and other environmental components (Almedom & Glandon, 2007; Kim-Cohen, 2007; Smolka et al., 2007). There is still no definitive list of protective factors, and many factors may be highly individualized and difficult to capture in any particular study. However, based on existing literature, Hjemdal (2007) compiled an exhaustive list of protective factors that can be applied across populations and situations, and was used to create the Resilience Scale for Adults.

Recent research has also been complicated by the realization that both seemingly resilient and seemingly pathological coping strategies can be adaptive in some ways and detrimental in others, such as surviving by becoming self-reliant when support is not available but then having trouble trusting others and forming interdependent relationships (Hooper, Marotta, & Lanthier, 2008; Samuels & Pryce, 2008). This is consistent with the challenge model proposed by Wolin and Wolin (1996). The challenge model asserts that when individuals are faced with difficulties, they respond in ways that help them survive or adapt the best they can but also experience negative consequences.

Although resilience is usually defined in terms of how people respond to challenging situations, with people who have encountered the most difficulties being the most susceptible to negative outcomes, there does not appear to be a strong direct relationship

between life events and resilience (Hand, 2004; Rosen, 2009). In some cases, challenges and traumas have been shown to be protective when an individual has an internal locus of control and gains increased self-efficacy after making sense of difficult experiences (Regehr, Hill, & Glancy, 2000). Hand's research showed a tendency for people with low to moderate levels of negative experiences to have high levels of hope, and Rosen illustrated that objective symptom severity was less important than locus of control.

Tedeschi and Calhoun (2004) describe the positive psychological changes that can take place after experiencing hardship, even if negative effects are also experienced, as posttraumatic growth. This growth has been found to involve increases in perceptions of personal strength, life appreciation, meaningful relationships, and spirituality (Tedeschi & Calhoun). The percentage of growth versus dysfunction experienced by individuals and populations after various events is difficult to measure as it depends on many factors and is measured in different contexts (e.g., Bonanno, Rennie, & Deckel, 2005; Hobfoll et al., 2009; Tedeschi & Calhoun). College students face unique challenges and opportunities and more information is needed on what factors contribute to their ability to respond resiliently.

The relationship between life events and resilience has not been fully explained for the general population or for college students but it seems clear other variables play an important role (Hand, 2004). One of the variables investigated in this study because it seems likely to influence resilience, is hope. Hope involves conceptualizing goals, and having the confidence and ability to move toward these goals, as well as motivation gained by overcoming past barriers (Snyder, 1994). Because Snyder defines hope as depending on having overcome challenges, some negative life events would be necessary for the

development of hope. Hope also helps people respond constructively to difficult circumstances, so it seems likely that responding hopefully has a lot in common with responding resiliently. This study proposed that the more hopeful people are, the more likely they are to respond resiliently to stressful or traumatic events.

Several studies claim to have examined the relationship between hope and resilience, but these studies did not use a resilience measure. Luthans, Avolio, Walumbwa, and Li (2006) simply assumed hope must be a protective factor and interviewed people who they subjectively determined to be hopeful and resilient. Other researchers attempted to measure this relationship without measuring resilience at all or by measuring it as if it were the same as general well-being or lack of psychopathology (e.g., Mendoza, 1999; Roger, 2006). Therefore, hope is commonly believed to be a protective factor but has not been measured appropriately as such, and has not been investigated as a moderator of life events and resilience.

Another variable that seems likely to affect the relationship between life experiences and resilience is mindfulness. Mindfulness is included as a possible moderator in this study because it influences the way in which individuals perceive and respond to internal and external experiences (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Langer & Moldoveanu, 2000; Wallace & Shapiro, 2006). Mindfulness involves being aware of oneself and the environment in the present moment without judging or reacting non-intentionally, as well as being able to describe one's subjective experience (Baer et al.).

Studies have found mindful people are better able to respond to difficult situations without reacting in automatic and non-adaptive ways because they are open to new

perceptual categories, tend to be more creative, and can better cope with difficult thoughts and emotions without becoming overwhelmed or shutting down (Langer & Moldoveanu, 2000; Wallace & Shapiro, 2006). Multiple mindfulness-based therapies and programs have been shown to have a wide variety of psychological (e.g., reduced depression and anxiety), physiological (e.g., increased immune functioning), and neurological benefits (e.g., increased dopamine release) for clinical and non-clinical populations (Baer et al., 2006; Kabat-Zinn, 2003a; Kuyken et al., 2008; Ma & Teasdale, 2004; Takahashi et al., 2005).

Statement of Purpose

The purpose of this study is to investigate hope and mindfulness as moderators in the relationship between life events and resilience in college students. A variety of programs and interventions aimed at increasing hope and mindfulness are available, and if results indicate hope and mindfulness do influence resilience, psychologists can use them to help clients become more resilient. The direct relationships between life experiences and resilience, between hope and mindfulness, between life experiences and hope, and between life experiences and mindfulness will also be measured.

Variable Definitions

Resilience

Theoretical definition. Adapting to risk factors successfully as a result of protective factors (Almedom & Glandon, 2007; Arnau, 2002) and actively dealing with stress and adversity (Grotberg, 2003).

Operational definition. For this study, resilience is measured as total scores on the Resilience Scale for Adults (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003).

Life experiences

Theoretical definition. The experiences a person has had throughout his or her life.

Operational definition. Life Experiences are operationally defined for this study as total scores on the College Student Life Events Scale (Levine & Perkins, 1980a). The terms life experiences and life events are used interchangeably in this study.

Hope

Theoretical definition. Goals, or outcomes one desires; willpower, or motivating determination that is gained only after overcoming barriers; and waypower, or the ability to find and act on effective methods of attaining goals (Snyder, 1994).

Operational definition. For this study, hope is operationally defined as total scores on the Snyder Hope Scale (Snyder, 1994).

Mindfulness

Theoretical definition. Bringing one's full awareness to the present moment in a nonjudgmental and accepting manner, and having the ability to describe one's subjective experience and respond to it with intentionality (Baer et al., 2006).

Operational definition. Mindfulness is operationally defined for this study as total scores on the Five-Facet Mindfulness Questionnaire (Baer et al., 2006).

CHAPTER II

LITERATURE REVIEW

Throughout their lives, most individuals encounter many challenging, and possibly traumatic, situations. How people respond to difficulties ranging from everyday problems to life threatening traumas determines how successfully they are able to cope with and overcome them. For example, although two people may have experienced the same difficult situation or environment, one person may cope effectively and seem to be minimally affected, or even positively influenced, while the other person may respond less effectively and experience less fulfillment or more psychological symptoms as a result.

Because individuals' interpretations of and responses to trauma and hardship play such an important role in their functioning and psychological health during and even long after difficult experiences, it is important for psychologists to understand what leads some people to respond in healthier ways than others. As psychologists work with people who are dealing with stressful or traumatic situations, it is crucial they know which client characteristics are most influential in determining the degree to which their clients are capable of handling these situations effectively. Knowledge of the characteristics that most influence resiliency will enable counselors to target and enhance these qualities.

Resilience has been studied since the 1970s (Hjemdal, 2007) and has been defined in multiple ways (Alvord & Grados, 2005; Carle & Chassin, 2004). Research shows resiliency has many benefits (Hart, Wilson, & Hittner, 2006), is associated with a wide variety of risk and protective factors in several populations (Hemenover, 2003; Hjemdal; Keltner &

Walker, 2003; McAdam-Crisp, 2006), and has inspired a surge of interest and literature in the field of psychology during the past 10 years as part of the positive psychology movement (Hjemdal; Smith & Carlson, 1997; White et al., 2008). Resilience and other constructs in positive psychology, such as hope and optimism, provide an alternative to the more commonly studied deficit-based model of psychological functioning but there is still a lack of research integrating these concepts, and gaps remain in the positive psychology field (Seligman & Csikszentmihalyi, 2000; White et al.).

Despite the large amount of research on resilience, there is little agreement on the definition of this construct, partly because resilience is often defined in terms of the resilience of a certain population to a specific risk factor (White et al., 2008). For example, Marmar et al. (2006) identified several factors that prevent post-traumatic stress disorder (PTSD) in police officers and others who respond to crises. This is a valuable finding, but one that does not extend to all populations or situations. There is, however, a general consensus that resilience is an important factor in determining how people experience difficult or traumatic events (Arnau, 2002; Carle & Chassin, 2004; Juffer, Stams, & van IJzendoorn, 2004), and that it involves adapting successfully in spite of risk factors (Carle & Chassin) or traumatic experiences (Arnau).

Carle and Chassin (2004) propose that in the context of resilience, successful adaptation is effective performance in the environment, and can be demonstrated by the achievement of culturally important developmental tasks. Grotberg (2003) states that resilience involves actively dealing with stress and adversity, and she claims that individuals who are overprotected as children may be at a disadvantage when it comes to developing

resiliency because they learn to depend unnecessarily on others. Later, these people may lack the self-efficacy and problem solving skills to respond resiliently (Grotberg).

Early Resilience Studies

To understand how these multiple definitions and methods of assessment arose in the area of resilience, it is necessary to review how resilience was first studied. Early studies in the 1970s (e.g., Garmezy, 1974; Rutter, 1972, 1979; Rutter, Tizard, Yule, Graham, & Whitmore, 1976) focused on risk and protective factors in children who surprised researchers by succeeding despite risk factors (Collishaw et al., 2007; Hjemdal, 2007; Hoge et al., 2007). It was thought some children were “invulnerable” and “invincible” (e.g. Anthony, 1974; Werner & Smith, 1982). Later research has indicated no one is invulnerable to everything, and resilience is multifaceted, with people being resilient to some things but not others and to varying degrees throughout their lives (Hjemdal, 2007; Rutter, 2007).

Early populations studied included those who experienced maternal deprivation or had parents with schizophrenia (e.g., Garmezy, 1974; Rutter, 1972, 1979). Although no one is invincible and risk accumulation is believed to worsen the chances of adverse affects, longitudinal research did identify some children who remained resistant to mental illness (Cederblad, 1996; Werner & Smith, 1982, 1992). Obviously, these children were either inherently different or had experienced something that allowed them to adapt to extremely difficult circumstances, and researchers began searching to find out what made people more or less vulnerable to adversity (Hjemdal, 2007).

Unfortunately, children encounter a huge variety of “risky” situations (e.g., abuse, poverty, alcoholic parents) and resilience has been measured in a number of ways (e.g.,

educational success, mental health, overall well-being), so resilience research proved to be complex and difficult to generalize (Agaibi & Wilson, 2005; Connor & Davidson, 2003; Hoge et al., 2007). Early adult resilience studies also involved populations that were perceived to be at risk due to serious medical illness or stressful experiences, and tended to refer to resilience as “hardiness” (Hoge et al.; Kobasa, 1979). These studies used varied measures and provided limited generalizations (Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005).

Second Wave of Resilience Research

One reason it is difficult to make sense of all the risk and protective factors is that they often continue to be studied in different contexts with different populations and methodologies. Many studies still measure resilience or protective factors by assessing an “at risk” or seemingly traumatized population on its ability to avoid the problem for which it is believed to be at risk. Recent examples include Hagen, Myers, and Mackintosh’s (2005) study on protective factors in children who were deemed at risk because their mothers were incarcerated, Carle and Chassin’s (2004) investigation of behavioral resilience in children of alcoholics, Hines, Wyatt, and Merdinger’s (2005) research on academic resilience of former foster youth, and Hauck, Schestatsky, Terra, Krueel, and Ceitlin’s (2007) study on parental bonding and emotional response to trauma in rape victims who were at risk for PTSD.

This type of research is informative but lacks generalizability. Studies on specific factors and populations are important building blocks in resilience research, but it is not practical to study every risk and protective factor in relation to every difficult or traumatic experience with every population, so a more widely applicable way of conceptualizing and

measuring resilience has been needed (Friborg et al., 2005). From Hoge et al.'s (2007) list of risk and corresponding resilience factors as they relate to PTSD in different populations and different studies, it is apparent certain factors are more helpful in certain situations than in others, but this may be because it is not feasible for most studies to test more than a few factors. It is interesting that internal locus of control is the only variable on Hoge et al.'s list that appears as a protective factor in multiple contexts, including women who had traumatic childbirths (Soet, Brack, & Dilorio, 2003), children who experienced war-related situations (Kuterovac-Jagodic, 2003), and firefighters with work related trauma (Regehr et al., 2000).

In addition to studying specific variables, researchers have tended to measure resilience in terms of how well those people who had experienced a risk factor avoided crime, did on a measure of general well-being, or avoided psychopathology (Born, Chevalier, & Humblet, 1997). It is also important to note that many studies continue to use inappropriate resilience measures. For example, Hemenover's (2003) investigation of resilience and emotional disclosure measures resilient self-perception with the Scales of Psychological Well-Being despite the fact that well-being and resilience are different constructs. A recent follow-up investigation on the landmark Isle of Wight study of resilience in abused children, on which much resilience research builds, also defines resilience in terms of the absence of psychopathology and measures resilience with instruments that were not originally intended to measure resilience (Collishaw et al., 2007; Hoge, et al., 2007). However, it is now recognized that just as mental health is not the same as a lack of mental illness, resilience is more than a lack of PTSD or other predicted negative results of risk exposure (Almedom & Glandon, 2007; Keyes, 2007).

In the 1980s and 1990s, researchers moved from investigating individual characteristics of resilient people to examining environmental factors that led to resilient adjustment (Hjemdal, 2007). However, many resilience studies remained difficult to apply broadly, adding to confusion about which protective factors are most important (Conner & Davidson, 2003). Not only are protective factors elusive, it is sometimes difficult to distinguish risk factors from negative outcomes and protective factors from positive outcomes. For example, are social skills and academic success protective factors that contribute to resilience, or are they the result of resilience? Are drug use and lack of social support risk factors or the negative outcomes of a lack of resilience? It is likely there is overlap, with resilience building on itself, and lack of resilience leading to further risk factors.

Somewhat surprisingly, Regehr et al. (2000) found that repeated trauma could be protective, but only if individuals were able to use traumatic experiences to increase self-efficacy and internal locus of control. The finding that adverse experiences can lead to positive outcomes is supported not only by scholarly literature, it is also reflected in clichés like “what doesn’t kill you makes you stronger,” and in the public’s fascination with books like Stoltz and Weihenmayer’s (2007) *The adversity advantage; Turning everyday struggles into everyday greatness* (Samuels & Pryce, 2008; Tedeschi & Calhoun, 2004). Tedeschi and Calhoun, as well as Wolin, Muller, Taylor, & Wolin (1999) highlight the transformative experience and personal growth resulting from suffering as described by ancient Hebrews and Greeks, as well as by Christian, Buddhist, and Islamic teachings.

Third Wave of Resilience Research

Recently, a “third wave” of research has begun to integrate personal and environmental aspects of resilience by viewing resilience more holistically and in an interdisciplinary manner (Almedom & Glandon, 2007; Richardson, 2002, pp. 307-308). Accordingly, resilience is now being studied psychologically, biologically, and sociologically, and researchers believe it involves an interaction of individual and environmental characteristics (Almedom & Glandon; Kim-Cohen, 2007; Smolka et al., 2007). As Leckman and Mayes (2007) explain, in rats (and presumably in humans), environmental conditions and the amount of nurturing received early in life “can fundamentally alter the expression of key genes involved in stress response and the reward mechanisms that may underlie attachment and bonding” (p. 221). This view of resilience as an interactive model is not completely new and is similar to the idea behind Wilson’s (1980) study on the person-situation model of hardiness/resiliency in Gulf War veterans. The complex interactions that are believed to exist help explain early research by Rutter, et al. (1975) that showed any one factor alters resilience very little, but additional risk factors decrease resilience exponentially.

Resilience researchers also continue struggling to disentangle beneficial and detrimental effects of hardship, as discussed below in relation to the life events variable of this study (Samuels & Pryce, 2008). Samuels and Pryce found a mixture of practical and emotional resiliency and vulnerability when they interviewed young adults who were exiting the foster care system. These young adults consistently expressed and demonstrated an increase in what Samuels and Pryce termed “survivalist self-reliance” (p. 1202), meaning

self-sufficiency, material and emotional independence, “ingenuity and psychological endurance,” and pride in surviving losses (p. 1204). However, they also described not seeking counseling even when they needed it, having difficulty accepting help, perceiving interdependent relationships as a sign of weakness, and feeling isolated (Samuels and Pryce).

Samuels and Pryce’s (2008) findings add to the basis for refuting the idea of “invincible” or “invulnerable” children, and should remind researchers and practitioners that people may be truly resilient in some ways and psychologically vulnerable or traumatized in others (Hjemdal, 2007; Rutter, 2007). Just as individuals who were previously thought to be “invincible” have been shown to struggle in some areas, researchers are beginning to investigate strengths among children traditionally thought to be psychologically and relationally compromised due to environmental factors (Hooper et al., 2008).

Hooper et al. (2008) studied children who had been parentified, or made responsible for taking an adult-like role in caring for family members emotionally or instrumentally. Psychological literature has focused on the many negative outcomes of parentification, such as increased incidence of mental illness, relational and parenting difficulties, and substance abuse (Hooper et al.). At the same time, Hooper et al. demonstrated that college students who were parentified as children have an increased level of posttraumatic growth, which Tedeschi and Calhoun (2004) define as beneficial psychological change resulting from surviving adversity or traumatic circumstances.

Although Tedeschi and Calhoun (2004) use the term posttraumatic growth, they describe this construct much as researchers define resilience, except they place more

emphasis on the growth resulting from crises than on individuals' ability to maintain or quickly regain adaptive functioning. Tedeschi and Calhoun claim growth is a more likely outcome than disorder following traumatic experiences. White et al. (2008) also describe resilience as the most common response to traumatic injuries. More specifically, Tedeschi and Calhoun discuss people who experience elevated perceptions of personal strength, appreciation for life, meaningful relationships, and enriched existential and spiritual lives. Tedeschi and Calhoun credit ongoing personal narratives and cognitive resources with allowing people to respond to trauma with growth.

In contrast, Hobfoll et al. (2009) found resilience to be less common than symptoms of significant psychological distress or posttraumatic stress. In what they describe as the first "longitudinal examination of resilience and resistance (rather than ill-being) among a national sample under ongoing threat of mass casualty" (p. 138), Hobfoll et al. conducted initial and follow-up interviews with 709 Jews and Arabs in Israel during 2004-2005 when they were under continual threat of terrorist and rocket attacks. Hobfoll et al. report that about 64% of their participants exhibited immediate or delayed signs of posttraumatic stress and depressed mood.

Interestingly, resilience in the face of national threats or terrorism may not always be fully based in reality (Bonanno et al., 2005). Bonanno et al. demonstrated that Manhattan residents who were higher than normal on the trait of self-enhancement responded to the September 11, 2001 terrorist attacks with self-serving biases that were not based in reality but led to seemingly resilient outcomes. While self-enhancing New Yorkers may have derived actual psychological benefits from their comforting biases, they were also perceived

by their friends and family members as having decreased levels of social adjustment and honesty 18 months later (Bonanno et al.). Bonanno (2005) views self-enhancement as one of many ways people maintain healthy functioning despite adversity or threats of crises, and use flexible coping strategies, including those that are disadvantages under normal circumstances.

