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ACCEPTANCE

This dissertation, INCREASING COPING RESOURCES: AN EXPERIMENTAL INTERVENTION APPROACH by WENDY LYNN DICKINSON, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree Doctor of Philosophy in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chair, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

_____
Jeffery S. Ashby, Ph.D.
Committee Chair

_____
Greg L. Brack, Ph.D.
Committee Member

_____
Kenneth B. Matheny, Ph.D.
Committee Member

_____
T. Chris Oshima, Ph.D.
Committee Member

_____
Date

_____
JoAnna F. White, Ed.D
Chair, Department of Counseling and Psychological Services

_____
Ronald P. Colarusso, Ed.D.
Dean

AUTHOR'S STATEMENT

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Wendy Lynn Dickinson

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Wendy Lynn Dickinson
5231 Glenridge Drive
Atlanta, Georgia 30342

The director of this dissertation is:

Dr. Jeffery S. Ashby
Department of Counseling and Psychological Services
College of Education
Georgia State University
Atlanta, Georgia 30303-3083

VITA

Wendy Lynn Dickinson

ADDRESS: 5231 Glenridge Drive
Atlanta, Georgia 30342

Education:

Ph.D.	2007	Georgia State University Counseling Psychology
M.S.	2002	Georgia State University Professional Counseling
B.S.	1999	Florida State University Communications

PROFESSIONAL EXPERIENCE:

2006 – 2007 Psychology Intern
Virginia Commonwealth University, Richmond, VA

PROFESSIONAL SOCIETIES AND ORGANIZATIONS:

2002 – Present American Psychology Association

PRESENTATIONS AND PUBLICATIONS:

Ashby, J. S., Dickinson, W. L., Bruner, L. P., Martin, J. L., Brasfield, C. D., & Timmons, D. T (2003, August). *Religious Coping, coping resources, and depression.* Paper presented at the 111th American Psychological Association Annual Convention, Toronto, Canada.

Ashby, J. S., Kutchins, C. B., Rice, K. G., Ganske, K. H., Dickinson, W. L., & Brasfield, C. D. (2004, July). Matches and Mismatches: Partners, Perfectionism, and Premarital Adjustment. Paper presented in the Symposium: Interpersonal Implications of Perfectionism, 112th American Psychological Association Annual Convention, Honolulu, Hawaii.

Ashby, J. S., Rice, K. G., Timmons, D., Dickinson, W. L., Brasfield, C. D., & Ganskem K. H. (2004, July). Refining the Classification of Perfectionists. Poster presented for the 112th American Psychological Association Annual Convention, Honolulu, Hawaii.

Brasfield, C. D., Ashby, J. S., Martin, J. L., Timmons, D. J., Bruner, L. P., Blasko, L. S.,

Dickinson, W. L., & Leavitt, C. H (2003, August). *Multidimensional perfectionism and perceptions of stress among college students*. Poster presented at the 111th American Psychological Association Annual Convention, Toronto, Canada.

Bruner, L. P., Ashby, J. L., Dickinson, W. L., Brasfield, C. D., & Timmons, D. T (2003, August). *Multidimensional perfectionism and Kohut's self-psychology theory*. Poster presented at the 111th American Psychological Association Annual Convention, Toronto, Canada.

Dickinson, W. L., & Ashby, J. S (2004). Multidimensional Perfectionism and Ego Defenses. *Journal of College Student Psychotherapy, 19,* 41-54.

Dickinson, W. L., Ashby, J. S., LoCicero, K. A., Timmons, D., Ganske, K. H., & Brasfield, C. (2004, July). Multidimensional Perfectionism and Hope in Middle School Students. Poster presented for the 112th American Psychological Association Annual Convention, Honaunau, Hawaii.

Matheny, K. B., Ashby, J. S., Cup, P., Dickinson, W. L., Ganske, K. H., Ward, A., Wright, P. M. Brasfield, C. D. (2005, August). Gender Differences in Stress, Coping, and Illness Among College Students. Poster presented for the 113th American Psychological Association Annual Convention, Washington DC.

Singh, A. A., Dean, J. K., & Dickinson, W. L., (2005, August). Ethical Decision Making and Multiple Relationships. Poster presented for the 113th American Psychological Association Annual Convention, Washington DC.

