

Resilient Individuals Reform Their Assumptive Worlds after Stressful Life Events

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Abstract

Individuals develop core attitudes and beliefs that bring a sense of reality and purpose to their lives. They make up one's assumptive world. After a particular trauma or stressful life event, one's assumptive world is disrupted because individuals are confronted with inconsistent data that cannot be readily assimilated with their preexisting assumptions. Thus, he or she is forced to learn to cope with the situation and reappraise, or reevaluate, his or her core attitudes and beliefs. Successful coping and flexible adaption to changing demands of stressful experiences is referred to as psychological resilience. By using a survey that questioned participants about a stressful event, I hypothesized that resilient individuals would utilize accommodative-focused coping to maintain their assumptions and be able to achieve positive growth and transformation. It was found that resilient individuals maintained all assumptions, except in believing that the world is still meaningful. In addition, resilience was found to be predictive of using accommodative-focused coping and of experiencing positive growth after a stressful event. Thus, this research implies that a resilient individual is unable to justify why the event occurred to a decent and worthy person.

Introduction

The general thought is that emotions result from an individual's specific response or appraisal of his or her environment (Smith & Lazarus, 1990). The person then adapts to the situation in ways that are intended to realize goals, beliefs, and abilities and to promote survival and growth in avoidance of harm and threat. I was interested in investigating how different individuals appraise traumatic or stressful incidents. Specifically, I looked at resilient individuals and how they coped with the trauma. Using a retrospective questionnaire, I examined how their attitudes and beliefs about the world and about themselves changed after the event.

By being able to evaluate the situation as beneficial or harmful, the individual can automatically or consciously decide how they need to properly react if the situation could potentially be damaging to the self. If we know how someone would evaluate the environment, we can predict the person's emotional reaction (Smith & Lazarus, 1990). Since different individuals bring forth different personality characteristics and past experiences, they may appraise situations differently. Similar situations have varying importance and relevance to different individuals. An event such as losing a job can be traumatic to an individual who is without financial backing or does not have the personal skills to obtain another job. However, if a different individual loses a job, he or she can appraise the situation as something that can result in personal growth because he or she feels capable of overcoming this setback. His or her emotional reaction will be more positive because of this appraisal pattern. The potential threat of losing one's self-esteem is avoided because of the way he or she appraised the situation.

There are two types of appraisal categories: primary and secondary appraisal. Primary appraisal is defined as whether the encounter is relevant to the person's well being while

secondary appraisal is related to the person's resources for coping with the encounter (Smith & Lazarus, 1990). Primary appraisal determines the intensity of the resulting emotional reaction in that emotions are stronger as the appraised importance increases (Smith & Kirby, 2009).

Secondary appraisal has three components: accountability, coping potential, and future expectancy (Smith & Lazarus, 1990).

If a particular trauma or stressful event has occurred, one's appraisal of the relevance of certain situations can be transformed. Kauffman (2002) describes how individuals' core attitudes and beliefs, such as how people behave and their ability to influence events, make up their assumptive world. These assumptions are learned and are proved viable through interactions with the social world. Similar to schemas, or abstract knowledge structures, our attitudes and beliefs provide us with a network of information about the world and the self (Janoff-Bulman, 1989). They help dictate how individuals will appraise a situation's significance. These cognitive assumptions are what grounds, secures, and stabilizes an individual. They bring a sense of reality and purpose to a person's life. These assumptions give structure to events in an individual's world and contribute to how people and events in the world are perceived and understood (Cann, et al., 2009). Our understanding of how things work in the world is integral to our ability to predict the future and maintain a sense of control, security, and generalized hope (Clark and Kissane, 2002). Thus, our core attitudes and beliefs form our appraisal of a situation, which then predicts the emotion one experiences after a particular situation.

The constancy of our beliefs are so embedded and accepted in ourselves that they make up one's self-worth. There are three global assumptions that exist: the perception that the world is meaningful, the belief that the world and the people in the world are benevolent, and that the

self is viewed as positive and has worth (Kauffman, 2002). Past research has demonstrated that people are resistant to changes in their attitudes and beliefs (Janoff-Bulman, 1989). However, if there is a disruption of the assumptive world, by the act of a personal suffering or a global, traumatizing situation, we lose our beliefs about the goodness and the meaningfulness of the world. Individuals believed that these events could never happen to them. However, these events are too vivid and emotionally damaging to not force someone to rework his or her basic assumptions. Before the crisis, our assumptions have gone unquestioned and unchallenged. Now, the individual feels disoriented, insecure, unsafe, and vulnerable (Janoff-Bulman, 1989).

Thus, coping is involved in reconstructing these core beliefs and recreating an individual's assumptive world (Clark and Kissane, 2002). Problem-focused and accommodative-focused coping are two strategies that people utilize to regulate stress. Problem-focused coping is where someone tries to change a situation through gathering information or decision-making. The person evaluates his or her ability to act directly upon the situation to make it more congruent with one's goals. If someone feels determined in a stressful situation, he or she has a high PFCP, but if he or she is experiencing resignation, he or she will have a low PFCP.

Accommodative-focused (or emotion-focused) coping refers to the ability to adjust psychologically to the encounter should it turn out undesirable. One can do this by distancing, seeking emotional support, or avoidance if the situation is not congruent with one's goals (Smith & Lazarus, 1990). After a trauma, individuals can react in different ways, including self-blame, reinterpreting the victimization in a positive light, denial, and having recurrent intrusive thoughts (Janoff-Bulman, 1989). Individuals can selectively distort the traumatizing information to reduce its negative impact (Collins, Taylor, and Skokan, 1990). Stress occurs when there is a gap between what an individual wants and the resources the individual has. If the situation is

particularly important and relevant to goals, stress is even more heightened (Smith & Lazarus, 1990).