Self-enhancers aside, Hobfoll et al. (2009) still found a lower incidence of resilience in Israel than the 65% Bonanno, Galea, Bucciarelli, and Vlahov (2006) found among Manhattan residents. However, given the ongoing nature of the threat in Israel and the unpredictability with which its residents live, it seems impressive that about 35% of Hobfoll et al.'s sample either showed zero or one symptom of posttraumatic stress throughout 2004-2005 or showed initial signs of distress but became nearly asymptomatic despite the continued threat of danger. The comparison of resiliency rates in Manhattan and Israel indicates that prolonged exposure to danger is more likely to eventually deplete people's coping resources (Norris et al., 2002).

Given the consistent, positive relationship found between resilience, hope, and internal locus of control, it is also probable that cultural factors affecting the level of actual and perceived control residents have influence their ability to maintain hope, and, therefore, resilience despite threat. The sense of belonging and ownership people feel they have in their communities and governments, as well as the degree to which they believe those in governmental or other positions of power can and will represent and protect them, may contribute to a societal-level locus of control.

For example, in the case of Hobfoll et al.'s (2009) sample, Jews and Arabs in Israel could reasonably assume, based on a history of violent attacks, that there was not much they or their government would be able to do to protect them or their loved ones in the near future. In contrast, while Bonanno et al.'s (2006) sample of New York residents likely worried about future terrorism after September 11th, they may have viewed these attacks as a more isolated event. Because similar attacks did not precede or closely follow those of September 11th, most residents may have had a relatively high level of confidence in their community and government's ability to help them recover from any losses related to these attacks and to prevent future danger.

Additionally, certain groups within a population may tend to adjust more or less resiliently depending on their access to material and social resources, relative levels of control, and status within their cultures (Bonanno, Galea, Bucciarelli, & Vlahov, 2007). Characteristics that predict resilience because they increase these variables include being male, belonging to a majority ethnic group, and having higher education and income (Bonanno et al.; Norris et al., 2002). However, even people without these demographic advantages can respond resiliently, and it must be remembered that people can have symptoms and still be coping adaptively in some way. In fact, what would normally be dysfunctional may be normal or adaptive in threatening situations. For example, hypervigilance or increased physiological arousal can simultaneously cause distress and help people survive.

Research findings demonstrating that people adapt in the best ways they can, and that their coping strategies help them survive but are not perfect solutions, and may also lead to

psychological or interpersonal difficulties in other contexts is consistent with developmental and holistic, positive psychology perspectives (Teyber, 2000; White et al., 2008). Wolin and Wolin's (1996) challenge model is also consistent with this outlook and proposes that children who grow up in difficult circumstances can be negatively impacted and develop pathologies, while also increasing coping skills. This model seems realistic and useful because it does not define resilience in an all or nothing way and does not assume people who cope resiliently suffer no negative impact from surviving trauma or hardships. The challenge model sees resilient coping strategies as adaptive and helpful but recognizes that they may also be harmful in some ways (Wolin & Wolin).

For instance, a client who meets criteria for paranoid personality disorder may have considerable difficulty forming close, trusting relationships, and may have grown up in an unstable or dangerous environment where being highly independent and hyper-vigilant to any potential interpersonal threats helped him or her to survive emotionally and feel a sense of efficacy and control. Although evidence from studies like those of Hooper et al. (2008) and Samuels and Price (2008) makes it difficult to categorize environmental factors as only protective factors or only risk factors, it provides an encouraging reminder that people can derive some meaning and psychological benefit from difficult situations.

Gene-gene interactions and gene-environment interactions also contribute to adaptation and resilience in complex ways (Hoge et al., 2007; Kim-Cohen, 2007; Smolka et al., 2007). Although the interactions between biological mechanisms and risk and protective factors in the environment are not completely understood, researchers who study the genetic aspects of resilience believe genetics alone cannot determine how an individual will respond

to adversity (Kim-Cohen; Smolka et al.). Instead, biological and genetic factors can be viewed as protective or risk factors, much like environmental influences (Kim-Cohen).

Even though it is difficult to determine exactly how much biological, genetic, and environmental factors interact to determine each individual's level of resilience, there is neurological evidence to support the psychological data that show some people to be relatively high or low in resilience (Waugh, Wager, Fredrickson, Noll, & Taylor, 2008). Waugh et al. found that when people with higher resilience were shown a cue signaling there was an equal chance they would see a distressing picture or a neutral picture, they only exhibited neural reactions indicating an unpleasant emotional response if they actually saw the distressing picture. Resilient people also returned to baseline cardiac and neurological states sooner than those with low resilience when exposed to stressful situations (Tugade & Fredrickson, 2004; Waugh et al.).

In contrast, participants with low resilience reacted to threats or even the possibility of threats sooner and for longer periods of time, as indicated by activity in the amygdala and insula areas of their brains (Waugh et al., 2008). Due to the various systems involved in determining resilience, Kim-Cohen (2007) argues it is important to study resilience at levels of analysis ranging from molecular to behavioral to cultural. It is difficult to study all of these contexts and their interactions simultaneously, and research on all of these levels is needed to increase psychologists' understanding of resilience.

Although progress has been made in the area of resilience research, there is still no definitive set of factors that constitute risk or protective factors (Hoge et al., 2007). These could be any variables shown to increase or decrease the likelihood of a variety of positive

or negative outcomes. Risk factors are often defined as environmental factors that originate in childhood and are sometimes the opposites of protective factors (e.g., strong social skills vs. poor social skills; secure attachment vs. insecure attachment). However, Hoge et al. assert that resilience is more than the “flip side” of risk factors (p. 142).

Resilience research has identified a multitude of protective factors, with some of the most prominent being secure attachment style and a healthy relationship with an adult during childhood, temperament (McAdam-Crisp, 2006), internal locus of control (Hemenover, 2003; Keltner & Walker, 2003; McAdam-Crisp), sense of coherence (Hart et al., 2006; Hemenover), and biological and genetic factors (Hoge et al., 2007; Kim-Cohen, 2007; Smolka et al., 2007). However, measures of resiliency had not been developed until recently, making it very difficult to generalize results or compare studies (Friborg et al., 2005; White et al., 2008).

Hjemdal (2007) provides a useful and extensive list of 15 categories of protective factors based on an exhaustive literature search. This is helpful in organizing protective factors into a measure that can be applied to multiple populations and situations (Friborg et al., 2003; Hjemdal). Hjemdal categorized protective factors into the following categories, and used the first 13 categories to develop the Resilience Scale for Adults (RSA) and the Resilience Scale for Adolescents (READ). He excluded the last two categories because valid and reliable measures of these constructs have already been created.

(1) personal competence, (2) self-efficacy, (3) social support, (4) social competence, (5) family and youth, (6) internal locus of control, (7) temperament, (8) hope, (9) structure and rules, (10) ego strength, (11) education and vocational life, (12) religion, (13) self-actualization, (14) amount of stress, and (15) problem-solving abilities/intelligence (p. 309).

Variables in the Current Study

It is clear that resilience is influenced by experience, but as Regehr et al. (2004) and Hand (2004) have shown, risk factors and negative life experiences are sometimes associated with increased resilience. Because there is not always a direct relationship between life experiences and resilience, other variables must be involved in this relationship. Hope and mindfulness are likely culprits, implicated by both research and theory.

Life experiences

Resilience research focuses on the way in which protective and risk factors, some of which are life experiences or influence experiences (e.g., social support, family), and the way in which these factors influence how well individuals adapt and cope (Carle & Chassin, 2004; Grotberg, 2003). Although there may be some direct relationship between experiences and resilience, it appears other variables influence this relationship because some people are more resilient than others. As early as 1979, Kobasa discussed possible mediating factors between stressful life events and hardiness, but dismissed the idea that stress leads to adaptive responses on the basis that differences in response to stress are the result of individual factors like personality.

As already discussed, Regehr et al. (2000) found that exposure to trauma can act as a protective factor if individuals are able to grow from and make meaning of these experiences through internal locus of control and an increase in self-efficacy. Similarly, DuMont, Widom, and Czaja (2007) discovered that although adults who had been resilient since adolescence and early adulthood had experienced fewer stressful events, those participants who were not resilient in adolescence but developed resilience by early adulthood had a

higher than normal rate of negative events in their lives. Rosen (2009) provides the example of someone who has successfully completed physical rehabilitation early in life being able to see needing rehabilitation after a fall when they are elderly as an opportunity to become more fit, unlike someone who is injured for the first time when they are elderly and is not equipped to deal with the situation.

Hand (2004) also discovered people who had experienced a low to moderate level of negative life events were highly hopeful, suggesting hope may play a role in the relationship between life experiences and resilience. In a study of children in Jerusalem diagnosed with cerebral palsy, Cohen, Biran, Aran, and Gross-Tsur (2008) found locus of control, which is correlated with hope and resilience, to be more related to parental acceptance and support than to the severity of cerebral palsy symptoms (Hemenover, 2003; Keltner & Walker, 2003; McAdam-Crisp, 2006). Rosen (2009) discovered children whose parents believed there to be some positive aspect of their child having a certain disease identified more benefits of their diagnoses. Family support, and more specifically, at least one stable, secure attachment with an adult during childhood are discussed as protective factors in the resilience literature, and it appears Cohen et al. and Rosen's research supports the view that the objective degree of difficulty individuals face does not necessarily determine their ability to adjust resiliently (McAdam-Crisp).

Obviously, some people develop psychopathology as a result of difficult or traumatic experiences, while others do not, and Regehr's (2000) research indicates this may be due to how individuals process and make sense of these events. Rutter (2007) also points out that resilience studies and lessons from internal medicine "suggest that resistance to

environmental hazards may come from exposure to risks in controlled circumstances” (p. 208). This is a process that needs to be better understood so psychologists can help clients view potentially traumatic experiences in the healthiest way possible.

Hope

One of Hjemdal’s (2007) categories of protective factors, hope, is a variable in this study. Like resilience, hope has been defined in many ways. It has been viewed as having an expectation that something desired will occur, as the wishing and expecting that occurs regarding a specific situation, and as an emotion or feeling of confidence in an outcome (Collins & Kuehn, 2004). According to Snyder (1994), a leading hope researcher, hope involves conceptualizing goals and moving toward them. Farran, Herth, and Popovich (1995) also discuss hope in terms of the ability to actively and constructively confront problems, and to creatively imagine alternative ways of dealing with them. Within the context of positive psychology, Seligman and Csikszentmihalyi (2000) refer to hope as one of the “human strengths that act as buffers against mental illness” (p. 7).

Snyder (1994) envisions hope as involving goals, or outcomes one desires; willpower, or motivating determination that is gained only after overcoming barriers; and waypower, or the ability to find and act on effective methods of attaining goals. Although Snyder, Cheavens, and Sympson (1997) began referring to willpower as agency and waypower as pathways, these components of hope remain the same in current literature. Another way to view hope is as a trait, but even researchers who believe hope is a trait also believe there is a state component of hope that is made up of a person’s various strategies for responding (Collins & Kuehn, 2004; Snyder et al., 1996). The state aspect of hope is

believed to involve an individual's feelings regarding a situation, although these feelings can be affected by personal growth or by therapeutic interventions (Farran et al., 1995; Snyder et al.). However, the trait component of hope is believed to change less over time, and is conceptualized as a person's attitude or approach to life (Farran et al.; Snyder et al.).

In defining hope, it is important to distinguish between hope and optimism. Even within professional literature, the terms are sometimes used interchangeably (Ai, Peterson, Tice, Bolling, & Koenig, 2004). However, Morse and Penrod (1999) refer to hope and optimism as "contrasting constructs" (p. 148), and most researchers believe they are theoretically and empirically distinct but related constructs (Ai et al.; Bryant & Cvengros, 2004). Like hopeful people, optimistic people are more likely to believe positive things will happen in the future (Ai et al.). They differ in that optimism involves high attitudinal expectations of positive events and low attitudinal expectations of negative events; whereas hope involves motivational and emotional factors (Ai et al.). Optimists may believe good things will happen to them, but hopeful people believe they are capable of identifying and successfully pursuing paths to positive outcomes (Ai et al.; Snyder et al., 1991).

Bryant and Cvengros (2004) used structural equation modeling to examine the discriminant validity of hope and optimism measures. They determined that optimism is more highly correlated with coping by positively appraising a situation but hope is more strongly associated with a general sense of self-efficacy (Bryant & Cvengros). Although optimism has been associated with proactive coping and with reduced distress in situations like chronic illness and major transition, hope is more related to actual outcomes across a variety of difficult circumstances (Ai et al., 2004; Aspinwall, Richter, & Hoffman, 2001;

Lopes & Cunha, 2008; Snyder et al., 1991). Hope, but not optimism, is also correlated with frequency and severity of illness even after effects of these illnesses that could confound results were controlled (Scioli et al., 1997).

In fact, optimism can unrealistically lead people to believe that negative things are less likely to happen to themselves than to others, even though they are not actively doing anything to decrease their chances of encountering unwanted negative events (Chang, 2001). McInerney's (2007) article on social justice illustrates this difference by referring to optimism as "naïve" and hope as "robust" (p. 257). Because hope is associated with self-efficacy and an increased likelihood of achieving positive outcomes, hopeful individuals are better equipped to confidently face and grow from life's challenges (Bryant & Cvengros, 2004; Snyder et al., 1991). If a hopeful person experiences a stressful life event, she or he is likely to cope adaptively and learn from the experience. In contrast, the same event may shatter an optimistic person's illusion that good things will happen and lead to a sense of hopelessness because the person does not have the motivation, confidence, or ability to respond adaptively.

Interestingly, even though Hjemdal (2007) lists "hope" as a category of protective factors based on his literature review, most studies that have examined hope in relation to resilience actually did not measure resilience. Instead, they assumed hope was a protective factor and investigated it along with other variables like transcendence (e.g., Wijngaards-de Meij et al., 2005) and optimism (e.g., Crawford, 2005; Gillham et al., 2004) either without attempting to measure resilience (e.g., Hand, 2004; Mendoza, 1999) or by using measures of overall adjustment or lack of psychopathology to measure resilience (e.g., Horton &

Wallander, 2001; Roger, 2006). Other studies based this connection on qualitative interviews with individuals who seemed subjectively both hopeful and resilient (e.g., Luthans et al., 2006).

Ong, Edwards, and Bergeman's (2006) research discusses trait hope as important in moderating state hope and influencing emotional recovery and reduced stress reactivity in older adults, but does not include a resilience measure. The only studies to use both a hope scale and a resilience scale investigated job performance and satisfaction in organizational contexts (Luthans et al., 2006; Luthans, Avolio, Avey, & Norman, 2007). One of the few studies in this area sampled factory workers in China in terms of their "psychological capital," and psychological capital research uses the State Hope scale, which only measures one type of hope (Luthans et al., 2006, 2007; Snyder et al., 1996). Luthans et al. also used a translated version of a 14-item ego resiliency measure that was developed by Block and Kremen (1996). Because ego resiliency is a specific type of resiliency, state hope is only one component of hope, and one of the few studies conducted utilized an instrument translated for use in China, Luthans et al.'s studies may not generalize well to overall resilience or to other populations.

Clearly, there is a need for more research involving viable hope and resiliency measures with populations in the U.S outside of employment settings. Although he did not conduct an empirical study on resilience and hope, Stajkovic's (2006) theoretical paper outlines a case for hope, resiliency, self-efficacy, and optimism forming a higher-order construct called core confidence, especially as it relates to employee motivation. Stajkovic believes multiple levels of research are needed to investigate his proposed construct and to

determine whether other factors also contribute to core confidence. Even though the present study does not test Stajkovic's exact model, it does investigate the relationship between hope, mindfulness, and resilience using a hope measure that includes both agency and pathway components of hope and a five-factor resiliency measure that includes self-efficacy as a category of protective factors. Rutter (2007) also hints at a relationship between hope and resilience when he mentions that how people deal with challenges is important, and that mediators such as personal agency, which has been identified as a component of hope, need to be studied. It appears there is a need for more research that utilizes viable hope and resiliency measures.

Beyond the existing research specific to the connection between hope and resiliency, there is evidence in the literature on hope and in the separate literature on resilience that indicates these concepts are related. For instance, locus of control (LOC) is related to both hope (Collins & Kuehn, 2004; Stanton, Danoff-Burg, & Huggins, 2002) and resilience (Hemenover, 2003; Hjemdal, 2007; Keltner & Walker, 2003; McAdam-Crisp, 2006). Also, resilience (Hart et al., 2006; Smith & Carlson, 1997) and hope (Farran, et al., 1995) both have been shown to influence reactions to difficult experiences.

In addition, the positive expectation aspect of Proactive Orientation, which Alvord and Grados (2005) consider an important protective factor, is an aspect of hope and is similar to internal locus of control (Snyder, 1994). In fact, in their article on the relationship between hope, social support, and behavioral problems, Hagen, et al. (2005) refer to hope as a "powerful protective factor" (p. 211). Because an individual's level of hope is so

influential in how she or he reacts to negative life experiences, Farran et al. (1995) recommend that clinicians evaluate levels of hope during the first session with every client.

As mentioned already, Hand (2004) found that low to moderate levels of adverse life experiences predict higher hope. He also found a small but significant positive correlation between hope and positive life experiences, and another small but significant negative relationship between hope and negative life experiences. This suggests the relationship between hope and life events is curvilinear and needs to be further investigated (Hand). The interesting connection between hope and difficult life experiences found by Hand is supported by Snyder et al.'s (1997) theory that overcoming adversity is critical to the development of hope, and that children who have high hope and encounter moderate levels of adversity could gain immunity from encountering additional barriers later. Snyder et al. believe that while obstacles produce negative emotions, "the successful pursuit of goals tends to produce positive emotions, especially when barriers are overcome" (p. 108).

Mindfulness

The construct of mindfulness is another likely moderator, or possibly mediator, between life experiences and resiliency. Like resilience and hope, mindfulness has been defined in many ways. One popular way of defining mindfulness is as the process of drawing novel distinctions, which is believed to lead to heightened sensitivity to one's environment, openness to new information and the creation of new perceptual categories, and increased awareness of multiple perspectives when solving problems (Demick, 2000; Langer & Moldoveanu, 2000). A related way of conceptualizing mindfulness is as bringing

one's full attention to experiencing the present moment in a nonjudgmental and accepting manner (Baer et al., 2006).

Another definition, most closely related to the original Buddhist interpretation of mindfulness, is "sustained, voluntary attention continuously focused on a familiar object without forgetting or distraction" and meta-attention (monitoring one's own state of mind) (Wallace & Shapiro, 2006, p. 696). Wallace and Shapiro's definition is also related to the concept of flow, which involves total absorption in an activity for its own sake, and can be developed through Buddhist attentional training in relaxation, attentional stability, and vividness. Based on a meta-analysis of five mindfulness measures, Baer et al. (2006) define mindfulness as bringing one's full awareness to the present moment in a nonjudgmental and accepting manner, and having the ability to describe one's subjective experience and respond to it with intentionality.