ABSTRACT

INCREASING COPING RESOURCES:
AN EXPERIMENTAL INTERVENTION APPROACH
by
Wendy L. Dickinson

Recently, 44% of college students reported increased levels of stress, and 28% reported feeling overwhelmed (e.g., The American College Health Association: 2004). Stress has been linked to a variety of physical and emotional problems (e.g., Matheny & McCarthy, 2000). A number of studies (e.g., Matheny et al., 1993; Matheny et al., 1986) have identified coping resources as helpful in decreasing the negative effects of stress. However, there are still some questions in the literature regarding effective ways to increase coping resources. Reading written feedback about coping resources is one way to increase individuals' awareness about their coping resources (e.g., Matheny et al., 1993). Another intervention that has been shown to have positive and lasting effects with regard to health and well being is therapeutic writing (e.g. Smyth, 1998). While there are studies that point toward writing being beneficial to coping, there are currently no studies that have specifically connected writing interventions with increased coping resources. The purpose of this study was to determine if individuals could increase coping resources and life satisfaction, as well as decrease perceptions of stress and depression by reading about their coping resources and/or writing about them.

One hundred and four college students were recruited and randomly assigned to one of three conditions. Condition one was the control condition (i.e. no treatment),

condition two received and read written feedback about their current coping resources, and condition three received written feedback about their current coping resources, and wrote about them at three different times. All students were given the following measures at the beginning and end of the study to assess for changes in their perceptions of stress and coping, as well as depression and satisfaction with life: the Coping Resources Inventory for Stress (Matheny, Curlette, Aycock, Pugh, & Taylor, 1992), the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), the Center for Epidemiologic Studies Depression Scale (Radloff, 1977), and the Satisfaction with Life scale (Diener, Emmons, Larasen, & Griffen, 1985). The results showed that reading written feedback about coping resources positively and significantly affected the overall coping level of females. However, their satisfaction with life, perception of stress, and depression levels remained unchanged. For males, reading written feedback did not significantly change their overall coping resources or any of the other variables. Writing about stress and coping did not significantly benefit males or females on any variable. Implications for practice and future research are discussed.

INCREASING COPING RESOURCES:
AN EXPERIMENTAL INTERVENTION APPROACH

by
Wendy L. Dickinson

A Dissertation

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ABBREVIATIONS

CES-D	Center for Epidemiologic Studies Depression Scale
CRIS	Coping Resource Inventory for Stress
PSS	Perceived Stress Scale
SWLS	Satisfaction with Life Scale

CHAPTER 1

STRESS, COPING, AND THERAPEUTIC WRITING: A CONCEPTUAL APPROACH

It is difficult to imagine a life without stress. Each of us has anecdotal evidence from our own lives that supports the idea that stress may be an essential part of life. Recent research suggests this is true in the lives of college students as well. College students reported dealing with high levels of stress, and more stressors than ever before (The American Freshman National Norms, 2000; The American College Health Association, 2004). This is especially disturbing because increased stress can have a variety of negative effects on an individual's physical and emotional well being (e.g. Matheny & McCarthy, 2000) if coping resources are not put into place to combat the negative impact.

Stress

Stress was the focus of much research well before the 1950s, though not using the term "stress." In 1956 Seyle coined the term for use in biomedical research. He used it to refer to the body's response to a noxious external stimulus, and theorized that this response was always non-specific in nature. The interest within the physiological sciences community focused on the way an organism responded to external environmental demands (e.g., Cannon, 1932; Selye, 1936). At the same time, sociologists were using the word "strain" to refer to an experience of stress common to a group of

individuals, and psychologists were looking at the “anxiety” one experiences on an individual level (e.g., Lazarus & Folkman, 1984). After Selye introduced the term “stress,” it was readily adopted and quickly accepted into the research vernacular of various disciplines; however the idea that the stress response is non-specific in nature has been challenged as some suggest that the quality of the physical response varies according to the stressor (i.e., Sapolsky, 2000).

Through a series of experiments, Mason (1975) was able to show that specific reactions to specific stressors have different outcomes, suggesting that specific stressors/reactions may be more important than Selye thought. About that same time, Lazarus (1966, 1974), posited that there may be multiple variables affecting the stress level an individual feels, some of these are environmental demands, emotional response, and the process of coping. Similarly, Mikhail (1985) summarized the themes that emerged from research on stress during the 1950s and 1960s as being threefold: that individuals differ in their reactions, that the perception of the stressful event is pivotal, and that the extent of the stress depends on the individual’s ability to cope.