The stressful situation puts the individual in a place where the future is unknown, which can lead to feelings of apprehension and threat. The person may not be able to change the situation, resolve the problem, or remove himself from it. They have lost a sense of control and mastery over life. Since one's assumptions are shattered, how one normally appraises the world and self is also altered. The universal illusion of invulnerability, or the feeling that "it can never happen to me," is completely repudiated (Janoff-Bulman, 1989).

Overcoming a stressful event can also result in positive emotions and actions such as rejuvenated sense of hope, reappraisal of one's life, gaining of knowledge, and reordering of personal priorities (Collins, Taylor, and Skokan, 1990). Individuals can look for perceived gains from the event or try to believe that the self is still a worthwhile person because he or she has survived the event. The research concerning negative outcomes has focused on the direct impact after the event, while positive outcomes were found in the person's active coping efforts in response to the event when trying to modify the direct impact of the event (Collins, Taylor, and Skokan, 1990). A balanced assumptive world that includes the traumatic experience and one's new core beliefs is now created. It is important to note that the trauma is not erased from one's memory, but rather is permanently encoded.

Having one's assumptive world shattered can be traumatizing, and stressful life events seem to be universal occurrences. However, individuals are still able to sustain healthy psychological and physical well being. How can people bounce back so quickly? They have the capacity to achieve resilience. Resilience can be defined as the process of utilizing positive emotions and adaptation to bounce back from a negative or stressful life event (Campbell-Sills,

Cohan, & Stein, 2006). Certain external protective factors have been found to promote resilience such as supportive social networks and positive attachments with caregivers. Almost all individuals have the capacity to demonstrate resilience after exposure to a traumatic event. Individuals may experience some short-term damage in their emotional and physical well-being, but for the majority of the population, resilience takes over and people's negative reactions are relatively brief (Campbell-Sills, Cohan, & Stein, 2006). Maintaining a healthy and stable level of physical and psychological functioning after the unbearable experience is not as unique as researchers once believed (Campbell-Sills, Cohan, & Stein, 2006). Resilience and coping are related constructs, but coping refers to cognitive and behavioral approaches used to manage the demands of stressful situations, whereas resilience refers to adaptive outcomes in the face of adversity (Campbell-Sills, Cohan, & Stein, 2006).

Resilience has also been found to correlate with certain personality characteristics. It has a strong negative relationship with neuroticism, as this personality trait is related to negative emotions, anxiety and depression. In contrast, resilience has a strong positive relationship with extraversion, which follows the established fact that resilience is associated with positive emotions, attachments to others, and diverse social interactions (Campbell-Sills, Cohan, & Stein, 2006). In particular, positive affect has been shown to help individuals rebound subjectively and physiologically from stressful experiences (Tugade & Fredrickson, 2004). Positive emotions contribute to resilience because they broaden one's thoughts and actions into something more creative and flexible even if individuals are under stress. They also promote emotional regulation. On the other hand, negative emotions are associated with specific action tendencies (like fight or flight) that focus and narrow one's thoughts and behaviors. Having more flexible thinking and expanded behavioral options as a result of positive emotions may increase the

personal resources of extraverted individuals during times of stress and adversity. In addition, the tendency of extraverted individuals to build strong networks of social support allows them to utilize this important protective factor during stressful situations. Resilient individuals find positive meaning in negative events by positive reappraisal of their environment and using coping strategies.

To test how resilient versus nonresilient individuals appraise a situation, I used a web-based, anonymous survey that was designed to provide information regarding how individuals respond and adjust to events in their lives that they find to be stressful. Respondents were asked to recall, and briefly describe, a past stressful incident in their lives (the incidents selected were entirely of their choosing). They then responded to a series of close-ended survey questions to indicate how they reacted to the experience and had adjusted to it. In addition, they completed a variety of personality and general background measures that were examined to observe how individuals with particular dispositional characteristics respond to stressful events.

In this study, I examined how individuals who vary in their resilience, or ability to accommodate to stress, differ in their emotional reactions and coping behaviors in response to incidents they found to be stressful. Thus, several different measures related to resilience were included among the personality measures. I analyzed how an individual copes with the traumatizing situation and how his or her appraisal of the environment changed. The undergraduate population at Vanderbilt University has a wide variety of situations that have occurred in their lives. I also used online volunteers in order to generalize my findings. Specifically, I asked participants to describe the antecedents of a particular stressful situation. I hoped to assess how the participants had changed as a result of the experience. Did they appraise the stressful situation as challenging and that they did not have the means to attain their goals

before the particular trauma literally rocked their world? Can they recall ways that they coped with this stress?

I then focused the remainder of the survey on this particular trauma and the aftermath of it. Of course, some people have not had something as traumatic as having a family member diagnosed with a fatal disease, but there is evidence that most students have dealt with stressful situations where their previous attitudes and beliefs had to be reassessed. An example would be a student who applied to college with a certain future career path in mind and was shocked to find that he or she was not suited for this career. In that particular situation, I believed that having to reform his or her future plans reflects a crumbling realization that he or she cannot always succeed. I then asked similar questions to assess how their assumptions have changed and to see what their current beliefs say about themselves and their new assumptive worlds.

My hypothesis was that individuals who are resilient would record positive growth and transformation after the trauma. They would have a more balanced assumptive world with established core beliefs. Their attitudes would not be significantly altered after the stressful event. They would still consider the self as positive, that the world is meaningful and benevolent, and that individuals are benevolent. I also hypothesized that resilient individuals would utilize accommodative-focused coping over problem-focused coping. I also investigated the relationship between resilience, assumptive world, and appraisals. I hypothesized that resilient individuals would continue to appraise situations as meaningful and positive because their attitudes and beliefs would not have altered significantly after the traumatic event. I also examined the participants' reporting of severity of the trauma to see if a relationship between resilience and severity of the situation and how it affects the dispositional variables studied. Most research supports that individuals can cope after a particular trauma, but I wanted to

investigate exactly how and if their core assumptions and appraisal styles are altered.