On the other hand, mindlessness is characterized by a "lack of attention paid to context due to reliance upon rigidly defined categories created in the past," and involves acting automatically without thought or knowledge of one's actions (Dauenhauer, 2006, p. 353; Langer, 1989, 1997). When thinking mindlessly, people may rely unquestioningly on information even if they have only been exposed to this information on one occasion or in one context that does not generalize to other situations (Demick, 2000). Fortunately, research shows that just as mindlessness can be facilitated by repetition and practice in this state of mind, individuals can learn to become more mindful through practicing mindfulness and mindfulness meditation (Dauenhauer; Miller, Fletcher, & Kabat-Zinn, 1995). Langer

and Piper (1987) found that information presented in a mindful way (“could be”) led to more creative use of novel objects than mindlessly presented information (“is”);p. 281-282).

Although mindfulness and mindfulness meditation are based on Buddhist beliefs and practices, mindfulness principles are evident across a variety of belief systems and can be applied to many contexts (Wallace & Shapiro, 2006; Wolin et al., 1999). For example, Holroyd (2003) describes mindfulness meditation as a type of altered state, and points out that meditation involving concentrating and letting thoughts go is practiced in several religions, including Christianity, Hinduism, and Judaism. Mindfulness is believed to be comprised of multiple factors and to have a variety of benefits, including decreased arthritis pain and alcoholism, and increased longevity, as well as increased creativity and decreased burnout at work (Langer & Moldoveanu, 2000). Demick (2000) outlines ways in which mindfully reframing perceptions of older adults can decrease cognitive decline commonly believed to be associated with aging. He also highlights the way in which foster care systems mindlessly rely on practices and terminologies that have negative connotations for children and foster or adoptive parents (Demick). Demick advocates reframing the foster care and adoption process, and encouraging children to act mindfully by providing opportunities for them to have some degree of influence on their foster care and adoptive placements.

There are also multiple programs designed to prevent and treat anxiety, stress, and depression by increasing mindfulness (Baer et al., 2006; Grossman, Niemann, Schmidt, & Walach, 2004; Kabat-Zinn, 2003a; Kuyken et al., 2008; Ma & Teasdale, 2004). Miller et al. (1995) report lasting reductions in anxiety and depression for individuals with high levels of mindfulness following an eight-week stress reduction and relaxation program (SR&RP) that

teaches mindfulness meditation and other mindfulness-based stress reduction (MBSR) techniques. Specific MBSR techniques include nonjudgment of thoughts, feelings, and physical sensations, as well as the mindful practice of body scans, meditation, yoga, and daily activities (Baer, 2003; Grossman et al., 2004). Miller et al. demonstrated that this eight-week program led to lower anxiety levels three months as well as three years later. These long-term benefits may have been supported by continued practice, as Miller et al. found a majority of participants were still practicing mindfulness meditation three years after the program.

Another program, mindfulness-based cognitive therapy (MBCT) targets prevention of depression recurrence using an eight-week program combining elements of cognitive-behavioral therapy and mindfulness-based stress reduction (Kuyken et al., 2008). Ma and Teasdale (2004) found relapse rates of people with three or more previous episodes of depression decreased by more than half when they were treated with MBCT. They found the benefits of MBCT in preventing depression relapse increased considerably for individuals with four or more previous depressive episodes (Ma & Teasdale). Interestingly, Ma and Teasdale also found people with only two depressive episodes, especially if those episodes were closely preceded by negative life events, were not as likely to benefit from MBCT.

The finding that people with a history of more depressive episodes benefit more from MBCT may seem counterintuitive. However, Ma and Teasdale (2004) state that the individuals in their study with two or fewer episodes are not representative of all people with only two episodes and appear to be a qualitatively different than people with three or more episodes. It seems possible people with more episodes are more vulnerable to becoming

depressed due to lack of mindfulness regardless of life circumstances, although difficult life events would likely have an especially negative impact of these people. In contrast, people with fewer episodes of depression and episodes that are tied to specific negative events may have higher levels of mindfulness before treatment and have become depressed when situational demands exceeded their coping abilities. Because baseline levels of mindfulness were not measured in this study, it is difficult to determine why some people were helped more by MBCT than others but it is clear MBCT provides definite benefits to people who suffer from recurrent depression (Ma & Teasdale).

Kuyken et al. (2008) point out that Ma and Teasdale's (2004) study excludes individuals taking anti-depressant medication, a common treatment for depression, which may have contributed to their sample being non-representative. In what they believe to be the first experiment to pit MBCT against antidepressant medication, Kuyken et al. compared relapse rates of participants who continued to take antidepressant medication with those of people who received MBCT treatment and were tapered off of antidepressants. Kuyken et al. report typical (85%) MBCT adherence rates and found over 50% of MBCT participants, compared to 40 % of people who remained on antidepressants, were relapse-free after 15 months. Both Kuyken et al. and Ma and Teasdale determined MBCT to be a cost-effective alternative to medication.

In addition to preventing and treating specific disorders, mindfulness-based interventions are effective in improving quality of life and helping people adjust to negative life events (Kieviet-Stijnen, Visser, Garssen, & Hudig, 2008). Kieviet et al. discovered a MBSR training program not only reduced depression, anger, and mood disturbances but also

resulted in patients with various types and stages of cancer reporting subjectively improved quality of life. Patients reported the goals they had for the MBSR training, including coping better, finding tranquility, increasing self-esteem, and having more meaningful lives were met (Kieviet et al.). Short-term benefits such as increased joy and decreased tension and medical symptoms were also found (Kieviet et al.). Unlike many studies that report lasting but fading long-term benefits, Kieviet et al. found the positive effects of MBSR training to have become stronger a year later. This is especially impressive considering the degree of stress associated with cancer.

In a meta-analysis of MBSR, MBCT, an approach called dialectical behavior therapy (DBT) that focuses on change through acceptance, and a cognitively oriented approach called acceptance and commitment therapy (ACT), Baer (2003) found these interventions to be associated with a wide range of benefits. Baer reports MBSR decreased chronic pain, which can be highly distressing and difficult to treat medically, and its accompanying medical and psychological symptoms across four studies with many positive gains reported at follow-up. Baer's meta-analysis also showed improvements following MBSR in symptoms of anxiety, panic disorder, depression, binge eating disorder, narcissistic and borderline personality disorders, fibromyalgia, psoriasis, and stress associated with cancer.

Physiological and neurological research seems to corroborate self-reported and clinically observed benefits of mindfulness meditation (Massion, Teas, Herbert, Wertheimer, and Kabat-Zinn, 1995; Takahashi et al., 2005). Massion et al.'s study shows non-clinical samples of women meditators trained in MBSR to have significantly higher levels of melatonin in their urine, indicating enhanced immune functioning and decreased levels of

stress. Massion et al. believe mindfulness meditation could be used to prevent or help treat breast and prostate cancer by increasing melatonin levels, and it seems obvious that stronger immune systems could benefit everyone and provide protection from a wide range of stressors and illnesses.

Takahashi et al. (2005) report that, consistent with previous research, they found Zen mindfulness meditation and mindful breathing to result in slow alpha wave power, with power defined in terms of the frequency of brain waves. This slow alpha wave power is associated with reduced activity of the sympathetic nervous system and increased parasympathetic activity. Synchronization of slow alpha waves in the frontal cortex was also found (Takahashi et al.). This synchronization indicates increased endogenous release of dopamine and shows participants had shifted from externally-focused attention to internally-focused attention that involves “non-task related cognitive processes such as expectancy and attention” (Takahashi, p. 204; Kjaer et al., 2002). It is this change in attentional focus that is believed to inhibit sympathetic nervous system activity (Takahashi et al.). Kabat-Zinn (2003b) also found MBSR participants to have significantly increased left-sided activation in the anterior portions of their cortical brain areas, which is associated with positive emotions and greater dispositional positive affect.

Studies using MBSR and MBCT clearly illustrate that mindfulness-based interventions are effective (Baer, 2003; Kieviet et al., 2008; Kuyken et al., 2008; Ma & Teasdale 2004; Miller et al., 1995). Kieviet et al. report mindfulness programs equip people with coping strategies to help them confront difficulties and worries. The enhanced immune functioning and reduced stress levels discovered in Massion et al.’s (1995) study and the

neurological advantages reported by Takahashi et al. (2005) are also concrete benefits. However, more studies are needed to better understand exactly what about mindfulness is effective in improving health and well-being and treating symptoms (Kabat-Zinn, 2003a). Conceptually speaking, because mindfulness involves drawing novel distinctions, creating new categories, and being non-judgmental, people who are mindfully aware of what goes on around them are more likely to notice details that differentiate similar experiences, so they do not rely exclusively on pre-existing categories that may be unhealthy or no longer relevant (Sternberg, 2000). Being able to pay attention to the present also helps people move forward, and individuals who are constantly taking in new information without immediately judging it are better equipped to cope and adapt flexibly under any circumstances.

It is likely mindful individuals who have experienced multiple difficult life experiences are more resilient than mindful individuals who have had fewer difficult life experiences. This is because mindful people will cope well with and learn from these experiences, so the more adversity they face and overcome, the more coping skills and personal growth they gain (Regehr et al., 2000). On the other hand, mindless individuals are likely better off if they experience fewer difficult life events. This is because they are less likely to draw lessons and adaptational benefits from negative experiences, so additional difficulties will only be more difficult for them to handle.

Based on a cumulative stress model, Jaffee, Caspi, Moffitt, Polo- Tomás, and Taylor (2007) studied resilient and non-resilient maltreated children, and found resilient children did better under stress, but when the stress became severe, their adaptive resources were not enough to protect them. This suggests that although mindfulness and hope affect the

relationship between life experiences and resilience, when stress exceeds individuals' capacity to handle situations mindfully and hopefully, people who would otherwise be resilient may experience the same outcomes as non-resilient individuals. Just as this study predicts a curvilinear relationship between life experiences and hope, it also predicts a curvilinear relationship between life experiences and mindfulness.

Connecting Hope and Mindfulness

Although there is a lack of research directly studying the relationship between hope and mindfulness, the literature suggests these constructs have similarities. For example, both hope and mindfulness are related to internal locus of control and perceived control (Alvord & Grados, 2005; Baer et al., 2006; Cohen et al., 2008; Collins & Kuehn, 2004; Hand, 2004; Hemenover, 2003; Keltner & Walker, 2003; Langer & Moldoveanu, 2000; McAdam-Crisp, 2006; Wallace & Shapiro, 2006).

Additionally, hope and mindfulness both are believed to have state and trait components, and both can be intentionally learned and increased (Baer et al., 2006; Brown & Ryan, 2004; Snyder, 1994). Furthermore, the opposite of mindfulness (mindlessness) is associated with the opposite of hope (learned helplessness), suggesting that mindfulness and hope are correlated (Dauenhauer, 2006; Snyder). Most important, like resilience, mindfulness and hope are associated with various physical, mental, and social risk factors (Alvord & Grados, 2005; Arnau 2002; Carle & Chassin, 2004; Farren et al., 1995; Grotberg, 2003; Masten, Best, & Garmezy, 1990).

Because many of the protective factors associated with resilience, hope, and mindfulness can be learned or enhanced intentionally, it is important to clarify the

relationships among these variables so more targeted interventions can be developed (Alvord & Grados, 2005; McAdam-Crisp, 2006). If mindfulness and hope are shown to moderate or mediate the relationship between life experiences and resilience, then interventions that increase mindfulness and hope could be used to reduce the negative impact of adverse experiences. In fact, successfully increasing hope and mindfulness could lead to individuals growing stronger and more resilient with every barrier they face and resiliently overcome.

Hypotheses

This study's primary questions are original and exploratory, and propose that:

1. Hope moderates (or possibly mediates) the relationship between life experiences and resilience.

A. Participants are predicted to be resilient in the following order (most to least):

1. More negative life experiences and high hope
2. More positive life experiences and high hope
3. More positive life experiences and low hope
4. More negative life experiences and low hope

2. Mindfulness moderates (or possibly mediates) the relationship between life experiences and resilience.

A. Participants are predicted to be resilient in the following order (most to least):

1. More negative life experiences and high mindfulness
2. More positive life experiences and high mindfulness
3. More positive life experiences and low mindfulness
4. More negative life experiences and low mindfulness

3. Mindfulness and hopefulness will be positively correlated.
4. If there is a direct correlation between life experiences and resilience, it will be low to moderate.

The following hypotheses are secondary to the purpose of this study but are important in clarifying the relationships among the variables that are proposed to predict resilience. Concerning hypothesis five, Hand's (2004) study found such a relationship does exist, and the present study will attempt to verify it. Hypothesis six is tentative, and explores whether life experience and mindfulness are related in the same way as Hand found life experience and hope to be related.

5. There is a curvilinear relationship between life experiences and hope, with extremely negative or extremely positive life experiences predicting low hope, and low or moderately negative life experiences predicting high hope.
6. There is a curvilinear relationship between life experiences and mindfulness, with extremely negative or extremely positive life experiences predicting low mindfulness.

CHAPTER III

METHODS

Participants

Participants were 587 undergraduate students at Texas A&M University. After completing the study, 550 people chose to submit their names for extra credit, at which time they reported the class for which they wanted extra credit. These 550 participants said they were enrolled in Decisions for Healthy Living (22.5%), Women's Health (46.5%), and Medical Terminology for the Health Professions (30.9%). These were all online courses and the remaining participants were also enrolled in one of these classes. Likely because almost half of the participants were enrolled in a women's health class, 82.3% of respondents were women and 16.8% were men. No one reported being transgendered, although this was an option on the demographics measure.

Regarding age, most students were 18 (7.1%), 19 (16.6%), 20 (29.0%), 21 (23.5%), or 22 (17.3%) years-old, and the oldest participant was 33 years-old. The majority of participants were college sophomores (27.5%), juniors (27.5%), or seniors (29.1%). Another 9.1% were freshman, and 6.7% had completed more than four years of college. Participants reported their ethnicities to be African-American (4.9%), Asian/Pacific Islander (4.8%), Caucasian (83.0%), Hispanic (7.9%), Native American (0.7%), Multiracial (1.3%), and Other (i.e., Jamaican, Czech, and Black/White/Carib Indian; 0.5%). Percentages for ethnicity total to over 100 because some participants selected multiple ethnicities. Eleven percent of respondents were first-generation Americans. Almost all participants (94.4%) identified

themselves as heterosexual, and a few reported they were bisexual (0.2%), homosexual (1.3%), or unsure (1.3%). Sixteen participants endorsed being asexual, although it is possible some of them interpreted asexual to mean they were sexually abstinent.

Procedures

Participants were undergraduate college students enrolled in Decisions for Healthy Living, Women's Health, and Medical Terminology for the Health Professions, all of which were online classes through the Texas A&M University Office of Health Informatics/Distance Education. Completing this study was one of the options participants had for receiving four points of extra credit. They also had the alternate extra credit option of reading a journal article related to their course content, summarizing it, and turning the summary in to their course instructors. Approval from the Texas A&M University IRB was obtained before any participants were contacted.

Participants were then recruited via an e-mail (see Appendix B) from this researcher that was forwarded to them by their online instructors. The e-mail contained basic information about the study, explained that it was voluntary, anonymous, and one of their two options for receiving extra credit. If participants chose to click the encrypted SurveyMonkey link to participate in this study, the first screen they saw after clicking the link was a statement of informed consent (see Appendix C). This informed consent explained participation was voluntary and no personally identifiable information or IP addresses would be connected with their responses. Consent was given by clicking to continue on to the online study. Participants took the resilience measure, then the life events

scale, then the hope scale, followed by the mindfulness measure, and the demographics questionnaire, all of which are described below.

At the end of the study, participants saw a screen thanking them for their participation, and inviting them to click another link in order to go to a separate, unconnected SurveyMonkey encrypted questionnaire where they could enter their name, student identification number, and the name of the course for which they wanted extra credit. This questionnaire also gave students the option of participating in a drawing for one of two twenty dollar cash prizes provided by the researcher. If they chose to enter the drawing, participants were asked to provide at least one phone number or e-mail address so they could be contacted if they won.

Participants were told that if they won the drawing, this researcher would contact them and they could choose to meet her on campus to collect their prizes, or could provide a mailing address and receive them through the mail. Once data collection was complete, an online random number generator was used to select two numbers and, based on the order of participation (i.e., the fifth person to submit their information online was participant number five), two winners were selected and contacted by e-mail. Both of these participants chose to provide mailing addresses and requested their prizes be sent via postal mail so they were.

Measures

Resilience measure

The 33-item Resilience Scale for Adults (RSA) is based on the model of resiliency Hjemdal describes in his 2007 article, and was created by Friborg et al. (2003). As mentioned already, the RSA is based on an exhaustive review of protective factors in the

resilience literature by Hjemdal. After condensing these protective factors into 13 categories, and conducting principal component analysis with the help of professionals and laypersons, a five-factor solution with 45 items emerged (Hjemdal). A 2001 article by Hjemdal, Friborg, Marinussen, and Rosenvinge, provides more details on the initial development of the RSA but only the abstract of this article was available in English, so description of their findings is based on the account provided in Hjemdal's 2007 article. The five RSA factors are personal competence, social competence, structured style, family cohesion, and social resources (Hjemdal; Friborg et al., 2003). Hjemdal found this measure to have an overall coefficient alpha (α), of .93. For the present study, internal consistency was $\alpha = .89$.

The five-factor structure of the RSA was also found when 276 non-clinical adults randomly selected by the Norwegian central statistical bureau took a 37-item version of the RSA (Hjemdal, 2007). Four-month test-retest validity was evaluated with 217 participants from this sample and was found to be significant ($r = .69 - .84$; Hjemdal). The RSA also successfully distinguished between the non-clinical sample and outpatient clients (Hjemdal). Additionally, the RSA had good model fit based on confirmatory analyses using a random sample of 994 people (Hjemdal). Convergent and divergent validity for the RSA were established for several constructs. The RSA was significantly and positively correlated with the Sense of Coherence scale, the Dispositional Optimism/Life Orientation Test, and Rosenberg's Self-Esteem tests (Hjemdal, 2007). It was significantly and negatively correlated with the Hopkins Symptom Checklist, the Automatic Thought Questionnaire, and the Beck Hopelessness Inventory (Hjemdal). Hjemdal reported all RSA factors had

significant negative correlations with hopelessness, even after age, gender, and symptoms of anxiety and depression were controlled for in a separate sample of 535 people.

The RSA was further revised following confirmatory factor analysis of a 33-item version administered to 482 military college applicants (Hjemdal, 2007). With this sample, Hjemdal found people who scored as more resilient on the RSA to have better-adjusted profiles on the Big Five/5PF. This 33-item final version of the RSA¹ was also given to a non-clinical sample who was determined to be healthy based on their Hopkins Symptom Checklist pre-test scores (Hjemdal). After three months, people who had higher initial RSA total scores had almost no change in symptoms of anxiety and depression, while those with lower initial RSA scores (i.e., fewer protective resources) had increased psychiatric symptoms (Hjemdal). Based on the literature on the RSA, Ahern, Kiehl, Sole, and Byers (2006) describe it as being valid and reliable in assessing protective factors relevant to health and clinical psychology.