These themes have been central in the study of stress and coping, and continue to be the foci of literature today. While all living beings experience stress, the research has corroborated the idea that individuals respond differently to similar stressful events. Two models of conceptualizing stress have emerged from the literature (e.g., Monat & Lazarus, 1991; Singer & Davidson, 1986). The first is a physiological model, derived from Selye’s research, suggesting that when an outside demand is encountered, the reaction will be similar for each individual who encounters that demand. It is analogous to a light switch being flipped. Once the switch is flipped the same amount of light

appears regardless of the bulb wattage, age, or location of the lamp. However, the second model is a transactional model (e.g., Lazarus, 1966), and incorporates the idea that the appraisal of the stressor is more important than the stressor itself as it determines if the demand is in fact a stressor. In the analogy of the light switch, the potentiality of the light in the room is affected by the wattage and age of the bulb, as well as the location and visibility of the lamp.

Essential to the transactional model is the appraisal of the stressor. Depending on the appraisal, anything in an individual's environment could constitute a threat or stressor if perceived as such. Perception is the first step in appraisal, and is defined as the process by which information is integrated and meaning is assigned (Houston, 1989). Physiological measures have validated the idea that there is a difference between a pure sensation and a stimulus, and one's perception of that stimulus (Warburton, 1979). That is, the impact of the stimulus as a stressor, is moderated both by one's perception of the stimulus through sensory perception, and by one's internal thought processes about the stimulus.

Appraisal may occur in several phases: primary appraisal and secondary appraisal (e.g., Coyne & Lazarus, 1980; Folkman & Lazarus, 1988; Matheny & McCarthy, 2000). During the primary appraisal the individual assess the immediate threat of the situation. This may be an instant assessment or the individual may engage in a structured cognitive process to make the assessment. During the secondary appraisal, one's ability to handle the situation is assessed in light of the primary assessment. The primary appraisal is related to the threat itself, and the secondary appraisal is related to the resources one has to combat that threat. It is likely that while facing a stressor, the individual will assess and

reassess, both primarily and secondarily multiple times. A feedback loop will be created each time there is new information or changes in the old information to assess.

Emotions are an important process in both the appraisal and coping process. They often act as markers to identify the areas that are most important to cope with first (i.e. those producing anxiety or fear). During the assessment and reassessment phases of the appraisal process, positive emotions (such as relief, happiness, or security) allow the individual to identify the coping strategies that have been helpful, just as negative emotions (i.e. frustration, depression, and anger) may allow the individual to identify that have not been helpful (e.g., Folkman & Moskowitz, 2004).

Stress then, results from the outcome of each appraisal process. One of the most commonly used conceptualizations of stress suggests that when the perceived demands or threats of a situation outweigh the individual's perceived resources or ability to meet those demands or threats, the individual experiences stress (e.g., Coyne & Lazarus, 1980; Hobfoll, 1989; Matheny, Aycock, Curlette, & Junker, 1993). The imbalance that results when the perceived demands are greater than the individual's perceived ability or resources with which to meet the perceived demands, determines the amount of stress an individual will experiences in a given situation. If the difference is minor, the individual will likely experiences less stress than when the imbalance is great. The transactional model emphasizes the relationship of the person (and his/her perceptions) to the environment that results in stress (e.g., Lazarus & Folkman, 1984).

Hobfoll (1989) proposed a similar model to that of the imbalance model and called it the "conservation of resources" model. He suggested that individuals seek to increase their resources to meet external demands even when they are not currently

facing such demands. He theorized that it is the net perceived losses in resources that individuals avoid (or net perceived gains they seek). While there are differences in the above theories, they share the assertion that perception and appraisal are critical components to understanding stressful events.

Once the event occurs, it is the appraisal of the event, and the meaning that one ascribes to the event that determines the stress level, not the abstract “stressfulness” of the event. When one encounters a demand, he/she automatically assigns a level of importance to that demand. The individual’s goals and priorities will influence this assignment, and stronger emotions are assigned to events that are perceived as more threatening to one’s goals and priorities (e.g., Folkman & Moskowitz, 2005). As more emotion is assigned to the event, the level of stress will increase around the event. Because stress is a relationship between the individual (his/her priorities, emotions, experiences, and perception of resources) and the environment (contextual and situational factors), there is no objective way to predict which events will be more or less stressful for one individual over another (e.g., Lazarus & Folkman, 1984).

Although it is difficult to predict which events will prove to be more or less stressful, research does indicate that there are some aspects that are common to particularly stressful events and likely to produce stress when they are present. Glass (1977) found that events appraised as uncontrollable, unpredictable, negative, or ambiguous are more stressful than those that do not have these dimensions. Controllability or perceived controllability is one dimension that has proven to be an important factor in the level of stress an individual experiences during a stressful event. Research has shown that individuals who perceive the stressful event as controllable,

show similar physiological profiles to individuals who are under no stress (e.g., Hanson, Larson, & Snowden, 1976; Laudenslager, et. al., 1983), and that perceived control is linked to lower illness related to life events (e.g., Matheny & Cupp, 1983).