Method

Participants

A total of 133 participants (76.7% female) were involved in the survey. The participants' ages ranged from 16-54, $M=22.7$; $S.D.=7.8$. Participants were 72% Caucasian. Each participant was recruited in one of three ways. One group were friends and acquaintances of the key study personnel, who received an e-mail inviting them to participate in the study, and provided them with a URL that took them directly to the survey. A second group of participants were recruited through the SONA system administered through the Vanderbilt Psychology Department. These participants were Vanderbilt undergraduates who used the SONA system to identify studies they could complete in partial fulfillment of course requirements. Participants in this group voluntarily signed up for this study from among the for-credit options listed in the SONA system. When the participant signed up for the study, they were provided a URL that took them to the survey. To recruit the third group of participants, information about the study was posted on a variety of psychology experiment boards on the web that interested volunteers can go to in order to participate in psychology studies at their choosing. They were also provided with a URL that took them to the survey. Participants' responses to the survey were made anonymously.

Measures

Stressor incident: At the beginning of the survey, the participants were asked to describe a stressful incident. The question stated: "There are many things that happen in our lives that cause us extreme stress, such as loss of a loved one, moving to a new place, loss of a job, chronic illness, academic failure, or natural disaster, etc. In the space below, please describe in detail an extremely stressful situation that you have experienced in the past year. Describe what led to this

event, what happened, and what you did next. Describe the situation in such a way that a person reading the description would feel stress just from hearing about the situation. Please describe the experience in as much detail as you can. The text box will expand to accommodate your essay.”

Rating of Severity: After describing the event, participants were asked to rate how severe of an impact the experience had on their lives at the time it was happening and how much they believed the experience had a lasting impact on their lives. Ratings were made on a five-point scale (0, not at all severe_ 4, extremely severe). Severity and lasting impact were strongly correlated and were thus combined for my analysis in order to have a single severity score, $r(130) = .54, p < .01$. In the current study, the severity rating demonstrated a Cronbach's alpha of .70.

Appraisal components and emotions: Single-item 9-point scales assessed motivational relevance, self-accountability, other accountability, problem-focused coping potential, emotion-focused coping potential, and future expectancy. A two-item 9-point scale assessed motivational congruence ($\alpha = .72$). Participants were also given a number of adjective clusters that described different emotions. Each group of adjectives was meant to convert to a single basic emotion. They selected the extent to which they were feeling the emotion during the stressful experience. For each adjective cluster, they were asked if they were experiencing the emotion at the time not at all, moderately, or extremely (Smith, Haynes, Lazarus, & Pope, 1993).

COPE Inventory: The COPE Inventory (Carver, Scheier, & Weintraub, 1989) was developed to assess a broad range of coping responses and includes at least two pairs of polar-opposite tendencies. Participants reported how they responded when confronted with the difficult and stressful experience. Ratings were made on a four-point scale (1= I usually don't do

this at all, 4= I usually do this a lot). The Inventory consists of 18 different subscales. I selected specific subscales that I believed best relate to problem and emotion-focused coping and reappraisals. In my results section, I will only be discussing the subscales labeled: active ($\alpha = .87$), positive reinterpretation ($\alpha = .72$), denial ($\alpha = .77$), acceptance ($\alpha = .83$), social support ($\alpha = .87$), religion ($\alpha = .96$), wishful thinking ($\alpha = .53$), self-isolation ($\alpha = .85$), reprioritize ($\alpha = .77$), and mediation ($\alpha = .95$). Sample items include: “I made a plan of action,” “I learned something from the experience,” and “I said to myself this isn’t real.” All of the 18 subscales had reliabilities between .51 and .96

Posttraumatic Growth Inventory: The Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996) is a 21-item scale that assesses positive changes experienced in the aftermath of highly stressful life experiences. Ratings were made on a six-point scale (0, no change_ 5, very great change). The total score and subscales all have good internal reliability and acceptable test-retest reliability (Tedeschi & Calhoun, 1996). The subscales include: relationship to others, future possibilities, personal strength, spiritual change, appreciation for life. Sample statements include: “I put more effort into my relationships,” “I developed new interests,” and “I have a greater feeling of self-reliance.” In the current study, the measure demonstrated a Crobach’s alpha of .94. All of the subscales had reliabilities between .83 and .92.

Core Beliefs Inventory: The Core Beliefs Inventory (Cann, et al. 2009) allows participants to reflect upon a stressful event and indicate the extent to which it left them to seriously examine each core belief. The nine items focus on religious and spiritual beliefs, human nature, relationships with other people, meaning of life, and personal strengths and weaknesses. Responses were made on a six-point scale (0, not at all_ 5, a very great degree). The ratings for

each of the individuals' beliefs were aggregated into a single scale score. In the present current study, the Core Beliefs Inventory demonstrated an alpha reliability of .79.

Perceived Stress Scale: The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) is a 14 item self-report instrument with a five-point scale: (0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often). It measures the degree to which situations in one's life over the past month are appraised as stressful. Items were designed to detect how unpredictable, uncontrollable, and overloaded respondents find their lives. The Perceived Stress Scale poses general queries about relatively current levels of stress experienced. In the present sample, the Perceived Stress Scale demonstrated an alpha reliability of .90.