Finally, Hjemdal (2007) describes an induced pain study in which 84 participants all reported significant increases in pain and stress. However, people who scored higher on the RSA experienced lower levels of subjective pain and stress, especially in the high stress condition. Hjemdal argues that if the RSA was measuring compensatory coping, the benefit of higher RSA scores would have been equally evident in the low and high stress experimental conditions. Instead, Hjemdal asserts that the higher protective effect in the high-stress condition is evidence the RSA measures protective factors, not compensatory ones. Consistent with this focus on protective factors and with current resilience research, Hjemdal used positive wording so “items indicate presence of a protective factor rather than

the absence of risk” (p. 310). The response format was changed to a semantic differential-type style to avoid the response bias that can occur when Likert-type formats are used with all-positively worded items (Friborg et al., 2005).

Life experiences measure

The College Student Life Events Scale (CSLES; see Appendix D) by Levine and Perkins (1980a) was used to measure both positive and negative life experiences to gain an overall score of life events. The CSLES contains 137 items and is based on the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978) but is adapted for college students. The CSLES consists of 14 sections, including “School and Academic Life” and “Extracurricular Activities” which are specific to students (Levine & Perkins).

Levine and Perkins (1980b) administered the CSLES to two large, random samples of college students and found consistency in the most highly endorsed items within and across samples. More than half of Levine and Perkins’ sample reported an increase in their course loads, and approximately one-fifth endorsed having financial concerns and difficulty related to deciding to break up with a romantic partner. Overall, Levine and Perkins found about one-fourth of stress reported by students to be related to academic issues. Although college students reported a high percentage of the stress they experienced was connected to school-related events, the LES and earlier measures of life events (e.g., Holmes-Rahe’s 1967 Social Readjustment Rating Scale) do not include student-specific stressors and contain a number of events (e.g., divorce, retirement) that are not experienced by most undergraduates (Levine & Perkins; Monroe, 1982; Pengilly, 1997).

In the original CSLES, participants indicate the number of times an event occurred in the past school year and prior to the past school year. The rating scale of the original CSLES requires students to rate the impact these events had on their lives on a scale from one (no tension felt) to seven (almost unendurable tension felt), with tension defined as “feeling worried, anxious, irritable or depressed” (Levine & Perkins, 1980b, p. 2). Pengilly (1997) and Cohen and Hoberman (1983) both modified the rating scale of the CSLES to permit participants to rate the perceived impact of each life event differently.

Although she claims her scale is similar to the scale used by Sarason et al. (1978) for the LES, Pengilly (1997) acknowledges that her scale is unidirectional and allows only for neutral or negative ratings. This means that unlike the scale Sarason et al. used for the LES, both Levine and Perkins (1980b) and Pengilly do not account for the possibility that students experienced any events on the CSLES as positive. However, several CSLES items describe events that are likely to be perceived as positive and are more likely to involve eustress than distress for many people (i.e., “Moved to new quarters,” “Got married,” “Entered this school as a new or transfer student”).

Because the same event may be experienced very differently by different individuals depending on personal and situational factors, and because the value of focusing on strengths and positive experience cannot be underestimated, the present study allowed participants to rate each item on the same scale Sarason et al. (1978) used for the LES. Sarason et al.’s scale ranges from negative three (extremely negative) to zero (no impact) to positive three (extremely positive) so each participant can choose to rate the item along a seven-point scale. Participants were asked to select Not Applicable or “N/A” for items that

did apply to them. For the purposes of this study, the most appropriate measure of life experiences was the CSLES and the most appropriate rating scale was the actual scale used by Sarason et al. with the LES, so these were combined (Levine & Perkins, 1980a; Cohen & Hoberman, 1983).

Concerning scoring, there are a variety of rating scales used with life events scales and no standard way of scoring them (Monroe, 1982). For this study, each item could have a positive, negative, or neutral value depending on how each participant rated it. Due to experimenter error, item 35, “Engaged in sexual practice in conflict with parental religious belief” was not included in this study. Total CSLES scores were obtained by totaling positive and negative ratings on the remaining 136 items to produce a total score. This means participants’ scores are based on the total impact events had on their lives, so the total score could be positive or negative depending on whether there was a greater total positive or total negative impact based on the events on the scale.

Cohen and Hoberman (1983) obtained total CSLES score by totaling only positive ratings, only negative ratings, total ratings like those used in the present study, and a simple count of the events participants endorsed without regard to how they rated the events. They reported high correlations between all these forms of scoring, and claim total scores based on participant ratings and those based on counting the number of events were very similar ($r = .92 - .95$). Cohen and Williamson (1988) agree counting events and using weighting techniques based on event weights determined by outside judges provide scores similar to those obtained by using participants’ own ratings of event impacts.

However, Cohen and Williamson (1988) also found self-ratings of events to predict outcomes better than other scoring systems. This is likely because, as Sarason et al. (1978) explain, the scale developed for the LES (from which the CSLES was derived) uses participant ratings because objectively determined weights “may not accurately reflect the impact that events have on particular individuals” (p. 933). Similarly, Monroe (1982) states scoring life events scales by counting the total number of events “may be premature and restrictive, potentially sacrificing important information” even if comparable scores are obtained (p. 440).

Although some researchers use only negatively-rated life events or negative life change scores because they believe these scores are more relevant than total life events scores in predicting the onset of illness or psychological disorder (e.g., Pengilly, 1997) or forecasting academic grades (e.g., Lloyd, Alexander, Rice, & Greenfield, 1980), the present study does not use physical or mental dysfunction as an outcome variable. Using resilience as an outcome variable reflects a more holistic approach congruent with positive psychology. Resilience is made up of both risk and protective factors, and is developed in part by successfully overcoming difficult events (Hoge et al., 2007; Regehr et al., 2000; Samuels & Pryce, 2008). Therefore, it can only be measured by including life events that reflect both positively and negatively perceived events.

The time frame used by Sarason et al. (1978) for the LES is also appropriate for this study because it does not limit respondents to a specific time period, and, therefore, includes events that have occurred across the individual’s lifespan. Resilience is believed to be affected by events that occur throughout a person’s life, not just in the past year or school

year. It is also inaccurate to believe that because an event happened over a year ago, it could not be currently impacting someone, especially with some of the more serious events measured by the CSLES (i.e., “Parent, sibling, or close relative committed suicide,” “You were raped”).

Two sections in the CSLES, School and Academic Life and Extracurricular Activities, are most appropriately assessed based on the current school year, especially because data were collected in the spring so students were over half way through the school year. These sections include less extreme items that are most relevant to the present year and are less likely to have a carry over effect from one school year to the next (i.e., “increase in academic course load,” “realized responsibilities in extracurricular activities interfered with school work”). Therefore, the other sections were listed first without any specified time period, and the academic and extracurricular sections were listed last, with instructions to respond based on the current school year. Grouping the categories in this order actually reflects the structure of Sarason et al.’s (1978) LES, except for the addition of the last two sections which Levine and Perkins (1980b) designed specifically for college students.

A few other unique but important minor modifications were made to the CSLES for this study. First, the item “Victim of prejudice or discrimination based on race, sex, or cultural background” was slightly reworded and relocated. People can be discriminated against for a variety of reasons that are not represented by this question, such as sexual orientation, disability status, age, or religion, and there is not another item on the CSLES that includes these forms of discrimination. Therefore, for the present study, this item reads

“Experienced prejudice or discrimination (e.g., based on race/ethnicity, sex, cultural background, etc.)” so it is more inclusive.

The item about prejudice and discrimination did not fit well in the “School and Academic Life” section where it was originally located because discrimination easily could have happened to college students outside of academic contexts. It was a better fit with the items in the “Legal Problems” section. However, discrimination is not necessarily experienced in a legal context, so the “Legal Problems” section was called “Crime and Legal Problems” for this study. It is also an event that could have a longer-term impact on someone than could the other academic items, and because the academic items are measured based on the past school year, this would not be an appropriate categorization for the discrimination item. Also, the “legal problems” section includes items (i.e., “Victim of assault,” “Victim of rape”, and “Victim of robbery or burglary”) that are more relevant to the “victim of prejudice” item.

Next, in a few CSLES items that referred to the participant as a “victim,” the word victim was changed to more neutral language (e.g., was assaulted, was raped). Another option would be to change “victim” to “survivor,” which is more empowering and perhaps more politically correct. However, both of these words (victim and survivor) could bias responses. Referring to participants as “victims” could make them feel the situation was more negative and disempowering, and referring to them as “survivors” could make them feel that the situation was less negative, or even positive, because they survived. For the purposes of psychotherapy and advocacy, “survivor” is the best word to use, but for this

study, the most neutral language possible was used to avoid influencing participants' perceptions and responses.

Similarly, the title of the section containing questions about substance use was changed from "Drugs" to "Substance Use" to avoid biasing participants due to the more negative connotation associated with "drugs." Within the substance abuse section, two items were modified to update them from 1980 so they would be more relevant and easily understood by current college students. "Hard drugs" was changed to "drugs other than marijuana" in one item (there was a separate item about marijuana), and "experimentation with ups and downs" was changed to "experimentation with stimulants and depressants" in another item.

Finally, the meaning of all items was maintained, but the wording of some items was slightly modified to eliminate bias and non-inclusiveness in the instrument (i.e., "spouse" was changed to "spouse/permanent partner" in some items; "religious faith" was changed to "religious/spiritual faith;" the "Male-Female Relationships" section was instead labeled "Romantic Relationships"). The "Parents" section was also called "Parents and Family" simply because items in this section refer to parents and other family members.

Unlike in Cohen and Hoberman's (1983) and Pengilly's (1997) studies, in the current study, items referring to illness or injury were kept consistent with Levine and Perkins' (1980a) original CSLES instead of being modified. Pengilly and Cohen and Hoberman argue that because "illnesses can be effects of negative life events . . . life events questionnaires should not include items inquiring about recent illnesses" (Pengilly, p. 68). Pengilly changed three items that began with "Illness or injury" to read only "Injury". Cohen and Hoberman

chose not to include any of the 12 CSLES items that refer to health issues because they also included symptom checklists in their study and were worried the items on the CSLES and symptom checklists would overlap.

However, excluding items related to illnesses because illness can be caused by stress is inconsistent with research and with many other CSLES items. Obviously, stressful life events can contribute to physical illnesses or symptoms (Cohen & Williamson, 1991). What Pengilly does not seem to take into consideration is that stressful life events can also contribute to other events listed on the CSLES, such as items related to academic difficulties, relationship issues, and financial problems. For example, a college student who is distressed and grieving because a parent recently died may or may not have an illness but could have trouble keeping up with class work and experience increased relationship and financial problems related to his or her loss.

Therefore, if illness cannot be included because it could be precipitated by other stressful events, then many other items on the CSLES also could not be included. Furthermore, most illnesses can be exacerbated by stress, but many are genetic, environmental, or otherwise not caused by stress (e.g., cancer caused by environmental toxins, HIV from a blood transfusion or infected mother). For these reasons, the original wording of items referring to illness and injury was maintained in the current study.

The life experiences measure is better explained as a causal rather than an effect indicator model (Bollen & Lennox, 1991). Bollen and Lennox assert that latent constructs involving causal indicators are determined by these indicators, as opposed to effect indicators, which are caused by the larger construct. Causal indicators may be correlated but

are primarily independent of each other (Bollen & Lennox). Therefore, causal indicators could be positively correlated, negatively correlated, or not correlated at all because causal indicator models do not need to have internal consistency (Bollen and Lennox). Because the correlations of indicator variables are not explained within the model, Bollen and Lennox say they “have no recommendations for the magnitude of correlations for causal indicators” (p. 307).

One of the examples of causal models Bollen and Lennox (1991) provide is life stress. They state “life stress could be the latent variable and job loss, divorce, recent bodily injury, and death in family could be four causal indicators of it” (Bollen & Lennox, p. 306). Monroe (1982) agrees that internal consistency is not needed for measures of life events and may actually be contradictory to the assumption that events on these scales are largely independent of each other. Therefore, coefficient alpha is an inappropriate measure of reliability, and consistent with other studies that examine life events scales, was not reported for this study (Bollen & Lennox; Monroe).

Hope measure

Hope was measured using the Snyder Hope Scale (SHS; Snyder, 1994; see Appendix E). The SHS is a 12-item, four-point, self-report measure based on Snyder’s model of hope, which maintains that hope involves rational thought (Arnau, 2002; Dickerson, 2002). This scale measures the agency and pathway components Snyder believes are encompassed by hope (Arnau; Fratzke, 2000). These components include willpower, or the determination component of hope; waypower, which is the part of hope related to forming mental plans to effectively reach a goal; and how well goals are defined (Arnau; Fratzke). Farran et al.

(1995) describe the SHS as tapping into adults' "sense of successful determination" as it relates to their past, present, and future goals (p. 65).

The Snyder Hope Scale's instructions direct people to select the number that best describes them using the following scale: one = Definitely false, two = Mostly false, three = Mostly true, four = Definitely true (Babyak, Snyder, & Yoshinobu, 1993; Snyder, 1994). None of the questions are reverse scored, and according to Snyder, a score of 24 or above indicates a person usually thinks hopefully, whereas a score lower than 24 shows a person does not usually approach things with a hopeful frame of mind.

The reliability, validity, and utility of the Snyder Hope Scale have been supported across several empirical studies (Arnau, 2002). Test-retest reliability for this scale is $r = .85$ after three weeks, and $r = .82$ after ten weeks (Arnau). Snyder et al. (1991) conducted six different studies that examined the SHS's reliability using a total of 3,920 university students in Buffalo, New York and 206 clients at a stress center and a state hospital. Reliability, as measured by Chronbach's alpha was between $r = .71$ and $r = .78$ in student samples, and between $r = .76$ and $r = .77$ in clinical samples (Snyder et al.). For the Pathway subscales, reliability coefficients ranged from $r = .63$ to $r = .68$ in student samples, and from $r = .64$ to $r = .80$ in clinical samples (Snyder et al.). Snyder et al. report Chronbach's alpha for total scale scores ranged from $r = .74$ to $r = .78$ for student samples, was $r = .84$ for clients at a stress center, and was $r = .77$ for inpatients at a state hospital. Although a limitation of the present study is that item four, "There are lots of ways around any problem" was not included due to experimenter error, internal consistency, as measured by coefficient

alpha (α), was $\alpha = .80$ for the present study, which is very slightly higher than that reported by Snyder et al.

The Snyder Hope Scale is correlated with many related measures and constructs (Arnau, 2002). The SHS and the Beck Hopelessness Scale have been shown to have a negative correlation of $r = -.51$. The SHS is also negatively correlated with the Depression ($r = -.60$), Schizophrenia ($r = -.46$), Psychasthenia ($r = -.52$), and Social Introversion ($r = -.59$) subscale scores of the Minnesota Multiphasic Personality Inventory (Arnau). In addition, the SHS has a positive correlation with self-esteem ($r = .58$), perceived problem solving ability ($r = .62$), and optimism ($r = .50$; Arnau).

In addition, exploratory factor analyses were performed on eight separate samples, and when the factors were correlated using oblique factor rotation, Snyder's two hypothesized dimensions of Agency and Pathway emerged as factors across all eight samples (Arnau, 2002). The factor correlations were between $r = .38$ and $r = .67$, and the range of variance that the two factor solutions accounted for was 52% to 63% (Arnau). A series of confirmatory factor analyses found the two factor model consistently fit the data and fit better than a one factor model (Arnau).

Mindfulness measure

The Five-Facet Mindfulness Questionnaire (Baer et al., 2006; see Appendix F) was used to measure mindfulness. Multiple instruments have been created recently to measure mindfulness. In an extensive, five-part study, Baer et al. (2006) administered and factor analyzed the five major existing measures and found a five-factor model that was verified with confirmatory analysis. Based on this analysis, Baer et al. combined items from the

Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), the Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006), the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004), the Cognitive and Affective Mindfulness Scale (CAMS; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Hayes & Feldman, 2004), and the Mindfulness Questionnaire (MQ; Hong, 2004) to form the Five Facet Mindfulness Questionnaire (FFMQ).

Baer et al.'s (2006) exploratory factor analysis identified a five-factor solution that was most closely related to the KIMS overall, and also included an additional factor related to nonreactivity that was derived from FMI and MQ items. The five factors that emerged were Nonreactivity to inner experience (Nonreact), Observing/noticing/attending to sensations/perceptions/thoughts/feelings (Observe), Acting with awareness/automatic pilot/concentration/nondistracton (Actaware), Describing/labeling with words (Describe), and Nonjudging of experience (Nonjudge; Baer et al.). Each of these five facets, or subscales, contains the eight items that loaded highest on each factor, except for Nonreact which consists of all seven items that loaded on it (Baer et al.). The Observe and Nonjudge factors were not significantly correlated, and all other correlations among FFMQ factors were between $r = .15$ and $r = .34$ (Baer et al.).

To verify these mindfulness factors are components of the same construct, not separate constructs, Baer et al. (2006) administered the FFMQ to a new sample of undergraduates and conducted confirmatory factor analyses using four fit indices, as well as a hierarchical model. Baer et al. found that the five-factor model fit well, but a four-factor

model that excluded the Observe factor fit best. Baer et al. (2006) assert this is consistent with results obtained during the development of the KIMS (Baer et al., 2004), which indicate items related to the Observe factor are useful in determining mindfulness for people who meditate on a regular basis because they are able to observe their experiences without judging them. However, items on the Observe factor are negatively correlated with mindfulness for people who do not meditate (Baer et al., 2004; Baer et al., 2006).

Baer et al. (2006) also examined the relationships of mindfulness factors to several constructs and found that all five facets contribute to a variety of relevant relationships. Baer et al. did not assess the relationship of mindfulness to hope or resilience. Multiple factors were correlated with many constructs, and, consistent with Baer et al.'s predictions, some facets were more strongly correlated with certain measures than were other facets. The Describe facet was most strongly related to emotional intelligence ($r = .60$) and alexithymia ($r = -.68$), the Actaware facet with dissociation ($r = -.62$) and absent-mindedness ($r = -.61$), and Nonreact with self-compassion ($r = .53$; Baer et al.). The Nonjudge facet had the strongest negative correlations with thought suppression ($r = -.56$), neuroticism ($r = -.55$), difficulties with emotion regulation ($r = -.52$), psychological symptoms ($r = -.50$), and experiential avoidance ($r = -.49$), although the Describe, Actaware, and Nonreact facets also had significant negative relationships with these constructs (Baer et al.).

The Observe facet was most strongly correlated with the Big Five personality characteristic of openness to experience ($r = .42$), and also had significant direct relationships with emotional intelligence ($r = .22$) and self-compassion ($r = .14$; Baer et al., 2006). For people without meditation experience, the Observe facet was positively related to

dissociation ($r = .27$), absent-mindedness ($r = .16$), psychological symptoms ($r = .17$), and thought suppression ($r = .16$), but these positive and unexpected correlations were non-significant for meditators (Baer et al.). A follow-up study by Baer et al. (2008) with samples of meditating and non-meditating college students and community members further confirmed the usefulness of the Observe facet is related to experience with meditation.

To determine whether the Observe facet was appropriate for use with the sample in the current study, three questions regarding how often participants meditate, over what period of time they have been meditating this often, and how they would describe briefly what they do when they meditate were included in the demographics measure. Because most participants reported they did not meditate on a regular basis, and the majority reported they meditated either very infrequently (22.4%) or did not meditate at all (42.1%), the Observe facet of mindfulness was not included in analyses for this study. In the present study, internal consistency, as measured by coefficient alpha (α), was found to be .89 for the total FFMQ scale, excluding the Observe factor.