While there may be some differences in theory regarding the etiology of stress, there seems to be more of a unity of opinion about the negative effects high levels of stress has on an individual. For many years researchers have studied and found that stress has negative effects on the body (e.g., Blonna, 2005). Stress has been connected to a variety of mental and physical illnesses including, cardiovascular disease, anxiety, depression, immune deficiency, head aches, heart and blood pressure problems, lowered energy, colds, allergies, and strokes (e.g., Cohen, Frank, Doyle, Skoner, Rabin, & Gwaltney, 1998; Matheny & McCarthy, 2000; Sapolsky, 2000).

Coping

As interest in stress has increased, so has the literature around coping (e.g., Folkman & Moskowitz, 2004). Lazarus's (1966) transactional theory of stress highlighted the interaction of the person and the demands, and the cognitive element involved in the appraisal process. This shifted the focus in the literature from the pathology of stress to the individual's ability to cope with the stressor (Folkman & Moskowitz, 2004). Subsequently coping has been defined as the strategies that individuals use to manage the difference in demands (both internal and external) and the resources one has to meet those demands (e.g., Folkman & Lazarus, 1984; Matheny & McCarthy, 2000; Tennen, Affleck, Armeli, & Carney, 2000).

Like stress, coping is a multi-dimensional and contextual construct (e.g., Folkman & Moskowitz, 2004; Lazarus & Folkman, 1984). Factors such as environmental

demands, personal resources, appraised threat level, and meaning or emotional investment may have mediating or moderating effects on the coping process. In order to combat the various aspects of the stressor, individuals develop a variety of coping resources. While not everyone possesses or develops every resource, there is a relatively small pool of resources from which individuals typically draw. These resources are in place before the individual encounters the stressor and are not as reactive as many of the identified coping responses (e.g., Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984). During the appraisal process, the individual measures the perceived threat against their perceived store of resources with which to combat that threat. The level of stress is lower if the individual perceives they have more resources ready to mobilize in response to the threat. When the threat occurs, individuals will more successfully overcome the threat if they have more available coping resources on which to draw (e.g., Curlette, Aycock, Matheny, Pugh, & Taylor, 1992; Matheny et al., 1993).

In the Coping Resources Inventory for Stress (CRIS; Curlette et al., 1992) Matheny and colleagues (1993) identified 12 coping resources and are as follows. Self-disclosure measures one's tendency to disclose his/her intrapersonal world (thoughts, feelings, opinions, etc.). Self-directedness measures one's decision-making and assertiveness. Confidence measures one's ability to gain mastery over his/her environment (including their emotions) toward attaining their goals. Acceptance measures the degree to which one is able to accept his/hers and others shortcomings. Social support measures the existence and availability of a network of caring others to call on in need. Financial Freedom measures individual's freedom from financial worry. Physical health measures the individual's overall wellness and freedom from chronic

illness and disability. Physical fitness measures one's health routine, including an exercise regime. Stress monitoring measures one's awareness of and ability to monitor his/her stress level and optimum stimulation range. Tension control measures one's ability to successfully implement relaxation techniques in order to lower arousal. Structuring measures the degree to which one is able to measure his/her resources. And finally, problem solving measures an individual's ability to manage and resolve personal problems.

Use of the above-mentioned coping resources has been linked to decreases in physical and emotion illness, increase in physical and emotional well being, and increased life satisfaction. Research has shown that by increasing his/her coping resources, an individual is able to increase his/her ability to handle and/or maintain stressors that may arise (e.g., Matheny et al., 1993; Matheny et al., 1986). Some of the coping resources are more easily changed or increased than are others. For example, it may take a significant amount of time to change one's physical health, financial freedom, or social support. However, specific relaxation strategies could be taught to individuals to increase their tension control, and individuals could be trained to become more aware of their stress level; this in turn would increase their stress monitoring. Changes in resource levels are indicated on the individual resources scale, or by evaluating the change the Coping Resources Effectiveness (CRE) scale, which is an overall score based on the individual's specific resource scores (e.g., Matheny & McCarthy, 2000; Matheny et al., 1986; Matheny et. al., 1993).

The interactive model of stress suggests that there is a dynamic relationship among stress, stress coping resources, and the stress response (e.g., Buzzell, 1991;

Matheny et al., 1986). Coping resources are integral as they influence every step of the model. They affect one's attitudes and emotions as the event is interpreted or assessed in light of the perceived coping resources available. Once the event occurs and is reappraised, the perceived coping resources effect the reassessment of the threat level and the individual's ability to combat that stressor. Matheny et al. (1986) suggested that individuals use both preventative coping strategies and combative coping strategies. Preventative strategies (to help prevent the occurrence of stressors and build up coping resources) include strengthening physical, financial, social, and psychological resources, while combative strategies (to handle immediate stressors) include such resources as stress and tension monitoring, problem solving, and confidence.