Connor-Davidson Resilience scale: The CD-RISC (Connor & Davidson, 2003) is a 25-item scale that measures the ability to cope with stress and adversity. Items include: "I am able to adapt when changes occur," "I tend to bounce back after illness, injury, or other hardships," and "I am able to handle unpleasant or painful feelings like sadness, fear, and anger." Other aspects of resilience are tested including a sense of personal competence, tolerance of negative affect, positive acceptance of change, trust in one's instincts, sense of social support, spiritual faith, and an action-oriented approach to problem solving. Respondents rated items on a scale from 0 ("not true at all") to 4 ("true nearly all the time"). The scale has been shown to have adequate internal consistency, test-retest reliability, and convergent and divergent validity (Connor & Davidson, 2003). In the present sample, this scale demonstrated an alpha reliability of .88.

Ego Resiliency Scale (Block & Kremen, 1996): This scale was designed to assess the ability to change from and also return to the individual's characteristics level of ego-control after the temporary stressing influence is no longer present. The scale consists of 14 items, each

responded to on a 4-point Likert scale (1 =does not apply at all, 4 = applies very strongly). In the present sample, this scale demonstrated an alpha reliability of .73. The Connor-Davidson Resilience Scale and the Ego Resiliency Scale were strongly correlated, and were thus combined for my analysis as a single best estimate of resilience, $r(95) = .614, p < .01$.

The World Assumptions Scale (WAS): The World Assumptions Scale (Janoff-Bulman, 1989) is a 32-item checklist of assumptions about beliefs that respondents are asked to respond to on a 6-point Likert scale anchored by the respondent options of strongly disagree and strongly agree. Questions focus on participant's self-perceptions of benevolence of the world, meaningfulness of the world, and worthiness of the self. The scale generates eight subscale scores with possible scores ranging from 6 to 24 with higher scores indicating higher beliefs in that assumption. The subscales include justice, benevolence of people, benevolence of the world, control, randomness, self-worth, luck, and self-control. Items include: "Generally, people deserve what they get in this world," "People are basically kind and helpful," and "Peoples' misfortunes result from mistakes they have made." In the current study, the World Assumptions Scale demonstrated an alpha reliability of .72. All of the subscales had reliabilities between .70 and .84.

Rosenberg Self-Esteem Scale: Self-esteem was assessed with Rosenberg's Self Esteem Scale (Rosenberg, 1965). The Rosenberg Self-Esteem Scale is a 10-item self-report measure of global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-acceptance. The items are answered on a four-point scale ranging from strongly agree to strongly disagree. This scale has demonstrated good reliability and validity across a large number of different sample groups. In the present sample, this measure provided evidence of good reliability (Cronbach's Alpha = .89).

The Satisfaction with Life Scale: Life satisfaction was assessed with Diener, Emmons, Larsen, and Griffin's (1985) five-item Satisfaction with Life Scale. Ratings were made on a seven-point scale (1 strongly disagree...7 strongly agree). This scale is intended to be a general measure of life satisfaction. It has good internal consistency, has demonstrated high stability, and correlates highly with alternative measures of life satisfaction (Diener et al., 1985). In the current study, the Satisfaction with Life Scale demonstrated an alpha reliability of .83.

Procedure and Design

Participants in this study were recruited in three ways: email invitations, online experiment sites, and the Psychology SONA research participant pool. They completed the study online. They proceeded through a self-guided survey at their own pace. All information and instructions were self-contained within the survey. The survey itself consisted of two main sections. The first asked the participants to briefly recount and answer a series of close-ended questions about a past experience the respondent had found to be stressful.

The second part consisted of several different personality measures, primarily focusing on resilience and the ability to accommodate to stress. The participants were told the survey consists of approximately 470 items, and required approximately 1 hour to complete. The experiences the respondents described and evaluated were entirely of their own choosing. My particular research is in conjunction with a larger-scale project. In addition, the respondents were free to discontinue their participation in the survey at any time, and were free to decline to answer any questions they do not wish to answer.

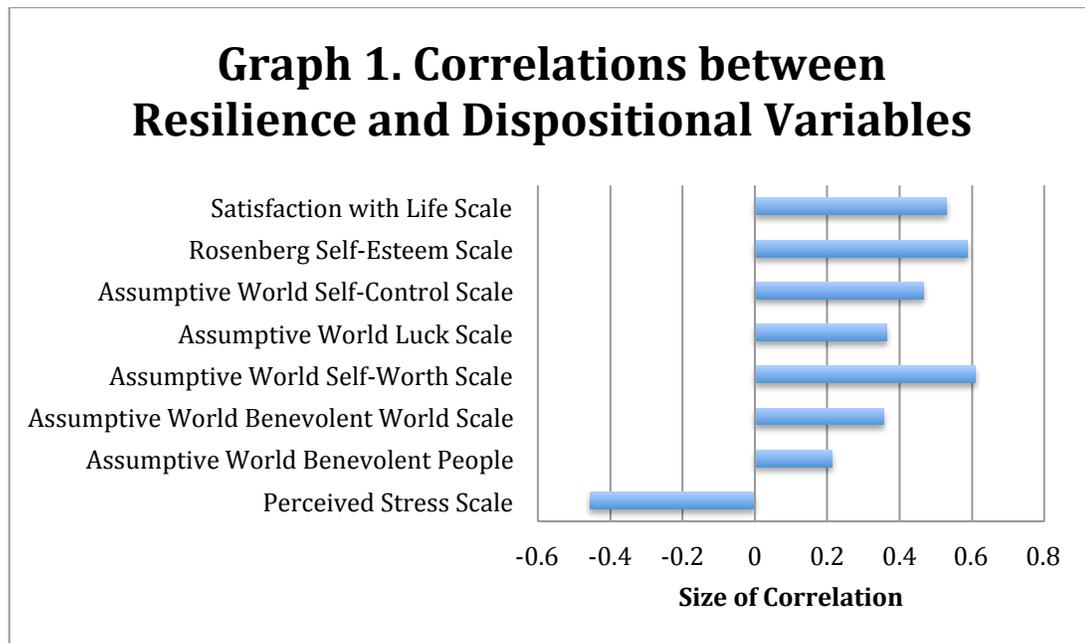
Results

Overview of Analyses

Pearson product-moment correlation coefficients and multiple regression were the major