Separate analyses with participants who do meditate one to five times per week (18.7%) or daily (6.7%) were not conducted due to inconsistency in how these individuals defined meditation. Many people reported they use yoga, relaxation CDs, just thinking about things, and deep breathing. A few people said they meditate while walking or dancing, and one person described meditating while smoking. Participants very commonly answered that they meditate by praying and reading the Bible, but several other people noted they do not meditate but do pray and read the Bible. Therefore, it appears whether people reported themselves to be meditating or not, they were doing the same things in some cases.

An interesting minority of participants appeared to perceive meditation as a religious activity that is incompatible with their beliefs. These individuals said things such as “Professors in [name of city] tried to make me [meditate]. I don’t believe in it and don’t believe it should be pushed upon others” and “I dont consider it meditating. I consider it praying. But, since the word choice...I will say NEVER!” and “I pray to God. THE GOD.” One participant in this study who reported she meditates once to twice a week said “I pray to the Lord God Almighty, booyah!” Although meditation can be a religious or spiritual experience for many people, it is not necessarily religious and can be used within any belief system. Also, praying comes in many forms and it is not clear what most participants actually do when they pray. It would not be appropriate to analyze responses based on the reported frequency of meditation given the varied ways in which participants meditate, and the fact that what many of them describe as meditation may technically be more relaxation than meditation.

Demographic questionnaire

A brief demographic questionnaire (see Appendix G) was included to gather information such as gender, age, race/ethnicity, and education. This questionnaire also contains three questions about experience with meditation because one factor of the Five-Facet Mindfulness Questionnaire is affected by meditation experience (Baer et al., 2006; Baer et al. 2008).

CHAPTER IV

RESULTS

To investigate the relationships among variables, zero-order correlations for resilience, life events, mindfulness, hope, sex, and age were conducted and are presented in Table 1. These correlations and all other analyses were performed with Mplus Version 5.1, a statistical software package (Muthén & Muthén, 2008). In order to account for skewness, kurtosis, or both, maximum likelihood estimation with robust standard errors was used for all models (Satorra & Bentler, 1994). This estimation method has been recommended as the optimal procedure, as opposed to variable transformation, when variables have skewness and/or kurtosis, as did the CSLES (Muthén, 2007). Therefore, to allow for analysis of data containing missing values, all analyses were estimated using full information maximum likelihood, which assumes data are missing at random. This assumption was determined to be appropriate because approximately 97% of data were complete, and supplementary analyses on complete case data yielded similar conclusions to those discussed in this paper (see Appendix H). To facilitate interpretation of analyses, all variables were standardized so they have means of zero and standard deviations of one.

The constructs of mindfulness, hope, and resilience all had positive, statistically significant correlations with each other. Related to hypothesis three, mindfulness and hopefulness were positively correlated ($r = .44, p < .01$). Consistent with hypothesis four, life events and resilience were connected by a very small correlation that approached but did not reach statistical significance ($r = .08, p = .05$; Cohen, 1992; see also Cohen, 1988 as

cited in Cohen, 1992). It is worth noting that age and sex were positively correlated in this sample of undergraduates ($r = .18, p < .01$), which indicates that, in this sample, men are more likely to be older than women. Though the zero-order correlations suggest sex and resiliency were significantly correlated, post-hoc analyses indicate these correlations failed to remain significant at $p < .05$ after accounting for age (sex with resiliency: $r = .08, p = .07$), thus suggesting the initial sex differences are explained by the age differences in this sample between men and women (i.e., men were more likely to be older and older individuals were more likely to be slightly less resilient).

Subsequent analyses examined whether there was a curvilinear relationship between the variables of life events and hope. As displayed in Figure 1, the relationship between life experiences and hopefulness appeared to be positive, small, and linear ($r = .08, p = .05$). This finding is contrary to hypothesis five, which predicts a curvilinear relationship between life experiences and hope. Loess regression also indicated a non-curvilinear relationship between life experiences and hope (see Figure 2). In addition, second-order polynomial regression analysis indicated a non-significant quadratic term for life-experiences predicting hopefulness ($\beta = .00, p = .97$).

In a parallel manner, the potential curvilinear relation between life experiences and mindfulness was also examined. As exhibited in Figure 3 and consistent with the relationship between life experiences and hope, the relationship between life experiences and mindfulness appears to be positive, small, and linear, which is not consistent with hypothesis six that a curvilinear relation would be found between life experiences and hope. Loess regression also showed a non-curvilinear relationship between life experiences and

mindfulness (see Figure 4). Additionally, second-order polynomial regression analysis indicated a non-significant quadratic term for life-experiences predicting mindfulness ($\beta = -.04, p = .30$).

Analytic Procedure

Though the potential examination of hopefulness and mindfulness as mediators or as moderators of the relationship between resiliency and life events were considered as possibilities, analyses that examined the potential moderating, rather than mediating, roles of hopefulness and mindfulness on the relationship between resilience and life experiences were chosen for several reasons. As discussed by Holmbeck (1997), a mediator specifies how a given effect occurs (Baron & Kenny, 1986; James & Brett, 1984). Holmbeck quotes Baron and Kenny's description of a mediator as:

the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest... (and) Mediation... is best done in the case of a strong relation between the predictor and the criterion variable (pp. 1173, 1178).

Therefore, a critical requirement that must be met before testing a mediated effect is a significant association between the independent variable and the dependent variable (Baron & Kenny, 1986; Holmbeck, 1997). However, as previously explained, life events and resilience were only related by a small correlation that was not statistically significant at $p < .05$, suggesting the relationship between life experiences and resilience is minimal. This lack of significant association suggests the examination of hope and mindfulness as mediators in this relation would not be appropriate.

Conversely, a moderator specifies the condition under which an effect takes place, in addition to the conditions under which the direction or strength of an effect vary (Baron &

Kenny, 1986; Holmbeck, 1997). As cited in Holmbeck's article, Baron and Kenny discuss moderation as:

a qualitative (e.g., sex, race, class) or quantitative . . . variable that affects the direction and/or strength of a relation between an independent or predictor variable and a dependent or criterion variable . . . a basic moderator effect can be represented as an interaction between a focal independent variable and a factor (the moderator) that specifies the appropriate conditions for its operation . . . Moderator variables are typically introduced when there is an unexpectedly weak or inconsistent relation between a predictor and a criterion variable. (Baron & Kenny, 1986, pp. 1174, 1178).

As discussed above, the relationship between life experiences, the independent variable, and resilience, the dependent variable, was weak and not statistically significant at $p < .05$. Therefore, the examination of hopefulness and mindfulness as moderators of the relationship between life experiences and resilience was conducted using a regression approach that has been described as appropriate for testing moderated effects (Baron & Kenny, 1986; Holmbeck, 1997; see also Aiken & West, 1991 as cited in Holmbeck, 1997). This approach has been utilized extensively in the examination of moderating variables throughout psychological research in general (Holmbeck, 1997), as well as in studies that examine relationships between constructs relevant to this study (e.g., Lopes & Cunha, 2008). As Holmbeck described and cited Aiken and West as noting, a moderator effect is an interaction effect (see also Baron & Kenny, 1986).

Holmbeck (1997) explains that several researchers have described the best approach to testing for moderation effects as using multiple regression techniques and variables in their continuous form (e.g., Cohen & Cohen, 1983; Cohen & Wills, 1985; James & Brett, 1984; Mason, Tu, & Cauce, 1996; see also Jaccard, Turisi, & Wan, 1990 as cited in Holmbeck). As outlined in several articles (e.g., Baron & Kenny, 1986; Holmbeck), the

predictor and moderator main effects, as well as any covariates, if applicable, are entered into the regression equation first, followed by the interaction of the predictor and the moderator. Statistically significant interactions are then interpreted by plotting simple regression lines for high and low values of the moderator variable (Holmbeck; James & Brett; see also Aiken & West and Cohen & Cohen as cited in Holmbeck).

Hope as a Moderator

In order to test whether hopefulness moderates the relationship between life experiences and resiliency, a series of hierarchical regression analyses were conducted based on analytic procedures outlined in relevant literature (Holmbeck, 1997). First, life experiences were entered into the model predicting resiliency. Second, hopefulness was entered as a predictor of resiliency. Last, the interaction of life events and hopefulness on resiliency was entered into the model (see Table 2).

First, the main effect of life experiences on resiliency was not significant ($\beta = .08, p = .05$) in the univariate regression model specified first (see Table 2 & Figure 5 for final interaction model). Second, when hope was added to this model, hope was a significant predictor of resilience, with results indicating a positive relationship with a large effect size ($\beta = .56, p < .01$). Third, and primary interest, a significant interaction was found between life events and hope ($\beta = -.08, p < .05$; see Figure 5). As illustrated in Figure 6, probing the interaction between life events and hopefulness revealed that life events scores do not appear to result in differences in resilience scores among individuals with high hopefulness. However, among participants with low hopefulness, more positive life events relate to higher levels of resilience compared to individuals with more negative life experiences.

These findings are consistent with hypothesis one and indicate hope moderates the relationship between life events and resilience.

Similarly, to address the second hypothesis, a series of hierarchical regression analyses were conducted to determine whether mindfulness was also a moderator of the relationship between life events and resilience (see Table 3 & Figure 7 for final interaction model). Notably, mindfulness was a significant predictor of resilience ($\beta = .50, p < .01$). However, a significant statistical interaction was not found between life events and mindfulness ($\beta = -.03, p = .51$; see Table 3 & Figure 7).

CHAPTER V

CONCLUSIONS

Discussion of Results

The relationships among life events, hope, mindfulness, and resilience were investigated to determine whether hope and mindfulness moderate the relationship between life events and resilience. Overall, the results indicate hope and mindfulness are both significantly and positively correlated with resilience and with each other. However, only hope appears to serve as a moderator between life events and resilience. Mediation analysis was not conducted because it was contraindicated based on the small, non-significant direct relationship between life events and resilience.

Therefore, hypothesis one, that hope moderates the relationship between life experiences and resilience, was supported. Further, the order in which hypothesis one predicted participants would be resilient based on life events and hopefulness was statistically significantly supported for those with low levels of hope and slightly, but not statistically significantly, evident for those with high levels of hope. This means individuals who have little hope are significantly less resilient than individuals with high hope regardless of the positive and negative events they have experienced throughout their lives. People with low hope are also less resilient when they have more negative life events, compared to people with low hope and more positive life events. This supports the prediction that because people with little hope are less likely to learn and grow by

overcoming challenges, they become less, instead of more, resilient with each barrier they encounter.

On the other hand, individuals with high hope do not become significantly more or less resilient based on the positive or negative events they experience. However, as seen in Figure 6, participants with high hopefulness scores and more positive events appear to be slightly lower in resilience than those with high hopefulness scores and more negative life events. Although this relationship does not reach statistical significance, it reinforces the idea that hopefulness is more important than the actual events one encounters in predicting resilience and may help people become more resilient as they overcome obstacles.

Hypothesis two, that mindfulness would also moderate the relationship between life events and resilience, was not supported. It is possible mindfulness would have been a moderator if there had been a greater percentage of participants who meditated or practiced other forms of mindfulness on a regular basis. Because participants were not trained in MBSR or other mindfulness programs and the observe factor of the FFMQ could not be used with this sample, it may not be representative of populations with mindfulness training. It could also be that high levels of mindfulness are equally beneficial regardless of people's past life experiences. While building hope requires successfully overcoming obstacles (Snyder, 1994), mindfulness can be developed and practiced by anyone and may not be dependent on past events.

However, mindfulness was significantly and positively correlated with resilience. This indicates mindfulness has an important impact on how resilient participants were regardless of what positive and negative life events they reported. Although this is not

consistent with the predictions of the study, it is still an encouraging finding because it suggests all people can become more resilient by increasing their levels of mindfulness, which can be learned.

As predicted by hypothesis three, mindfulness and hopefulness were significantly and positively correlated. This is not surprising because, as outlined in the literature review, these constructs are conceptually related. Locus of control and perceived control are closely related to both constructs, and both hope and mindfulness have state and trait components (Alvord & Grados, 2005; Baer et al., 2006; Brown & Ryan, 2004; Cohen et al., 2008; Collins & Kuehn, 2004; Hand, 2004; Hemenover, 2003; Keltner & Walker, 2003; Langer & Moldoveanu, 2000; McAdam-Crisp, 2006; Snyder, 1994; Wallace & Shapiro, 2006). Also as described in the literature review, both hope and mindfulness can be increased, which means resilience would also increase (Baer et al.; Snyder, 1994).

Hypothesis four stated that if there was a direct correlation between life experiences and resilience, it would be low to moderate. This hypothesis was somewhat supported by a very small correlation that approached, but did not reach, statistical significance. Based on the finding that life events do not directly determine resilience, it is apparent people are not guaranteed high levels of resilience because they have experienced positive events, and are not doomed to low levels of resilience due to a history of negative events.

Hand (2004) reported a curvilinear relationship between life events and hopefulness, and hypothesis five tentatively predicted a similar relationship would be found in this study. Similarly, hypothesis six investigated whether the curvilinear relationship found by Hand also existed between life events and mindfulness. However, in this sample, life events and

hopefulness, as well as life events and mindfulness, were connected only by small, positive, linear relationships. This suggests individuals with more positive life events are slightly more hopeful and more mindful, although as already discussed, individuals who are more mindful are more resilient regardless of life events, and hope appears more important than life events in determining resilience.

In addition, it initially appeared that men were somewhat less resilient. However, this appears to be an artifact of this sample because men tended to be slightly older in this sample, and the difference between men and women failed to be statistically significant after accounting for age. It seems counterintuitive that people would become slightly less resilient with age, but this effect may be an artifact of this particular sample. Although there is no right or wrong age for attending college, it may be that undergraduates who are older than traditional students somehow differ from other students and from their same-age non-student peers. They may also face life events not fully assessed by the CSLES, which seems geared toward traditionally-aged students. Otherwise, it makes sense that people who have lived longer would have had more opportunities to develop the sense of self-efficacy for dealing with negative events that hope involves, and that this would lead to an increase in resilience. Additional investigation into the possible effects of age and gender across wider age spans and non-student populations could help to clarify this relationship.

Limitations

The limitations of this study include the disproportionate amount of women in the sample and the possibility that students taking online courses somehow differ from students enrolled in more traditional classes, although it is likely many of the participants were taking

online as well as regular classes. The especially conservative atmosphere, and predominantly White, Christian population of the university at which the study was conducted may also limit the degree to which this sample represents college students elsewhere. This conservative environment may help explain why the majority of participants meditated little or not at all and why some viewed meditation as conflicting with their religious beliefs even though meditating is not necessarily religious. Given that it would have been inappropriate to include the Observe facet of mindfulness in analyses with this sample, results may differ from those that would be obtained with a sample including more meditators.

As previously discussed, there are a variety of life events scales and ways of using and scoring these scales (Monroe, 1982). The scale and scoring system used for this study seems to represent the best fit available given the purpose and sample of the study. However, there are strengths and limitations for all of the available methods of measuring life events, and it is possible different results would be obtained with other approaches. As Cohen and Williamson (1988) point out, the CSLES does not fully account for chronic stress, and no scale includes all possible events a person could encounter over the course of her or his life. Additionally, one item from the CSLES and one item from the SHS were not included due to experimenter error. It is unlikely that one item had a significant impact on the CSLES given that there were still 136 items remaining. The SHS only contains 12 items, eight of which are used in scoring, so even though the internal consistency of the SHS for this study was consistent with internal consistency rates reported in the literature, it is possible the missing item affected hope scores in some way.

Clinical Implications

The results of this study indicate high levels of hope and mindfulness are associated with higher resilience. This suggests psychologists may be able to increase their clients' abilities to cope resiliently by focusing on hope and mindfulness. Additional research is needed to clarify how various clinical interventions that increase hope and mindfulness affect resilience. However, given the connections among these constructs found in this study, suggestions are provided here that may help psychologists enhance clients' levels of hope and mindfulness. Working to build upon existing client strengths, instead of to repair damage or illness has long been a goal of the positive psychology movement (Seligman & Csikszentmihalyi, 2000). Currently, there are more structured strategies for increasing mindfulness outlined in the literature than there are for increasing hope. Hope involves the conceptualization of goals and the expectation that one can develop a plan and follow through to meet these goals (Snyder, 1994). Therefore, helping individuals form realistic goals and gain self-efficacy and skills in meeting their goals would likely increase hope. This strategy for increasing hopefulness becomes clearer when the opposite of hopefulness, hopelessness is considered. Individuals tend to become hopeless when they do not feel in control and do not believe they can do anything to change the situation.

Helping people feel empowered to take control of their thoughts, feelings, and lives is especially important in generating hope when working with trauma survivors who have felt helpless or victimized (Garcia-Peltoniemi et al., 2001), and would likely facilitate a sense of control and hopefulness for anyone who feels hopeless. Clients with low self-efficacy and low self-esteem probably will need help learning to recognize and take credit

for small steps toward their goals. For someone who is not used to feeling in control and has an external locus of control, it may be easy to dismiss personal progress as insignificant or due to the behaviors of others. With opportunities for short-term, measurable progress that is due to their own choices and actions, clients will develop a sense of efficacy and hope that will increase their ability to view future challenges as manageable and respond with hope.

Hopefulness is also thought to be developed when people confront and successfully navigate the difficulties they encounter (Snyder, 1994). Psychologists often help people work through difficult emotions and circumstances. By encouraging clients to understand and integrate their feelings and thoughts, clinicians help them gain control of what previously may have seemed overwhelming and unapproachable (Teyber, 2000). Facilitating the development of subjective meaning and success could lead clients to gain hope that they can apply their insight and coping skills to current or future difficulties.

It should be noted that specific advice and strategies offered by psychologists may be appropriate at times but are unlikely to build hope. As long as clients are dependent on psychologists or others to generate solutions or convince them to take action, they are encouraged to let someone else take control, which fosters an external locus of control and may perpetuate unhealthy ways of relating to others (Teyber, 2000). Encouraging clients to choose their own goals and actions likely will be more helpful than even the best advice when attempting to build hopefulness. Based on the findings of this study, it seems possible that increasing hope in therapy could help clients facing difficult past or current life circumstances become as resilient as people who have encountered fewer challenging life events, and could prepare them to cope more resiliently with future obstacles.

Like hopefulness, mindfulness can be intentionally increased, and there are a variety of empirically supported approaches for doing so, such as mindfulness-based stress reduction, mindfulness-based cognitive therapy, dialectical behavior therapy, and acceptance and commitment therapy (Baer et al., 2006; Kabat-Zinn, 2003a, 2003b; Kuyken et al., 2008; Ma & Teasdale, 2004). As described in the literature review, these programs can be used to prevent and treat a wide range of physical and emotional stressors and disorders (Baer et al.; Miller et al., 1995). Meditation, one of the primary ways of learning and practicing mindfulness, has also shown strong evidence of neurological, physiological, and immune benefits (Kieviet et al., 2008; Maission et al., 1995; Takahashi et al., 2005).