There are numerous ways to conceptualize the coping process. One of the most common conceptualizations is that of problem-focused coping and emotion-focused coping (e.g., Folkman & Moskowitz, 2004; Lasarus & Folkman, 1984; Monat & Lazarus, 1991). Both approaches have been found to be helpful depending on the specific context of the coping (e.g., Matheny & McCarthy, 2000). Individual coping resources can be identified as either problem-focused (actively attacking the threat) or emotion-focused (managing the stress and emotion around the threat) and grouped into categories as such. Problem-focused coping is effective when the threat is clear, the threat can be attacked actively, and the threat is to some degree controllable. Individuals, often use emotion-focused coping, when the threat seems far outside their control (such as illness) their energy becomes focused on controlling their emotions related to the uncontrollable stressor rather than the stressor itself (e.g., Matheny & McCarthy, 2000).

There is debate in the literature as to the effectiveness of emotion-focused coping as some studies show emotion-focused coping to be associated with higher levels of distress (e.g., Stanton, Danoff-Burg, Cameron, Bishop, Collins, Kirk, Sworowski, & Twillman, 2000; Stanton, Danoff-Burg, Cameron, & Ellis, 1994). However, Stanton and colleagues (1994, 2000) found that in women emotion-focused coping emphasizing emotional expression is associated with decreased depression and hostility, and increased life satisfaction and hope. Subsequent studies have not shown these results to be consistent or replicated in male samples, but data still suggests that in the short-term, and for some samples, emotion focused coping alone may be helpful. Terry & Hynes (1998) found that emotion-focused coping was related to better adjustment when the problem was determined to be uncontrollable. Ultimately, the greater body of literature suggests that use of problem-focused and emotion-focused coping in tandem is the most often used and most beneficial strategy for combating a stressor (e.g., Folkman & Moskowitz, 2004; Matheny & McCarthy, 2000).

Coping flexibility is defined as one's ability to modify his/her resources to meet the demands (Folkman & Moskowitz, 2004). While research has proven to be inconclusive in relation to outcomes, it does suggest that if an individual possesses an ability to use a variety of coping resources across different situations, rather than leaning only on a few, it would increase the likelihood of a more successful outcome (e.g., Carver & Scheier, 1998; Lester, Smart, & Baum, 1994). In other words, the literature reflects the idea that having more coping resources from which to choose when approaching a demand, the more successful the coping is expected to be (e.g., Folkman & Lazarus, 2004; Lazarus & Folkman, 1984; Matheny & McCarthy, 2000). Benefits such as

increased life satisfaction, longer life span, decreased depression, decreased emotional distress, and fewer illnesses have been found to results from increased coping resources (e.g., Matheny et al., 1993; Matheny & McCarthy, 2000).

Therapeutic Writing

Similar to coping resources, recent research has shown therapeutic writing to be beneficial to health and well being (e.g. Pennebaker, 1997; Smyth, 1998). These benefits have been found in a variety of samples and with positive outcomes. Writing was ultimately associated with decreased distress in various studies as reported in Smyth's (1998) meta-analysis.

Writing for as little as 15-30 minutes a day for 3-5 days has been linked to a reduction in visits to the physician and improved immune functioning (e.g., Brewin & Lennard, 1999). Writing about stressful or traumatic events is related to less distress and depression (Ullrich & Lutgendorf, 2002). College students who write about their transition to college visit the health center fewer times than those students who write about superficial topics (Pennebaker et al., 1990). In research samples, writing participants have reported decreased post traumatic stress disorder symptoms, less depression, greater well-being, and fewer sick days missed at work (e.g., Sloan & Marx, 2004). In another study, writing participants reported beneficial effects on their psychological functioning and mood (Schoutrop, Lange, Hanewald, Duurland, & Bermond, 1997); a positive change in writing participant's level of stress reactivity and negative affect was also reported (e.g., Pennebaker, 1997; Stone, Smyth, & Hurewitz, 2000). Another study specifically with college students showed that immune functioning increased positively through writing (Pennebaker, Kiecolt-Glaser, & Glaser, 1988).