forms of analyses used in the following analyses. The first set of analyses looks at how resilience is correlated with the different dispositional variables that were used. As described in my methods section, the two different measures of resilience were highly correlated and were thus combined to use a single measure of resilience. It was hypothesized that individuals considered resilient would still believe that the world and people in it are benevolent, that the world is meaningful, and the self is worthy. In addition, it was predicted that life satisfaction and self-esteem would be positively correlated with resilience while perceived stress would be negatively correlated. For the rest of the analyses, multiple regression was used to predict participants' scores on the personality constructs on the basis of their scores on resilience and severity of the stressful situation. Various aspects of the participants' reactions during the stressful events, such as how they appraised the situation, the emotions they experienced, and the different coping activities they chose, were examined. In addition, the changes following the event, such as personal growth and core beliefs transformation, were assessed. Analysis of the ratings of event severity indicated that there was a small but marginally statistically significant tendency for resilient people to select less impactful events to describe than did less resilient people ($r = -.17$, $p < .10$). Since we were not testing a population who has suffered from severe trauma, participants would have described varying levels of stressful events experienced. Though resilience is not highly associated with severity of the described experience, severity was still used as a control variable. The major hypothesis being tested is that resilient individuals utilize emotion-focused coping and positive reappraisals after a stressful life event. Beta values are reported to demonstrate how strongly resilience and severity of the situation as predictor variables influence the various criterion variables. The higher the beta value, the greater the impact the predictor variable has on the criterion variable. In addition, I will only be describing

the criterion variables that are relevant to my particular topic. My project was in conjunction with a larger-scale project. Thus, the following data will demonstrate how resilience is related to how the participants responded to traumatic events and the impact it had on their beliefs and personal growth.



Pearson product-moment correlation coefficient was computed to assess the relationship between resilience and different dispositional variables. A graph summarizes the results (Graph 1). As hypothesized, resilience was positively correlated with satisfaction with life ($r = .53, p < .001$). In addition, self-esteem and resilience were positively correlated ($r = .56, p < .001$). Resilience and perceived stress were negatively correlated ($r = -.46, p < .001$). My main hypothesis was to examine how resilience influences individuals' attitudes and beliefs after the stressful event. For the majority of the subscales, resilience was positively correlated with individuals maintaining their assumptions (r is between .21 and .61, $p < .001$). No significant relationship was found between resilience and individuals' perception of the justice, control, and randomness in the world.

Table 1. Beta Values of Situated Appraisals with both Resilience and Severity

	Resilience	Severity
Motivational Relevance	.12	.28**
Motivational Congruence	.16	.02
Self Responsibility	-.08	.11
Other Responsibility	-.03	.14
Problem Focused Coping Potential	.03	-.01
Emotion Focused Coping Potential	.31***	-.38***
Future Expectations	.25*	.14

Note: † $p < .1$, * $p < .05$; ** $p < .01$, *** $p < .001$.

Multiple regression analyses were conducted to examine the relationship between resilience, severity of the situation, and situated appraisals tested in the survey. Based on the Smith and Lazarus (1990) model, a set of appraisal measures was used. As shown in Table 1, both motivational relevance and motivational congruence were not significantly related to resilience. In addition, resilience was not found to significantly predict accountability. In terms of severity, more severe experiences were appraised as more motivationally relevant. Thus, only when the situation was considered more important did the severity have a significant effect. As predicted, resilience was only found to be positively and significantly predicted with emotion-focused coping not problem-focused coping. Those who are more resilient tend to feel that they are more able to emotionally handle the situation. Severity of the situation also had a significant inverse relationship with emotion-focused coping. Lastly, resilience significantly predicted how

the participants expected the situation to turn out.

Table 2. Beta Values of Emotions with both Resilience and Event Severity

	Resilience	Severity
Surprised/Astonished	.25*	.16
Guilty/Culpable	-.09	.06
Defeated/Resigned/Beaten	-.26*	.18
Relieved/Unburdened	.02	.17
Tranquil/Calm/Serene	.01	-.07
Frustrated/Thwarted/Exasperated	.29*	.02
Regretful/Remorseful/Sorry	-.05	-.11
Determined/Motivated/Persistent	.12	.05
Shy/Timid/Bashful	-.30*	.15
Grateful/Appreciative/Thankful	.20	-.05
Interested/Engaged	.24	.17
Mad/Angry/Irate	.01	.18
Hopeful/Optimistic	.30*	.11
Bored/Detached/Uninterested	-.06	-.06
Nervous/Anxious/Apprehensive	-.01	.35**
Overwhelmed/Overloaded/Rattled	-.07	.18
Proud/Triumphant	.04	.33**

Note: † $p < .1$, * $p < .05$; ** $p < .01$, *** $p < .001$.

Afraid/Frightened/Scared	.03	.40***
Sad/Downhearted/Blue	-.12	.03
Ashamed/Disgraced	-.01	-.04
Disgusted/Repulsed/Revolted	-.09	.00
Irritated/Annoyed	-.01	-.06
Indebted/Obligated	-.18	-.17
Amused	.12	-.12
Curious/Inquisitive	.14	.22
Joyful/Happy/Glad	.06	.05
Eager/Enthused/Excited	.01	.24
Embarrassed/Humiliated	-.02	-.17
Disappointed/Let down	-.12	-.32**
Satisfied/Content	.15	.09
Compassionate/Empathetic	.12	.10
Awed/Wondrous/Amazed	.19	.12

Note: † $p < .1$, * $p < .05$; ** $p < .01$, *** $p < .001$.