Psychologists have several options for incorporating mindfulness into their work with clients. In addition to teaching the above mindfulness programs to clients or referring them to these programs, they can teach basic mindfulness techniques in session. There are a variety of online resources that have suggestions for daily mindfulness activities, such as using time spent waiting in line to pay attention to breathing, noticing posture changing, and noticing and releasing physical tension, as well as guided mindfulness meditation, yoga, and breathing activities clients can listen to or download (e.g., University of Missouri Mindfulness Practice Center website, 2009). The degree to which clients need to discuss and practice mindfulness techniques in session before trying them on their own or using outside resources to practice will vary and should be determined by individual clients and their psychologists.

In fact, all components of mindfulness interact and are helpful for most people, but psychologists can focus on the facets most relevant to individual clients (Roemer, Orsillo, &

Salters-Pedneault, 2008). For example, clients who have a low degree of emotional awareness can be encouraged to focus on noticing and experiencing their feelings without judging them or reacting. More specifically, Roemer et al. demonstrated these three mindfulness components can be used effectively as a form of acceptance-based behavior therapy to increase mindfulness and decrease experiential avoidance among people with general anxiety disorder. Roemer et al.'s findings are encouraging because they suggest using aspects of mindfulness specifically selected based on clients' presenting concerns can be beneficial.

When using interventions related to meditation or other mindfulness techniques, it may be important to thoroughly explain mindfulness and its benefits to clients. This is especially critical in rural or conservative communities where clients may perceive mindfulness practice as incompatible with their religious beliefs. Based on the comments of a minority of participants in this study and on the clinical experience of this researcher, it is apparent some clients initially may be opposed to using meditation because they believe it is religious or strange. Other clients have trouble focusing on the present the first time they try it and think this means they are incapable of being mindful. With these individuals, reminding them that becoming more mindful is a process and that just noticing how much their minds are wandering indicates progress may motivate them to continue practicing. Encouraging clients to start with very brief, practical, and active mindfulness techniques can help them build confidence before they try more challenging activities like sitting meditation.

The findings of this study and the relevant literature indicate resilience is not dependent only on life events, which is congruent with the view that resilience is not an inherent, all or nothing characteristic that makes people vulnerable or invincible to their experiences (Almedon & Glandon, 2007; Hjemdal, 2007; Rutter, 2007; White et al., 2008). Instead, it consists of personal and social protective factors, and indicates individuals adapt and cope the best they can given the resources they have (Hooper et al., 2008). This is consistent with positive psychology (White et al.) and with relational theory and psychotherapy (Teyber, 2000). Responding resiliently may be framed best as resilient coping, which, like any coping mechanism, can help people to survive and may also have drawbacks (Hooper et al., Samuels & Pryce, 2008; Teyber; Wolin & Wolin, 1996).

Instead of referring to coping strategies with fewer or less observable emotional side effects as resilient, and pathologizing those with more or readily apparent side effects, it may be helpful to view all coping and survival strategies as part of the same continuum. Within this framework, psychologists could help individuals move toward resilience by focusing on resolving emotional problems created by originally helpful ways of coping, and by helping them develop new perspectives and strategies that are more adaptive in the present. This seems like a more realistic, manageable, and positive approach than viewing some people as inherently unresilient or unable to cope with stressful life events.

Directions for Future Research

Suggestions are provided above for increasing hopefulness among clients but more specific research on increasing hope is needed. There is considerable research on the benefits of hopefulness, and the results of this study indicate hope plays a significant role in

moderating the relationship of life events and resilience. Therefore, it is important to provide clinicians with effective ways of helping clients with all levels of hope to build or maintain hopefulness. It also may be helpful to tie recent research on regulation of positive emotions into strategies for increasing hope and resilient coping (Tugade & Fredrickson, 2007).

Given the connection between hope and resilience, and the sense of self-efficacy that is especially important in hope, the concept of psychological capital seems relevant. The present study examines hope and resilience as separate but related constructs, as they are typically discussed in the literature. However, some researchers believe these constructs, along with optimism, are all parts of a higher order core construct called psychological capital. So far, psychological capital has been studied in organizational contexts to investigate employee performance and satisfaction. Luthans et al. (2007) found psychological capital was more positively correlated with both satisfaction and performance on the job than were the separate constructs of state hope, resilience, self-efficacy, and optimism. Luthans et al.'s research needs to be expanded but is a step towards analyzing and tying together concepts in the field of positive psychology, a field that has not been systematically or critically examined (Christopher, Richardson, & Slife, 2008).

This approach to organizational research is a form of positive psychology applied to the workplace but does not focus on individuals' overall psychological functioning and does not specifically account for non-work related aspects of employees' lives (Luthans et al., 2006, 2007). Research on psychological capital also excludes trait hope on the basis that state hope is more relevant (Luthans et al., 2006, 2007). However, state and trait hope

remain important when studying individuals holistically and measuring state hope alone seems less appropriate outside of organizational research (Snyder, 1994).

Stajkovic (2006) also believes hope, resiliency, self-efficacy, and optimism are components of a higher order construct he refers to as core confidence, and studies in the context of employee motivation. More research is needed to clarify whether psychological capital and core confidence are applicable outside of the workplace, but given Luthens et al.'s (2007) results it seems worth investigating. Researchers should also compare existing methods of measuring psychological capital with those that include trait hope.

The conservative college town in which this study was conducted may have contributed to a relatively low proportion of meditators in the sample. It will be important to conduct future research with people who have varying levels of experience and training with meditation and other mindfulness activities so the Observe facet of the Five-Facet Mindfulness Questionnaire can be used and so findings among these groups can be compared.

Additionally, similar research on people from other cultural backgrounds is needed to find out whether the results of this study generalize to other populations. It would also be interesting to compare the effects of hope and mindfulness on the relationship between life events and resilience among people who have been taught different types of mindfulness-focused programs and therapies (e.g., MBSR, MBCT, DBT, and ACT) to see how various types of mindfulness training affect resilience. Although Baer et al. (2006) showed that the FFMQ fits the factor structure of mindfulness, mindfulness remains a variable composed of

multiple elements and some mindfulness factors may be more relevant to resilience than others, or some may be more pertinent to certain populations.

Finally, more research is needed to clarify how life events scales are best used and scored with different population and outcome variables. There is debate about scaling and scoring responses and about the time periods measured by these scales (Monroe, 1982). This is partly because different scales, time frames, and scoring systems fit better with some studies than with others. However, using a variety of measures makes it difficult to compare studies and generalize findings. Updated lists of life events would also be useful, as most measures remain relevant but have become dated and contain outdated wording as well as sexist and heterosexist wording.

Summary

Hopefulness and mindfulness are both significantly and positively correlated with resilience. More research on how increasing either of these constructs affects levels of resilience. Hopefulness was shown to moderate the relationship between life events and resilience, with more hopeful people being equally resilient regardless of their life events, and less hopeful people being less resilient overall, and having especially low resilience scores if they reported more negative life events. Interventions aimed at increasing mindfulness and hopefulness are tentatively recommended as ways of enhancing resilience, and more research on interventions that increase hopefulness is needed.

ENDNOTE

1. Dr. Hjemdal requested that the RSA not be included as an appendix, and that people contact him if they would like a copy of the RSA. The RSA is also included in Friborg et al.'s 2005 article, which is cited in the references section of this manuscript.

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APPENDIX A
TABLES AND FIGURES

Table 1
 Zero-Order Correlations between Resilience, Life Events, Mindfulness, Hope, Sex, and Age.

	Resilience	Life Events	Mindfulness	Hope	Sex
Resilience					
Life Events	0.08±				
Mindfulness	0.50**	0.06			
Hopefulness	0.57**	0.04	0.44**		
Sex	-0.09*	0.00	-0.05	0.08±	
Age	-0.10**	-0.01	0.03	-0.02	0.18**

Note. $N = 586$, 0 = women, 1 = men. Parameters estimated using weighted least square parameter estimates. ± $p < .10$, * $p < .05$, ** $p < .01$.

Table 2
 Hierarchical Regression Analyses to Test the Moderating Role of Hope between Life Events and Resilience.

	Hope		
	Step 1	Step 2	Step 3
Criterion: Resilience			
Life Events	0.08±	0.05	0.05
Hope		0.56**	0.56**
Life Events X Hope			-0.08**
R ²		0.32	0.33
R ² Change		0.32**	0.01*

Note. $N = 586$. ± $p < .10$, * $p < .05$, ** $p < .01$.

Table 3
 Hierarchical Regression Analyses to Test the Moderating Role of Mindfulness between Life Events and Resilience.

	Mindfulness		
	Step 1	Step 2	Step 3
Criterion: Resilience			
Life Events	0.08±	0.05	0.04
Mindfulness		0.50**	0.50**
Life Events X Mindfulness			-0.03
R ²		0.25	0.25
R ² Change		0.25**	0.00

Note. $N = 586$. ± $p < .10$, * $p < .05$, ** $p < .01$.

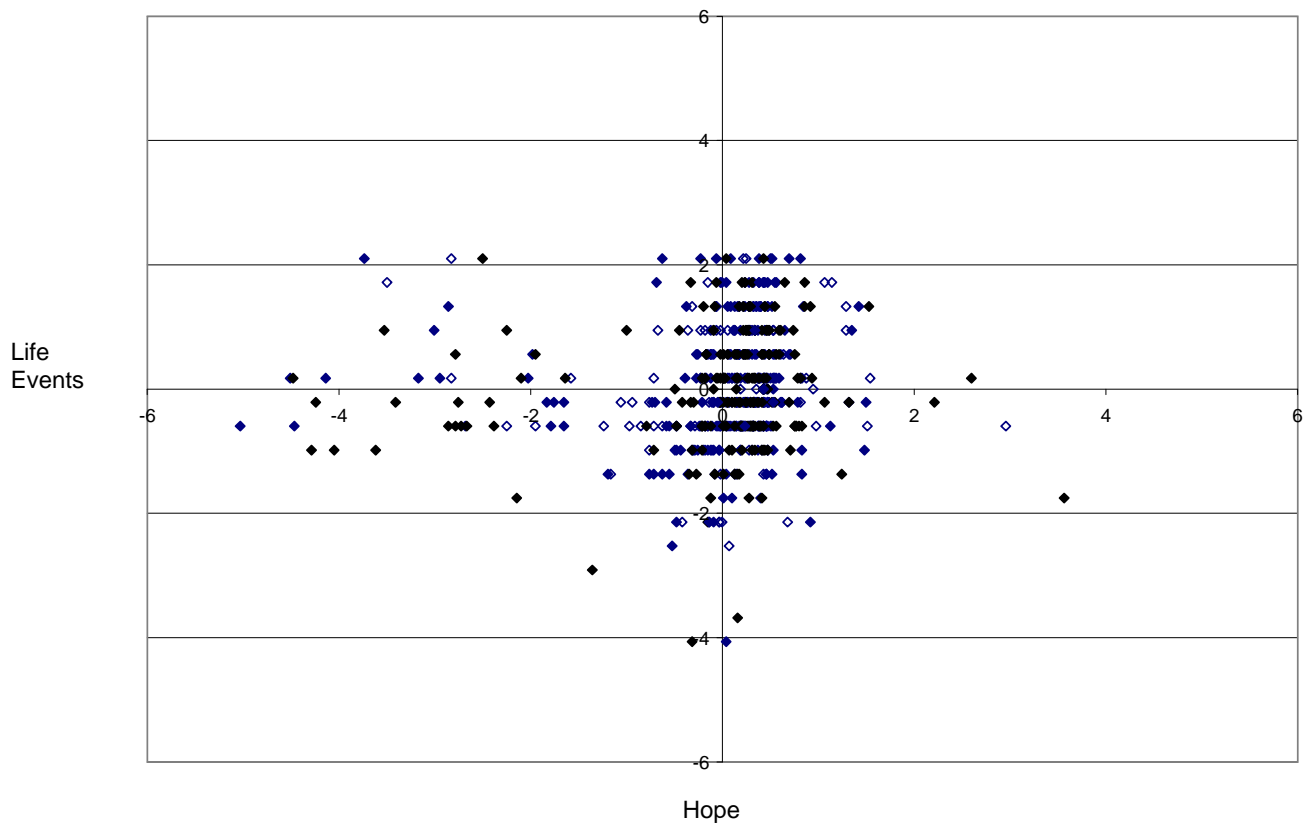


Figure 1. Hope with Life Experiences. All values are standardized and thus represent z-scores.

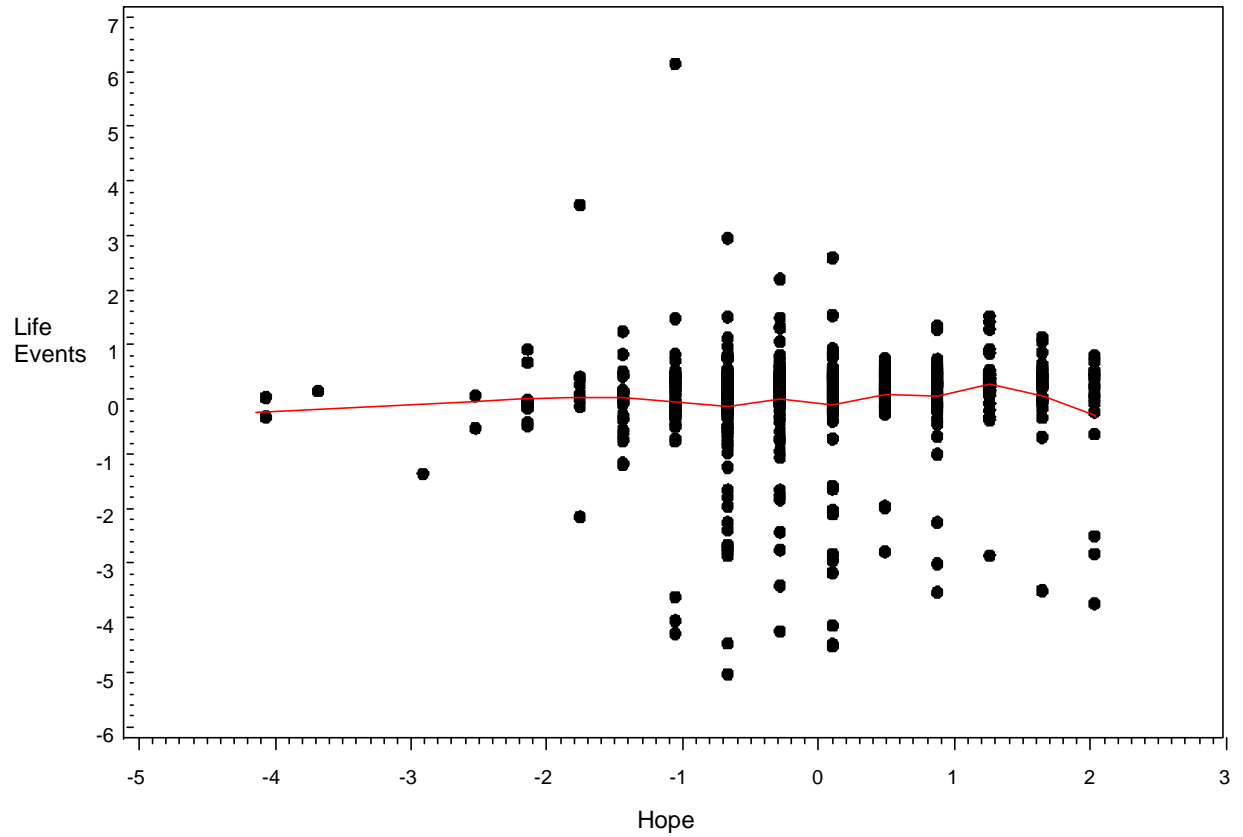


Figure 2. Loess Curve of Hope with Life Experiences. All values are standardized and thus represent z-scores (smoothing parameter = .2).

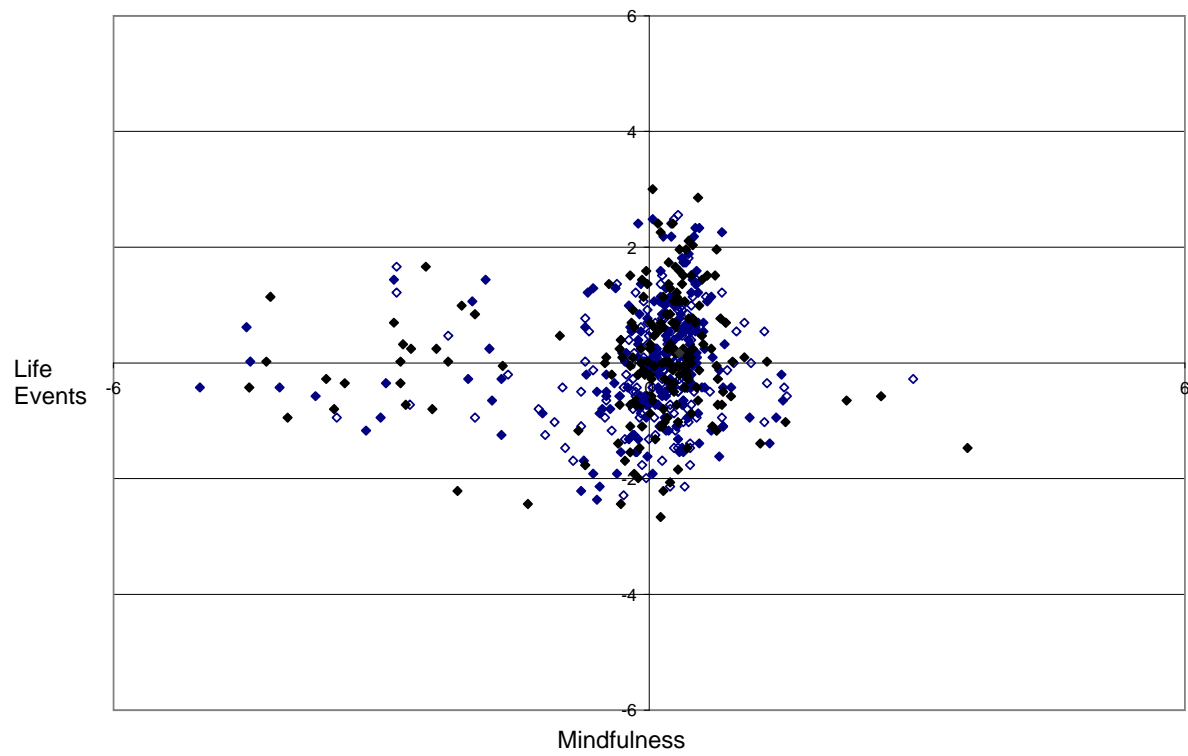


Figure 3. Mindfulness with Life Experiences. All values are standardized and thus represent z-scores.