In most of the writing studies, the participants are asked to write for three to five, 20-minute sessions, over the course of one to three weeks (Pennebaker, 1997). Participants are usually given a prompt instructing them to write on a specific topic. While there has been some expressed doubt in the literature that this seemingly small amount of time could actually produce any kind of results, there is little research that supports the skepticism. Greenhalgh (1999) expressed such skepticism, “it seem frankly implausible that a total of 60 minutes’ writing on a subject unrelated to the disease should have a clinically significant impact on two different chronic diseases four months later” (p. 272). While the doubt seems plausible, research, both experimental and anecdotal, point toward the benefits that writing can have on an individual’s physical and emotional health. Admittedly questions remain as to what exactly happens during the intervention that contributes to the positive results that have been found.

One of the only variables in the therapeutic writing structure that seems to affect the outcome is the topic on which the individual writes (Pennebaker, 1997). Individuals who are prompted to write about a given topic are more likely to experience benefits from writing than are those who are prompted to write only about facts (such as a detailed description of their car or daily activities; Esterling et al., 1999). Some evidence suggests that the type of benefits may be directly related to the topic on which the individual writes. For instance, college students who were prompted to write about their experience and adjustment transitioning to college had higher grades than did those students who wrote about a general traumatic experience (e.g., Pennebaker, 1997; Pennebaker & Beall, 1986; Pennebaker et al., 1990).

While there seems to be consistency in the literature as to the most effective structure of writing interventions, an explanation for why the interventions work is less apparent. Two main themes have emerged from the literature as to why writing is therapeutic. The first is a more simplistic approach. Pennebaker and Seagal (1999) suggested that writing allows an individual to construct a story, and that by doing so he/she is required to seek to understand his/her experience and him/herself. To create a story, one must be able to weave the experiences and events, with the hopes, beliefs, thoughts, and emotions, in order to create meaning. They suggest, "the formation of a narrative is critical and is an indicator of good health" (p.1234).

The second theme is related to the emotional expression that occurs in therapeutic writing. While emotional expression through writing has been linked to health benefits (e.g., Pennebaker, 1997; Pennebaker et al., 1990; Smyth, 1998), researchers have found that many people do not share major life stressors including divorces, death, homesickness (of college students), with those around them (e.g., Fisher, 1988; Pennebaker et al., 1990; Pennebaker & O'Heeron, 1984; Pennebaker & Susman, 1988). It is not a new concept in the area of psychology that the expression of emotion is beneficial to mental health and inhibiting emotional expression can be harmful. However, it may be that therapeutic writing facilitates a combination of emotional expression and cognitive processing which is more beneficial either in isolation (e.g., Ullrich & Lutgendorf, 2002).

This combination of emotional expression and cognitive processing has been shown to be a strength of the therapeutic writing intervention. Multiple studies have found health benefits for individuals who are prompted to write about both the emotions and the cognitions (e.g., Smyth, 1998; Ullrich & Lutgendorf, 2002). In a study by Ullrich

and Lutfendorf (2002) participants were prompted to write only about emotions, only about cognitions, or to write about a combination of the two. Participants who wrote about both emotions and cognitions (or facts) showed positive changes over time, while participants in the other two groups either showed no change or actually showed a declined. They surmised that emotional expression or passage of time alone are not helpful, and that emotional expression by itself can be potentially damaging. Spera, Buhrfeing, and Pennebaker (1994) found anecdotal support for this idea in job seekers. They suggest that those who had addressed both their emotions and cognitions did a qualitatively better job searching for and securing a job than those who had not.

One of the factors that may keep individuals from healing is his/her inhibition around talking about the truma. Trauma survivors who have written about experiences they had previously inhibited and not put into language (verbally or written) have gained both physical and psychological benefits such as increased immune functioning and decreased visits to the students health center (e.g., Pennebaker & Beall, 1986; Pennebaker et al., 1990; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). On the opposite side, those who have experienced trauma, but continue to inhibit expression of the event are more likely to succumb to various illnesses (e.g., Pennebaker et al., 1990; Pennebaker & O'Heeron, 1984; Pennebaker & Susman, 1988). Inhibition of emotion has been identified as a cause of stress specifically to the immune system that results in illness (Pennebaker, 1989). It has also been associated with a decrease in ability to cognitively process information and memories (e.g., Horowitz, 1976; Spera, Buhrfeind, & Pennebaker 1994). Pennebaker (1989) posited that the effectiveness of the writing is related to the process of disinhibition.