Multiple regression analyses were again conducted to examine the relationship between resilience, severity of the situation, and various emotions participants felt during the stressful situation. I have reported all emotions assessed in this study, but I am only going to discuss the emotions relevant to my hypotheses. The emotions that I will be expanding on cover the range

of emotions felt during a crisis. In addition, I chose emotions that I believed could be associated with either positive or negative coping mechanisms. As can be seen from Table 2, surprise and astonishment increases during the situation with resilient individuals. Feeling defeated and resigned significantly lowers as resilience increases, which supports the hypothesis that resilient individuals are able to cope and handle the stressful situation emotionally. Frustration was found to be positively predicted by resilience, which seems counter to the other significant correlations. Resilient individuals may feel exasperated with the various setbacks during the event, but they continue believing that they will be able to overcome the frustrating circumstances. Hope and optimism emotions are significantly higher with increasing resilience. For all of these emotions, severity and impact of the situation was not found to significantly predict the type of emotions experienced. However, anxiety and fear were found to be higher in more impactful situations, with no effect of resilience. In addition, it was found that severity of the situation was a significant predictor with experiencing pride. One can feel proud for being faced with a more challenging situation. Especially since they believe the event will have a lasting impact on their lives, they feel honored that such an important situation is occurring. Of course, the more impactful the situation, the more anxious and frightened someone might be that the situation won't turn out desirable. Resilience and severity of the situation were found to have no significant relationship with feelings of tranquility, determination, gratefulness, and being overwhelmed.

Table 3. Beta Values of COPE Inventory Subscales with both Resilience and Event Severity

	Resilience	Severity
Active	.14	-.05
Positive Reinterpretation	.36***	-.01
Denial	-.21*	.06
Behavioral Distance	-.05	.03
Acceptance	.18	-.08
Social Support	.24*	.09
Vent	.11	.27**
Humor	.12	-.14
Religion	.20	.1
Distract	.00	.13
Wishful Thinking	-.04	.15
Stoicism	-.21*	-.13
Self-isolation	-.35**	-.03
Self-blame	-.18	.05
Reprioritize	-.07	-.25**
Self-encourage	.16	-.13
Meditation	.23*	-.16
Substance use	-.16	.14

Note: * $p < .05$; ** $p < .01$, *** $p < .001$.

Multiple regression analyses were conducted to examine the relationship between resilience, severity of the situation, and different coping strategies used after the stressful situation had occurred. As mentioned in the methods sections, all 18 subscales of the COPE inventory was tested. I will only be emphasizing the subscales that relate to problem and emotion-focused coping and reappraisals. Resilience was found to be significantly associated with individuals' ability to positively reinterpret the situation. They experienced ability to learn and grow from the stressful event. There is a negative correlation between resilience and denial, which demonstrates that resilient individuals use lower levels of denial when assessing if the situation had actually happened. Resilience was also found to be a significant predictor of individuals' greater use of social support and sharing their feelings about the event. In addition, resilience is associated with less self-isolation. As the severity of the situation decreased, individuals were more likely to tell themselves that the situation wasn't as important and that other things matter more. Resilience was not significantly related to reprioritization. In addition, more resilience was positively associated with participants meditating in order to relax and cope with the situation. Resilience and severity of the situation was not found to be significant predictors of using a type of problem-focused coping. There was no relationship with the predictor variables and individuals' actively changing the situation to increase its desirability. Surprisingly, resilience was not found to be a significant predictor with accepting that the situation had occurred. Lastly, religion and wishful thinking were not found to be significantly related to resilience and severity of the situation.

Table 4. Beta Values of Posttraumatic Growth Inventory Subscales with both Resilience and Event Severity

	Resilience	Severity
Total Scale	.27**	.41***
Relationship to Others	.30**	.26**
Future Possibilities	.15	.41***
Personal Strength	.23**	.38***
Spiritual Change	.10	.18
Appreciation for Life	.22*	.37***

Note: * $p < .05$; ** $p < .01$, *** $p < .001$.

Multiple regression analyses were conducted to examine the relationship between resilience, severity of the situation, and positive changes experienced in the aftermath of the highly stressful life experience. Table 3 demonstrates that both resilience and severity of the situation were found to significantly predict overall posttraumatic growth as a result of the situation. In addition to the total score, I examined the different subscales of the inventory to assess the changes in the individuals' lives. As shown earlier in Table 2, social support and being able to relate to others is associated with resilience. In addition, as the severity of the situation increases, individuals were more likely to count on the relationships in their lives. Developing new opportunities and interests were significantly associated with severity of the situation. Both resilience and severity were significant predictors of feeling self-reliant and personal strength. In addition, they were both associated with greater appreciation of their life. Spiritual change was not found to be associated with resilience or severity.

Lastly, multiple regression was used to see if resilience and situation severity predict how the event impacted the individuals' questioning of core beliefs. I hypothesized that resilient individuals would not seriously examine each core belief. Resilience was not found to be a predictor for questioning core beliefs ($\beta = .22$, n.s.) However, situation severity was found to significantly predict one's questioning of his or her core beliefs. ($\beta = .37$, $p < .001$). Thus, as the situation is considered more impactful, individuals are more likely to reassess core beliefs.