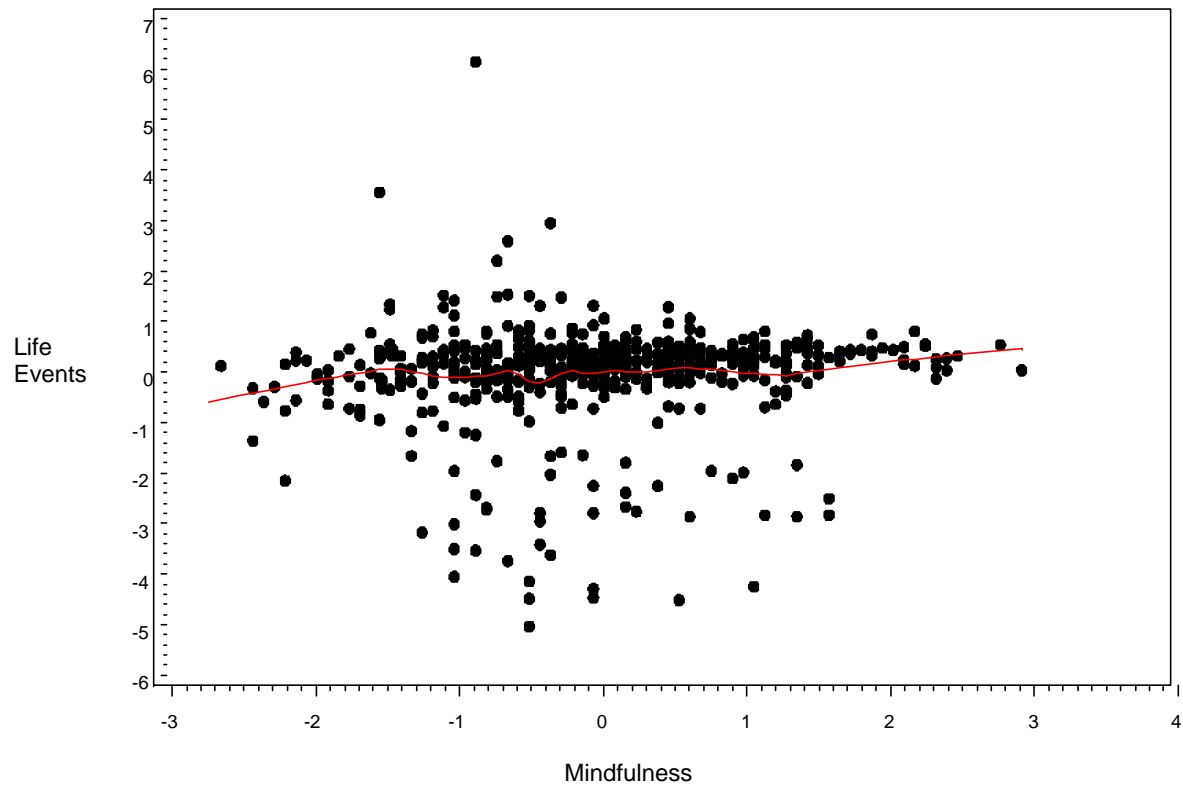


Figure 4. Loess Curve of Mindfulness with Life Experiences. All values are standardized and thus represent z-scores (smoothing parameter = .2).

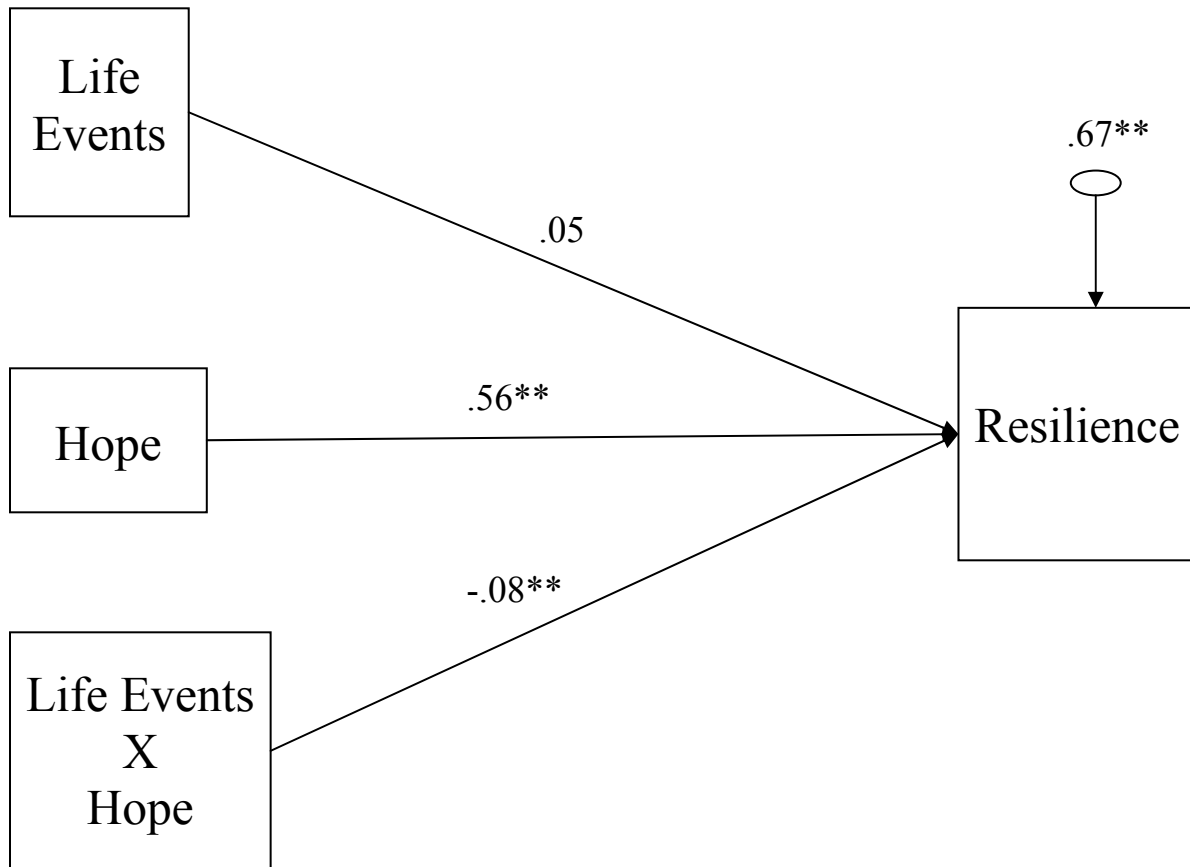


Figure 5. Path Model of Hope as a Moderator of Life Experiences and Resilience. Standardized coefficients are shown. $\pm p < .10$, * $p < .05$, ** $p < .01$.

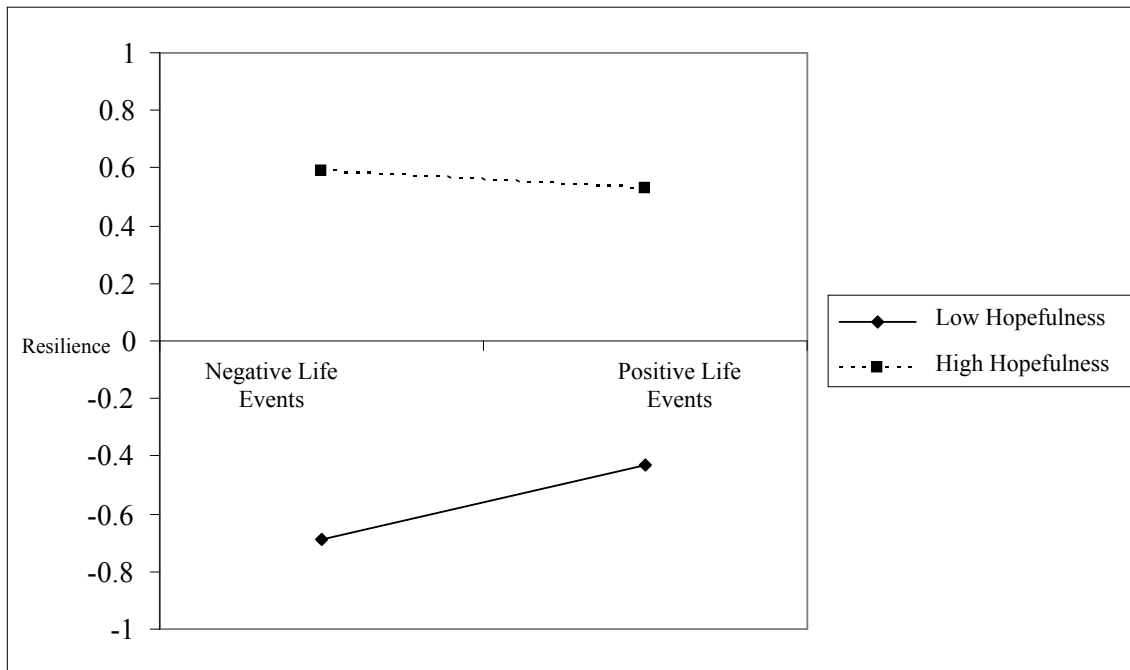


Figure 6. Moderating Role of Hopefulness on the Relationship between Life Experiences and Resilience. All values are standardized and thus represent z-scores.

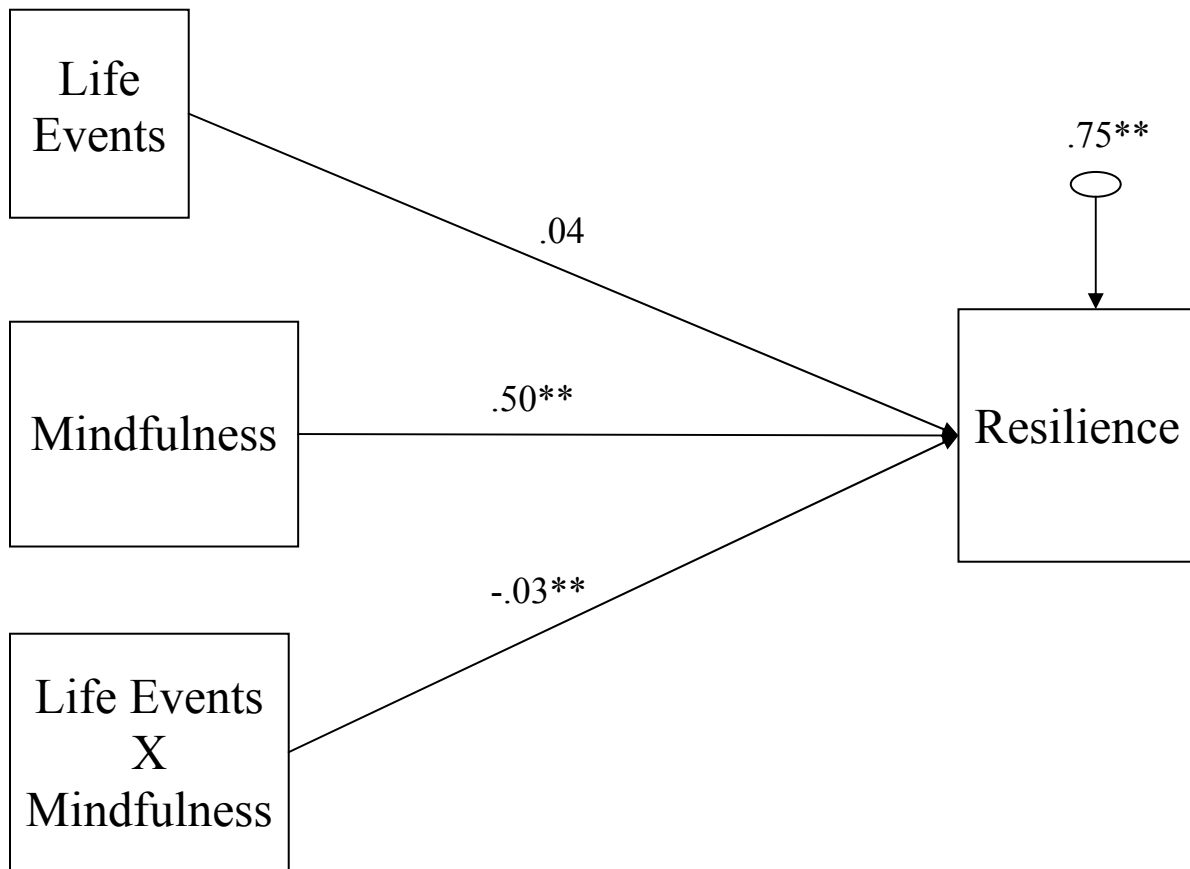


Figure 7. Path Model of Mindfulness as a Moderator of Life Experiences and Resilience. Standardized coefficients are shown. $\pm p < .10$, $* p < .05$, $** p < .01$.

APPENDIX B

RECRUITMENT E-MAIL SENT TO PARTICIPANTS

Dear student,

Hi, my name is Amy Collins and I am a doctoral student in the counseling psychology program here at Texas A&M. I am working on my dissertation and would like to ask you to participate in my **anonymous study**. After clicking on the link at the end of this message, you will see a screen containing a consent information sheet that describes my study, for which **you may choose to receive extra credit and/or enter a drawing for \$20**. It will take approximately 20-30 minutes to complete this optional study.

The survey will be available online until March 31st.

It is recommended that you **do not wait until the end of March** to participate so that if there are any problems with internet connection or SurveyMonkey, you will still have time to take the survey and receive extra credit after these problems are corrected.

***Extra Credit Option for Study Participants:** If you decide to participate in my study, you can choose to receive 4 points of extra credit for your course. *Please complete the survey only once.* Completing the survey more than once will NOT result in more extra credit points than completing it once.

To receive extra credit, click on the link (“Done” button) that will appear at the end of the study on the page that thanks you for your participation. You will then enter your name and UIN, and click your course name so that your instructor can give you 4 points of extra credit.

Alternate Extra Credit Option: If you would like to receive 4 points of extra credit without participating in the study, you may complete a written assignment instead. This option requires searching the TAMU Libraries website (<http://library.tamu.edu/portal/index.jsp>) to obtain an article from a professional journal that is relevant to your course content, reading the article, and writing a 1-2 page summary of the article. Article summaries should be turned in to your course instructor **no later than March 31st, 2008**.

Note: Please complete either the online study OR the written assignment – completing both will not result in more than 4 extra credit points.

Cash Prize Option: Study participants may also choose to **enter a drawing to win one of two \$20 prizes** by clicking on the link at the end of the study as described above and entering your e-mail address and/or phone number so you may be contacted if you win.

Your Choice: You are not required to participate in this study and may choose to stop participating at any time. Please contact me at amybcollins@tamu.edu if you have any questions.

Anonymous: This study is completely anonymous and data will be encrypted by SurveyMonkey. No personally identifiable information will be connected with your responses.

Topic: My study will investigate life experiences that are relevant to many college students, and how college students view themselves, the future, and the world around them.

To read informed consent information and to participate, please click on the link below:

https://www.surveymonkey.com/s.aspx?sm=CCCHgZPWK8U7J9WF_2f7ZIRw_3d_3d

(If clicking this link does not take you to the survey, copy and paste it into your web browser.)

Thank you!

Amy Collins, M.S.
Texas A&M Doctoral Student,
Counseling Psychology Program
amybcollins@tamu.edu

APPENDIX C
INFORMED CONSENT STATEMENT

1. Informed Consent Statement

Dear student,

My name is Amy Collins and I am a doctoral student in the counseling psychology program here at Texas A&M. I am working on my dissertation and would like to ask you to participate in my study. This study will investigate life experiences that are relevant to many college students, and how college students view themselves, the future, and the world around them. The study is voluntary. You are not required to participate and you may choose to stop participating at any time. Your responses are ANONYMOUS and will be encrypted by SurveyMonkey for added security.

No personally identifiable information will be collected as part of this study and your responses are anonymous. If you would like to receive FOUR POINTS OF EXTRA CREDIT, you MUST click the "Done" button on the thank you page after completing the study to be linked to the page where you may enter your name, UIN, and course name so that your course instructor can give you extra credit. You may also choose to ENTER A DRAWING FOR ONE OF TWO \$20 PRIZES at that time by entering your phone number and/or e-mail address. Disbursement of prizes will occur after all data has been collected and two names are randomly selected. Any contact information you provide will only be used to contact you if you win a prize. If a winner cannot be reached after one week of being contacted, a different winner will be selected.

You must complete the study before you can enter your name to receive extra credit or enter the drawing, but any personal information you provide after clicking the second link (the "Done" button on the thank you page) is collected and stored by a separate survey and is not connected with your study responses so that your responses will remain anonymous. All data is collected through SurveyMonkey and encrypted for extra security.

During this study, you will have the opportunity to reflect on many experiences that you have had, and on your perceptions of yourself and the world around you. The results of this study will be used to help psychologists and counselors who work with college students to better understand and help their clients.

No adverse consequences are expected as a result of participation. However, if you do experience any distress after participating, it is recommended that you contact the TAMU Student Counseling Service (979-845-4427; 8-5 M-F) or, if you have an urgent concern after business hours, the TAMU Helpline (979-845-2700; 4pm-8am M-F, 24/7 Sat-Sun). In case of emergency, call 911 (9-911 from a campus phone) or visit an emergency room. If you have any questions related to this study, you may contact Amy Collins at amybcollins@tamu.edu.

If you would like to participate, please click below to continue.

Thank you!

Amy Collins, M.S.
Texas A&M Doctoral Student,
Counseling Psychology Program
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APPENDIX D
COLLEGE STUDENT LIFE EVENTS SCALE*
(CSLES; LEVINE & PERKINS, 1980a)

***Used with permission from Dr. Murray Levine and Dr. David Perkins**

College Student Life Events Scale (CSLES)

Instructions:

Listed below are a number of different events that college students may have experienced. Please read each item carefully, and for all items that apply to you, 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 by clicking the appropriate number. 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.

For items that do not apply to you, click N/A (Not Applicable).