Coping, as discussed earlier, is a critical factor to an individual's ability to handle stress. While writing will not decrease demands in an individual's life, researchers (e.g., Aspinwall & Taylor, 1992; Cameron & Nicholls, 1998; Esterling, L'Abate, Murray, & Pennebaker, 1999; Scheier, Weintraub, & Carver, 1986) have suggested that therapeutic writing directly increases coping resources and/or increases characteristics that increase coping resources (such as optimism). Specifically, Esterling et al. (1999) stated, "there is evidence that therapeutic writing improves organization as well as developing adaptive coping strategies" (p.12). Therapeutic writing has also been linked to adaptive behaviors such as increased awareness, insight, sense of control, and self esteem (Esterling et al., 1999). Writing has been shown to help individuals integrate thoughts, beliefs, facts, emotions, and memories, thereby increasing adaptive adjustment to stressful experiences (Cameron & Nicholls, 1998). Prompting individuals to specifically incorporate the development of coping plans or strategies into their writing, seems to be most effective in helping them to adjust and adapt to the stressor (e.g., Cameron & Nicholls, 1998), further the combination of the emotional expression with the cognitive processing may help individuals to appraise their demands and resources more accurately.

The conceptual connection between writing and increasing coping resources has been suggested in the literature in several ways. First, as appraisal and perception of demands and resources are critical components of determining the stress level, a more accurate appraisal process may be facilitated if the individual is to write about his/her emotions and cognitions relevant to the situation. This would increase his/her awareness and understanding about the event and his/her ability to combat the stressors. Other

individual resources such as Stress Monitoring (one's awareness of tension build-up) and tension-control (the ability to engage in relaxation) would be clearly affected by an increase in awareness on the part of the individual. Self-disclosure (the ability to share one's feelings) would be increased as the individual would have a specific place to express his/her feelings about the demand and/or resources. Self-directedness (one's decision making ability and trust of his/her own judgment) may be increased his/her and self-directedness may both be increased if the individual can see his/her thoughts and emotions integrated into a coherent whole before making a decision. And finally, the confidence of the individual may be increased as he/she uses the therapeutic writing to form a well thought-out coping plan he/she can follow when finished writing.

College students have long been identified as a population with increased life stressors. Much of the therapeutic writing literature has centered on trauma survivors, however college students have consistently responded positively to writing interventions, and given the choice said they would like to participate in writing studies again (e.g., Pennebaker, 1997; Pennebaker & Seagal, 1999). Students in writing conditions reported higher GPAs than did those in control conditions (Cameron & Nicholls, 1998) and fewer visits to the student health centers (e.g., Greenberg & Stone, 1992; Pennebaker, 1997).

These positive responses to writing are not surprising as college students report high levels of stress. Some research suggests that as many as 28% of college freshman report feeling overwhelmed (AFNN, 2000), and twice as many women (36%) as men (16%) report high levels of stress. The American College Health Association (ACHA), in 2004 found that of 24,804 students from 50 schools, 44% reported they experienced increased levels of stress, 23% reported they received a lowered grade on an exam due to

the stress, 6% reported they received a lowered grade in a class as a result, and 1% reported the had to withdraw from a class because of the stress. Stress was the number one reported factor for lowered academic performance among factors such as alcohol, allergies, physical assault, sexual assault, ADD, illness, concern for friend or family member, chronic pain, depression or anxiety, drug use, eating disorder, injury, learning disability, relationship problems, and sleep difficulty (ACHA, 2004).

College students have reported a variety stressors; for example they report living arrangements (moving away from home, having roommates), relationships (family, romantic, and friendships), physical health (illnesses, nutrition), environmental stressors, information overload, daily hassles (flat tire, homework, cell phone, bills, emails), and financial concerns are increasing their level of stress (e.g., ACHA, 2004; AFNN, 2000). Regarding financial concerns, more students than ever report they are expected to both work and attend college (60%; ACHA, 2004) and approximately 65% report being worried about being able to finance their education (AFNN, 2000). In light of all these stressors, it is alarming that only 6% of surveyed students, reported that it was likely they would seek counseling (AFNN, 2000).

Conclusion

It is important to accurately assess and reduce stress in college students in order to prevent or reverse the negative effects stress has on their functioning (Sarafino & Ewing, 1999). Based on the earlier discussion, stress is an inevitable part of an organism's existence. There will constantly be external demands, and based on the appraisal of those demands some level of stress. An individual's ability to cope with the perceived stressors he/she face, is a transactional interaction based on the perceived resources he/she possess

to combat those stressors. Research indicates that the greater the perceived coping resources, the greater the individual's ability to cope with the stress. Strategies for coping can be conceptualized as problem-focused or emotion-focused, and a number of resources exist for either strategy. Depending on the stressor and the individual, specific resources may be more or less helpful in handling the stressor. Individual coping resources can be developed or increased, some more quickly and with greater ease than others.