Discussion

Both resilience and coping strategies have been examined after traumatic events in individuals' lives, but few studies have looked specifically at how attitudes and beliefs are related to the two concepts. The present study investigated the interrelationships between resilience, coping, appraisals, and assumptive world. Resilience and severity of the situation reported were used as predictor variables.

Correlations between resilience and the dispositional variables were statistically significant. As predicted, resilience was positively correlated with individuals feeling more satisfied and content in their current state. In terms of the assumptive world concept, resilience was significantly predicative of individuals' attitudes and beliefs. Thus, resilient individuals believe in the benevolence of the world and that misfortune is relatively uncommon. In addition, people are considered basically good, caring, and helpful. In terms of self-worth, since resilient people are able to bounce back from traumatizing situations, they still maintained the belief that they are moral and decent individuals. Thus, they maintain a perception of invulnerability because their moral character would protect them in a benevolent world. Their goodness determines what happens to them in the world. Previous research has demonstrated that resilience is related to positive reappraisal of negative events (Campbell-Sills, Cohan, & Stein,

2006). This is again demonstrated when resilience was positively correlated with individuals labeling themselves as lucky and in control. They experience a renewal of strength and determination after the traumatic event and feel more on top of the world. Even after a stressful event, resilient individuals feel like they will be protected from ill fortune because they have survived previous events.

Though it was predicted that resilience would be related to maintaining all attitudes and beliefs, this was not found. Interestingly, resilience is not significantly correlated with the major assumption that the world is meaningful. This assumption is related to how good and bad outcomes are distributed to different people. The “just world theory” explains that people get what they deserve (Janoff-Bulman, 1989). Since resilient individuals consider themselves good and decent, they may still be having trouble with the fact that such a traumatic event did happen in their lives. Even though they want to believe that their moral characters can protect them, there is a disconnect between the event and who they are.

The second principle under this assumption is controllability of outcomes. Before a traumatic event, most people overestimate the amount of control they have over events, and underestimate their vulnerability to negative events (Janoff-Bulman, 1989). People believe they can directly control their own behaviors and can lower their vulnerability by behaving carefully and precautionary. An example statement is: “Through our actions, we can prevent bad things from happening to us.” I believe that this belief was not found to be significant because resilient individuals believe their misfortune is not justifiable. They have difficulty accepting that the event occurred since they believe they have taken preventive actions. This explanation is strengthened since resilient individuals also do not believe in randomness, but rather that people can do something to protect themselves from negative outcomes. Randomness is related to the

belief that undesirable events occur by chance. Resilient individuals may have believed that they had the resources to combat the randomness of the world. They may not be able to control or prevent the event from occurring, but they can prevent themselves from being affected negatively. Thus, resilience is not correlated with justice, control, and randomness of the world because resilient individuals believe that they don't deserve feeling victimized. They still believe that the world is a good place and they are decent individuals. It is hypothesized that because of this dissonance, they are unable to fully positively reappraise and accept that the event happened to them in the first place. Further research examining why resilient individuals do not believe in the meaningfulness of the world needs to occur in order to test this hypothesis.

In terms of coping strategies, as hypothesized, resilient individuals used accommodative focused (or emotion-focused) coping and believed that, at the time, they could emotionally accommodate to the situation, however it turned out. This result is reinforced since resilient individuals reported not feeling in control of external experiences. Problem-focused coping is used when individuals feel like they can do something to better their situation. Rather, resilient individuals orient themselves to managing the emotions that accompany stress. Based on Lazarus and Folkman's (1984) findings, emotion-focused coping strategies include denial, positive reappraisal, and seeking social support, which were all associated with resilient individuals. Denial was actually found to be negatively correlated with resilience, even though it is one of the primary coping strategies. Even though they may experience defeat or frustration during the event, they adapt to the aftermath of the situation and use positive reappraisal instead of denying that the event actually occurred. Resilience has already been significantly correlated with extraversion (Campbell-Sills, Cohan, & Stein, 2006). Using social networks are just another healthy option that resilient individuals use to adjust to the situation. Together, these

findings suggest that resilient individuals are able to emotionally handle and cope with stressful situations. Whether they keep their minds busy or meditate on its significance, they are able to positively grow from the uncontrollable experience.

Though I was mainly focused on resilience and its relationship to the different variables, the results directed me to examine how self-reported severity of the situation influences the variables measured. The less severe and impactful the situation was, the more participants reported using emotion-focused coping to handle the situation. Thus, participants felt like they would be more able to deal emotionally with the event if they had determined it less relevant and severe. Severity was also linked to feeling nervous and frightened during the situation, while resilience was not related to these emotions. Resilient individuals reported feeling more positive emotions. In addition, participants were less likely to reprioritize if they determined the event to have lasting impact on their lives. They continued to believe that the event contained significant importance and severity. The more the event was determined to have a lasting impact, the more they appraised it as motivationally relevant.

Lastly, resilience was found to be predictive of experiencing positive growth and transformation after the traumatic event. Specifically, resilient individuals felt closer to others, had a greater appreciation of life, and experienced increased personal strength. Again, social support is necessary for recovery after stressful life events. Feeling stronger and able to handle life's difficulties is related to the previously discussed finding of resilient individuals having higher self-worth. Resilient individuals feel more capable after traumatic events because they are able to properly cope and adjust. They are more able to appreciate their lives because the world is still a good and decent place. Severity of the situation was positively predictive of numerous elements of posttraumatic growth. Since the situation was more severe, individuals

also felt more inclined to open up about their emotions to other individuals. In addition, they experienced personal strength and appreciation for life after surviving a more severe and impactful situation. The only difference is the fact that with more stressful situations, individuals are more likely to look to the future for new opportunities. Individuals are more likely to alter their future because of a severe and impactful life event.