1. Living Arrangements

- | | |
|---|-------------------------|
| 1. Repeated arguments, hassles with cohabitants (e.g., racial, sexual, religious, personal idiosyncrasies, financial, etc.) | -3 -2 -1 0 +1 +2 +3 N/A |
| 2. Living arrangements consistently too noisy
(to study, to sleep) | -3 -2 -1 0 +1 +2 +3 N/A |
| 3. Changed living arrangements, resulting in inadequate privacy | -3 -2 -1 0 +1 +2 +3 N/A |
| 4. Moved to new quarters on or off campus | -3 -2 -1 0 +1 +2 +3 N/A |
| 5. Changed roommate on or off campus | -3 -2 -1 0 +1 +2 +3 N/A |
| 6. Significant increase in time or distance traveled to
daily (school) | -3 -2 -1 0 +1 +2 +3 N/A |
| 7. Moved into this area from out of town | -3 -2 -1 0 +1 +2 +3 N/A |
| 8. Hassled by landlord | -3 -2 -1 0 +1 +2 +3 N/A |
| 9. Eviction proceedings threatened or started | -3 -2 -1 0 +1 +2 +3 N/A |
| 10. Lack of access to adequate transportation
(hampering participation in social, recreational activities) | -3 -2 -1 0 +1 +2 +3 N/A |

2. Finances

- | | |
|--|-------------------------|
| 11. Realized that finances were increasingly inadequate
to meet living expenses | -3 -2 -1 0 +1 +2 +3 N/A |
| 12. Realized that finances were increasingly inadequate
for social recreational needs | -3 -2 -1 0 +1 +2 +3 N/A |
| 13. Hassled by collection agencies | -3 -2 -1 0 +1 +2 +3 N/A |

14. Significant increase in level of debt (e.g., took out large loan, charged more than can easily pay, gambling debts, etc.). . . . -3 -2 -1 0 +1 +2 +3 N/A

3. Spiritual and Religious Activities

15. Changed spiritual/religious faith -3 -2 -1 0 +1 +2 +3 N/A

16. Increased attendance or participation in spiritual/religious services or practices -3 -2 -1 0 +1 +2 +3 N/A

17. Decreased attendance or participation in spiritual/religious services or practices -3 -2 -1 0 +1 +2 +3 N/A

4. Political Activities

18. Increased commitment or participation in non-extremist political or social activism -3 -2 -1 0 +1 +2 +3 N/A

19. Increased commitment or participation in political or social organizations considered by most others to be extremist -3 -2 -1 0 +1 +2 +3 N/A

5. Sexual Activities

(Instructions for Sexual Activities questions: Women answer part a, men answer part b)

20. (a) Became pregnant out of wedlock/permanent relationship or (b) partner became pregnant out of wedlock/permanent relationship -3 -2 -1 0 +1 +2 +3 N/A

21. (a) Became pregnant in marriage or permanent relationship with partner or (b) partner became pregnant in marriage -3 -2 -1 0 +1 +2 +3 N/A

22. (a) Had abortion or (b) partner had abortion -3 -2 -1 0 +1 +2 +3 N/A

23. (a) Miscarriage or (b) partner had miscarriage -3 -2 -1 0 +1 +2 +3 N/A

24. Began experimentation with homosexual activity -3 -2 -1 0 +1 +2 +3 N/A

25. Began experimentation with sexual practices such as oral, anal, group sex, etc. -3 -2 -1 0 +1 +2 +3 N/A

26. Began extramarital/outside of permanent relationship sexual relationship -3 -2 -1 0 +1 +2 +3 N/A

27. Began sexual unfaithfulness to partner to who you are not married/permanently committed -3 -2 -1 0 +1 +2 +3 N/A

28. Experienced inadequacy in sexual activity (couldn't perform) -3 -2 -1 0 +1 +2 +3 N/A

29. Engaged in initial sexual intercourse -3 -2 -1 0 +1 +2 +3 N/A

30. Engaged in sex act without use of birth control measures (i.e., feared pregnancy) -3 -2 -1 0 +1 +2 +3 N/A

31. Contracted venereal disease	-3	-2	-1	0	+1	+2	+3	N/A
32. Experienced rejection of a more than casual sexual overture	-3	-2	-1	0	+1	+2	+3	N/A
33. Unable to find a satisfactory sex partner	-3	-2	-1	0	+1	+2	+3	N/A
34. Engaged in sexual practice in conflict with own religious/moral beliefs	-3	-2	-1	0	+1	+2	+3	N/A
35.* Engaged in sexual practice in conflict with parental religious belief	-3	-2	-1	0	+1	+2	+3	N/A

6. Parents and Family

36. Death of parent or guardian	-3	-2	-1	0	+1	+2	+3	N/A
37. Divorce or separation of parents	-3	-2	-1	0	+1	+2	+3	N/A
38. Death of member of immediate family (e.g., sibling, excluding parents)	-3	-2	-1	0	+1	+2	+3	N/A
39. Parental remarriage	-3	-2	-1	0	+1	+2	+3	N/A
40. Serious or disabling parental illness (e.g., heart attack, cancer, major surgery, emotional disorder, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
41. Parents changed residence	-3	-2	-1	0	+1	+2	+3	N/A
42. Noticeable reduction in parental income (e.g., job loss, business reverses, retirement, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
43. Decided for the first time not to go to parental home for major holiday	-3	-2	-1	0	+1	+2	+3	N/A
44. Increased conflict with parent (e.g., sex, drug use, dress, religious practices, life style, sleeping out of home, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
45. Conflict with parent avoided by increasing lying or concealing behavior (e.g., sex, drug use, alcohol, life style, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
46. Parental pressure to find a mate and marry	-3	-2	-1	0	+1	+2	+3	N/A
47. Parental pressure to break up with boyfriend or girlfriend	-3	-2	-1	0	+1	+2	+3	N/A
48. Increased responsibility for problems of siblings or other relative (e.g., illness, legal problems, emotional difficulties	-3	-2	-1	0	+1	+2	+3	N/A
49. Parent, sibling, or close relative attempted suicide	-3	-2	-1	0	+1	+2	+3	N/A
50. Parent, sibling, or close relative committed suicide	-3	-2	-1	0	+1	+2	+3	N/A

7. Friends

51. Increased peer pressure to experiment with sex, drugs, etc.	-3	-2	-1	0	+1	+2	+3	N/A
52. Lost a good friend or friends because you or they moved, were transferred, etc.	-3	-2	-1	0	+1	+2	+3	N/A
53. Lost a friend due to personal conflict	-3	-2	-1	0	+1	+2	+3	N/A
54. Experienced rejection of overtures of friendship	-3	-2	-1	0	+1	+2	+3	N/A

* This item was not included in the present study (see p. 46).

55. Realized necessity to make new friends	-3	-2	-1	0	+1	+2	+3	N/A
56. Death of good friend	-3	-2	-1	0	+1	+2	+3	N/A
57. Became aware that friendship is limited to boyfriend or girlfriend alone	-3	-2	-1	0	+1	+2	+3	N/A
58. Good friend attempted suicide	-3	-2	-1	0	+1	+2	+3	N/A
59. Good friend committed suicide	-3	-2	-1	0	+1	+2	+3	N/A
60. Close friend incapacitated or hospitalized because of physical physical or emotional problems	-3	-2	-1	0	+1	+2	+3	N/A

8. Romantic Relationships

61. Entered new, serious relationship with boyfriend or girlfriend (e.g., engaged, living together, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
62. Got married/had permanent commitment ceremony	-3	-2	-1	0	+1	+2	+3	N/A
63. Boyfriend or girlfriend broke up your relationship	-3	-2	-1	0	+1	+2	+3	N/A
64. You broke up with boyfriend or girlfriend	-3	-2	-1	0	+1	+2	+3	N/A
65. Your spouse/permanent partner left you	-3	-2	-1	0	+1	+2	+3	N/A
66. You left your spouse/permanent partner	-3	-2	-1	0	+1	+2	+3	N/A
67. Got divorced, or became involved in divorce action	-3	-2	-1	0	+1	+2	+3	N/A
68. Increased conflict with boyfriend or girlfriend (e.g., over sex, drugs, alcohol, independence, recreation, division of responsibility, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
69. Increased conflict with spouse/permanent partner (e.g., over sex, drugs, alcohol, independence, recreation, division of responsibility, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
70. Conflict with boyfriend or girlfriend avoided by lying or concealing behavior (e.g., sex, drugs, alcohol, outside activities, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
71. Conflict with spouse/permanent partner avoided by increasing lying or concealing behavior (e.g., sex, drugs, alcohol, outside activities, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
72. Became a parent for the first time	-3	-2	-1	0	+1	+2	+3	N/A
73. Became a parent, second time or more	-3	-2	-1	0	+1	+2	+3	N/A
74. Deeply attracted to someone who showed no interest in you	-3	-2	-1	0	+1	+2	+3	N/A
75. Asked someone to go out with you and he or she refused	-3	-2	-1	0	+1	+2	+3	N/A
76. No one asked you out	-3	-2	-1	0	+1	+2	+3	N/A
77. Important "date" was disappointing	-3	-2	-1	0	+1	+2	+3	N/A
78. Preoccupied with romantic interest	-3	-2	-1	0	+1	+2	+3	N/A
79. Pursued by someone who doesn't interest you	-3	-2	-1	0	+1	+2	+3	N/A
80. You went out with someone a friend was interested in	-3	-2	-1	0	+1	+2	+3	N/A
81. Your friend went out with someone you were interested in	-3	-2	-1	0	+1	+2	+3	N/A
82. Struggled with decision to break up with boyfriend or girlfriend	-3	-2	-1	0	+1	+2	+3	N/A

83. Struggled with decision to break up with spouse/permanent partner	-3	-2	-1	0	+1	+2	+3	N/A
84. Struggled with decision to move in with boyfriend/girlfriend	-3	-2	-1	0	+1	+2	+3	N/A

9. Job/Employment

85. Increased job responsibilities	-3	-2	-1	0	+1	+2	+3	N/A
86. Increased hassles on the job with coworkers	-3	-2	-1	0	+1	+2	+3	N/A
87. Increased hassles on the job with boss or supervisor	-3	-2	-1	0	+1	+2	+3	N/A
88. Lost job, laid off	-3	-2	-1	0	+1	+2	+3	N/A
89. Lost job, fired	-3	-2	-1	0	+1	+2	+3	N/A
90. Sought after promotion or raise that was denied	-3	-2	-1	0	+1	+2	+3	N/A
91. Application for a desired job was rejected by prospective employer	-3	-2	-1	0	+1	+2	+3	N/A
92. Place of employment involved in a strike	-3	-2	-1	0	+1	+2	+3	N/A
93. Quit job	-3	-2	-1	0	+1	+2	+3	N/A
94. Realized job responsibilities interfered with academic work	-3	-2	-1	0	+1	+2	+3	N/A
95. Realized job responsibilities interfered with participation in recreation	-3	-2	-1	0	+1	+2	+3	N/A

10. Crime/Legal Issues

96. You were assaulted	-3	-2	-1	0	+1	+2	+3	N/A
97. You were raped	-3	-2	-1	0	+1	+2	+3	N/A
98. You were robbed or burglarized	-3	-2	-1	0	+1	+2	+3	N/A
99. You were the target of prejudice or discrimination (e.g., based on race/ethnicity, sex, cultural background, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
100. Busted for drug related activity	-3	-2	-1	0	+1	+2	+3	N/A
101. Involved in civil law suit as defendant or plaintiff	-3	-2	-1	0	+1	+2	+3	N/A
102. Involved in criminal action as defendant (e.g., arrested, trial, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
103. Involved in criminal action as witness or plaintiff	-3	-2	-1	0	+1	+2	+3	N/A

11. Accidents and Illnesses

104. Involved in auto accident as driver, without injury	-3	-2	-1	0	+1	+2	+3	N/A
105. Involved in auto accident as passenger, without injury	-3	-2	-1	0	+1	+2	+3	N/A
106. Injured in auto accident, but not hospitalized	-3	-2	-1	0	+1	+2	+3	N/A
107. Injured in auto accident, hospitalized	-3	-2	-1	0	+1	+2	+3	N/A
108. Illness or injury other than auto, which led to hospitalization for one or more days	-3	-2	-1	0	+1	+2	+3	N/A

109. Illness or injury other than auto, which led you to seek medical attention as an outpatient	-3	-2	-1	0	+1	+2	+3	N/A
110. Illness or injury kept you out of school for one week or more	-3	-2	-1	0	+1	+2	+3	N/A
111. Child was hospitalized for illness or injury (emotional or physical)	-3	-2	-1	0	+1	+2	+3	N/A
112. Spouse/permanent partner was hospitalized for illness or injury (emotional or physical)	-3	-2	-1	0	+1	+2	+3	N/A
113. Car broke down	-3	-2	-1	0	+1	+2	+3	N/A
114. Victim of natural or man-made disaster (e.g., blizzard, chemical contamination, etc.)	-3	-2	-1	0	+1	+2	+3	N/A

12. Substance Use

115. Initiated use or increased experimentation with marijuana .	-3	-2	-1	0	+1	+2	+3	N/A
116. Initiated use or increased experimentation with drugs other than marijuana	-3	-2	-1	0	+1	+2	+3	N/A
117. Bad experience with drugs or alcohol	-3	-2	-1	0	+1	+2	+3	N/A
118. Serious attempt to stop, decrease, or moderate use of drugs, alcohol, or cigarettes/tobacco	-3	-2	-1	0	+1	+2	+3	N/A
119. Significant increase in use of alcohol, resulting in problems in school, work, or other areas of life	-3	-2	-1	0	+1	+2	+3	N/A

13. School and Academic Life

Instructions: Answer based on this school year only (since August, 2007) for school and academic life items.

120. Increase in normal academic course load (e.g., more academic work than previously, much harder work, etc.) . .	-3	-2	-1	0	+1	+2	+3	N/A
121. Increased conflict in balancing time for academic-social activities	-3	-2	-1	0	+1	+2	+3	N/A
122. Struggled with decision about major or career goal	-3	-2	-1	0	+1	+2	+3	N/A
123. Entered this school as a new or transfer student	-3	-2	-1	0	+1	+2	+3	N/A
124. Anticipated failing one or more courses	-3	-2	-1	0	+1	+2	+3	N/A
125. Receiving much poorer grade than expected on a test or in a course	-3	-2	-1	0	+1	+2	+3	N/A
126. Awaited word of acceptance or rejection from graduate or professional school	-3	-2	-1	0	+1	+2	+3	N/A
127. Received rejections of all applications to graduate or professional schools	-3	-2	-1	0	+1	+2	+3	N/A

128. Inability to get desired courses or program	-3	-2	-1	0	+1	+2	+3	N/A
129. Involved in accusation of academic misconduct (e.g., cheating on exams, plagiarism, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
130. Conflict with major advisor	-3	-2	-1	0	+1	+2	+3	N/A

14. Extracurricular Activities

Instructions: Answer based on this school year only (since August, 2007) for extracurricular activities items.

131. Rejected from participation in desired extracurricular activities (e.g., sorority, fraternity, participation in play, sports, student government position, volunteer organization, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
132. Activity run by your group was a flop (e.g., play, team lost game, no one came to your party, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
133. Marked increase in participation or responsibilities for extracurricular activity	-3	-2	-1	0	+1	+2	+3	N/A
134. Realized responsibilities in extracurricular activities interfered with school work	-3	-2	-1	0	+1	+2	+3	N/A
135. Your personal action got your organization in to trouble (e.g., overspent or misspent budget, fail to do job, fail to put out publicity for your event in time, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
136. Organization or group that's important to you folded (e.g., lost funding, lack of interest, etc.)	-3	-2	-1	0	+1	+2	+3	N/A
137. Unable to find adequate recreational or athletic outlets	-3	-2	-1	0	+1	+2	+3	N/A

APPENDIX E**SNYDER HOPE SCALE (SHS; BABYAK ET AL., 1993; SNYDER, 1994)**

The Hope Scale*

Directions: Read each item carefully. Using the scale shown below, please select the Number that best describes you and put that number in the blank provided.

(Online: Directions: Read each item carefully. Using the scale below, please select the option that best describes you.)

1 = Definitely False

2 = Mostly False

3 = Mostly True

4 = Definitely True

- ___ 1. I can think of many ways to get out of a jam.
- ___ 2. I energetically pursue my goals.
- ___ 3. I feel tired most of the time.
- ___ 4.** There are lots of ways around any problem.
- ___ 5. I am easily downed in an argument.
- ___ 6. I can think of many ways to get the things in life that are most important to me.
- ___ 7. I worry about health.
- ___ 8. Even when others get discouraged, I know I can find a way to solve the problem.
- ___ 9. My past experiences have prepared me well for my future.
- ___ 10. I've been pretty successful in my life.
- ___ 11. I usually find myself worrying about something.
- ___ 12. I meet the goals that I set for myself.

* When administering the scale, it is labeled the Future Scale.

** This item was not included in the present study (see p. 53).

APPENDIX F

FIVE-FACET MINDFULNESS QUESTIONNAIRE (FFMQ; BAER ET AL., 2006)

5-FACET MINDFULNESS QUESTIONNAIRE

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

- _____ 1. When I'm walking, I deliberately notice the sensations of my body moving.
- _____ 2. I'm good at finding words to describe my feelings.
- _____ 3. I criticize myself for having irrational or inappropriate emotions.
- _____ 4. I perceive my feelings and emotions without having to react to them.
- _____ 5. When I do things, my mind wanders off and I'm easily distracted.
- _____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.
- _____ 7. I can easily put my beliefs, opinions, and expectations into words.
- _____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
- _____ 9. I watch my feelings without getting lost in them.
- _____ 10. I tell myself I shouldn't be feeling the way I'm feeling.
- _____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- _____ 12. It's hard for me to find the words to describe what I'm thinking.
- _____ 13. I am easily distracted.
- _____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
- _____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
- _____ 16. I have trouble thinking of the right words to express how I feel about things.
- _____ 17. I make judgments about whether my thoughts are good or bad.
- _____ 18. I find it difficult to stay focused on what's happening in the present.
- _____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
- _____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
- _____ 21. In difficult situations, I can pause without immediately reacting.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

- _____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.
- _____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.
- _____ 24. When I have distressing thoughts or images, I feel calm soon after.
- _____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.
- _____ 26. I notice the smells and aromas of things.
- _____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.
- _____ 28. I rush through activities without being really attentive to them.
- _____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.
- _____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.
- _____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
- _____ 32. My natural tendency is to put my experiences into words.
- _____ 33. When I have distressing thoughts or images, I just notice them and let them go.
- _____ 34. I do jobs or tasks automatically without being aware of what I'm doing.
- _____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
- _____ 36. I pay attention to how my emotions affect my thoughts and behavior.
- _____ 37. I can usually describe how I feel at the moment in considerable detail.
- _____ 38. I find myself doing things without paying attention.
- _____ 39. I disapprove of myself when I have irrational ideas.

APPENDIX G
DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

Age: _____

Gender:

 Female Male Transgender, female to male Transgender, male to femaleSexual Orientation: Asexual Bisexual Heterosexual Homosexual
UnsureCurrent Educational Level (e.g., college freshman, 2nd year graduate student, Ph.D. completed): _____

Major Field(s) of Study: _____

Ethnicity:

 African-American Asian/Pacific Islander Caucasian Hispanic
 Native American Multiracial (specify _____) Other
_____Nationality: _____ Are you a 1st generation American? Yes No

How often do you meditate?

 Daily 3-5 times a week Once or twice a week Twice a month Once a month
 Every 2 months 3-5 times a year 1-2 times a year Every 2 years
 Tried it once or twice Never

How long have you been meditating this often? _____ years _____ months _____ weeks

Briefly describe what you do when you meditate: _____

What, if any, religion or spiritual belief system do you identify with? _____

Political Views:

Very Conservative Very Liberal
1 2 3 4 5 6

Number of Siblings: _____ Number of Step-Siblings: _____

Your birth or adoption order:

1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th or more

Comments:

APPENDIX H**HIERARCHICAL REGRESSION ANALYSES OF HOPE (1) AND MINDFULNESS****(2) AS MODERATORS WITH COMPLETE CASE DATA**

1. Hierarchical regression analyses with complete case data to test the moderating role of hope between life events and resilience.

	Hope		
	Step 1	Step 2	Step 3
Criterion: Resilience			
Life Events	0.08±	0.06±	0.05
Hope		0.56**	0.56**
Life Events X Hope			-0.08**
R ²		0.32	0.33
R ² Change		0.32**	0.01*

Note. $N = 560$. $\pm p < .10$, * $p < .05$, ** $p < .01$.

2. Hierarchical regression analyses with complete case data to test the moderating role of mindfulness between life events and resilience.

	Mindfulness		
	Step 1	Step 2	Step 3
Criterion: Resilience			
Life Events	0.08±	0.05	0.05
Mindfulness		0.49**	0.49**
Life Events X Mindfulness			-0.03
R ²		0.25	0.25
R ² Change		0.24**	0.00

Note. $N = 558$. $\pm p < .10$, * $p < .05$, ** $p < .01$.

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