The current study did have several limitations. One of the greatest limitations in the study of appraisal is the reliance on retrospectively remembered situations. Being unable to examine individuals in naturally occurring situations can alter the intensity of reported emotions. Also, individuals may distort the situation in order to lower its negative impact. They may also be unable to recall how they actually felt and behaved in the situation. In order to expand on the research, it would have been useful to study how a participant's coping strategy and behavior is different during ongoing situations. For my particular study, it seemed sort of impossible to fix this limitation. However, I felt that my diverse number of measures used countered this limitation and reliably showed how individuals are able to cope with stressful life events.

Another limitation is not controlling the type of event described. Varying levels of stressful events were described. Some of the events could not have been as effective in influencing participants' attitudes and beliefs. Thus, this could explain some of the nonsignificant and contradictory findings. In future research, it would be beneficial to study a specific population, such as individuals who have experienced natural disasters, to truly see how resilience is related to traumatic events. One of the questions I still have is if the type of trauma determines the probability of resilience. And if so, is emotion-focused coping the strategy used in the resilient population?

Another limitation lies in the fact that pre-measures of the participants' attitudes and

beliefs about the world were not studied. As with the limitation with research on appraisals, studies utilize retrospective data about the three basic assumptions. It is difficult to definitely assess the actual changes in the participants' lives. Studies measure how people inferred that they have changed, but do not assess whether the changes sustained. Granted, sometimes the perception that one is a stronger person is more powerful than reality; however, it would still be interesting to evaluate individuals' actual experiences.

Future studies should focus on understanding why resilient individuals have trouble believing in a meaningful world. By assessing this, one could truly "bounce back" from a traumatic event and continue to believe that the world is a benevolent and meaningful place. In addition, it would have been beneficial to look at the type of event described and see whether this plays a role in resilience. Since resilient individuals discussed less severe events in this research, it would be advantageous to examine the event in depth to determine whether the event is truly impactful enough to force someone to question their basic assumptions.

In summary, resilience was found to predict positive growth and transformation after stressful life events. Through the use of social support, meditation, and positive appraisal, resilient individuals utilized emotion-focused coping to adjust and bounce back from the negative experiences. They maintained their beliefs in the benevolence of the world and of people. They also continued to believe in their self-worth and personal strength. Resilience is not associated with believing that the world is a just and meaningful place. Acceptance that the event happened hinders this relationship. It seems that resilient individuals are unable to justify why something negative happened to them, since they continue to believe that they are personally invulnerable to trauma. Future research should examine this basic assumption in order to help individuals move completely past the event.

References

- Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology, 70*, 349–361.
- Campbell-Sills, L., Cohan, S.L., & Stein, M.B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behavior Research and therapy, 44*, 585-599.
- Cann, A., Calhoun, L.G., Tedeschi, R.G., Kilmer, R.P., Gil-Rivas, V., Tanya Vishnevsky, T., & Danhauer, S.C. (2010). *The Core beliefs inventory: A brief measure of disruption in the assumptive world. Anxiety, Stress, & Coping, 23*, 19-34.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267-283.
- Clark, D.M., & Kissane, D.W. (2002). Demoralization: Its phenomenology and importance. *Australian and New Zealand Journal of Psychiatry, 36*, 733-742.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396.
- Collins, R.L., Taylor, S.E., & Skokan, L.A. (1990). A better world or shattered vision? Changes in life perspectives following victimization. *Social Cognition, 8*, 263-285.
- Connor, K.M., & Davidson, J.R.T. (2003). Development of a new resilience scale: The connor-davidson resilience scale (cd-risc). *Depression and Anxiety, 18*, 76-82.
- Cosway, R. Endler, N.S., Sadler, A.J., Deary, I.J. (2000). *The coping inventory for stressful situations: Factorial structure and associations with personality traits and psychological health. Journal of Applied Behavioral Research, 5*, 121-143.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale.

Journal of Personality Assessment, 49, 71-75.

Janoff-Bulman, R. (1989). *Assumptive worlds and the stress of traumatic events: Applications of*

the schema construct. Social Cognition, 7, 113-136.

Kauffman, J. (2002). *Loss of the assumptive world: A theory of traumatic loss*, (Ed.) Great

Britain: Brunner- Routledge.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

O'Brien, T.B., & DeLongis, A. (1996). The interactional context of problem-, emotion-, and

relationship-focused coping: The role of the big five personality factors. *Journal of Personality*, 64, 775-813.

Roseman, I. J., & Smith, C.A. (2001). Appraisal theory: Overview, assumptions, varieties,

controversies. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp.3-19). New York: Oxford University Press.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton

University Press.

Smith, C. A., Haynes, K. N., Lazarus, R. S., & Pope, L. K. (1993). In search of the "hot"

cognitions: Attributions, appraisals and their relation to emotion. *Journal of Personality and Social Psychology*, 65, 916– 929.

Smith, C.A., & Kirby, L.D. (2009). Putting appraisal in context: Toward a relational model of

appraisal and emotion. *Cognition and Emotion*, 23, 1352-1372.

Smith, C.A., & Lazarus, R.S. (1990). Emotion and adaption. In L. A. Pervin (Ed.), *Handbook of*

personality: Theory and research (pp. 609-637). New York: Guilford.

Tedeschi, R.G., & Calhoun, L.G. (1996). The Posttraumatic Growth Inventory: Measuring the

positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455_471.

Tugade, M.M., & Fredrickson, B.L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, 86, 320-333.

Vitaliano, P.P., DeWolfe, D.J., Maiuro, R.D., Russo, J., & Katon, W. (1990). Appraised changeability of a stressor as a modifier of the relationship between coping and depression: A test of the hypothesis of fit. *Journal of Personality and Social Psychology*, 59, 582-592.