Therapeutic writing has proven to be an effective intervention in dealing with stressful experiences across a variety of situations and samples. While many of the current research studies focus on physical health rather than the psychological benefits of writing (Schoutrop, Lange, Hanewald, Davidovich, & Solomon, 2002) there is evidence that emotional and psychological well-being results from writing interventions (e.g., Smyth, 1998; Pennebaker, 1997). Increasing coping resources through writing has not been specifically address in the literature, but current research suggests that it would be likely that therapeutic writing would increase coping resources.

College students report they experience substantially high levels of stress affecting many areas of their lives. With the given evidence that they will rarely, if ever, seek counseling it seems necessary to identify ways in which their resources can be increased and/or their stress levels decreased. Therapeutic writing may be such an intervention.

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CHAPTER 2

STRESS, COPING, AND THERAPEUTIC WRITING: AN EXPERIMENTAL INTERVENTION APPROACH

College students consistently report being stressed and overwhelmed with a variety of responsibilities. In 2004, 44% of surveyed college students reported they experienced high levels of stress (American College Health Association, 2004; ACHA). In 2000, 28% reported feeling overwhelmed, and 23% reported that this stress impacted their academic performance (The American Freshman National Norms, 2000; AFNN). College students report stress from dealing with new relationships and living arrangements, handling new responsibilities, performing well in classes, and everyday hassles (ACHA, 2004; AFNN, 2000). In addition, 60% reported it was necessary for them to work (ACHA, 2004), and 65% reported they were worried about their ability to finance their expenses (AFFN, 2000).

Stress increases college students' risk of a variety of mental and physical illnesses including, anxiety, depression, immune deficiency, head aches, heart and blood pressure problems, lowered energy, allergies, and strokes (e.g., Matheny & McCarthy, 2000). While there has been extensive research on the negative effects of stress, there has been considerably less research done on interventions for coping with stress. Several researchers have pointed towards interventions such as reading feedback about how one copes with stress, (e.g., Matheny, Aycock, Curlette, & Junker, 1993) or writing about

one's plan to handle stressors (e.g., Pennebaker, 1997) as helpful. However, little empirical research has specifically investigated the effectiveness of these interventions.

Theorists and researchers have noted that while all people experience stress, each individual responds differently to potentially stressful events, even when the stimulus is similar. The transactional model of stress (e.g., Lazarus, 1966) states that the appraisal of the stressor is as important as the stressor itself. In fact, Lazarus and Folkman (1984) have suggested that it is the appraisal process that determines whether or not the event is experienced as stressful. That is, depending on the way the event is perceived, any demand in one's environment could potentially become a stressor. During the primary and secondary appraisal phase, individuals first assess the demand posed by the threat, and then assess their resources to meet that demand (e.g., Coyne & Lazarus, 1980; Matheny & McCarthy, 2000; Matheny, et al., 1993). In addition to individual differences, research shows that gender is a factor in the appraisal process; specifically research shows that women appraise events as being more stressful and more severe than do men (e.g., Matheny & Cupp, 1983; Tamres, Janicki, & Helgeson, 2002).

When facing a demand, one naturally ascribes some level of importance to that demand. This level of importance will be based on the individual's goals and priorities; to the degree that the demand threatens the more important goals and priorities, stronger emotions are assigned to that event (e.g., Folkman & Moskowitz, 2004). The higher the priority, the greater the emotion, and the more stressful the individual perceives the event. During both the appraisal and coping process, emotions act as markers for the demands that are important to deal with first (e.g., Folkman & Moskowitz, 2004). Emotions allow the individual to identify whether the coping has been effective in part or in whole.

Coping is the process individuals use to manage stress. Stress occurs when the demands (internal and external) faced by an individual exceed the resources the individual has to meet those demands. Coping is the way one handles the gap between their resources and the demands (e.g., Folkman & Lazarus, 1980; Matheny & McCarthy, 2000; Tennen, Affleck, Armlei, & Carney, 2000). It is the perception of resources and the perception of the demands that determines one's level of stress and ability to cope. Because there is a dynamic relationship among stress, coping resources, and the stress response (e.g., Buzzell, 1991; Matheny, Curlette, Aycock, Pugh, & Taylor, 1987), individuals' perceptions of their coping resources play a critical role in their level of perceived stress.

Effective coping then, is the degree to which one is able to appropriately deal with events and situations perceived as stressful. Similar to the appraisal process, gender differences have been identified in the way that men and women approach coping and the coping resources they use (e.g., Matheny, Ashby, & Cupp, 2005; Tamres, et al., 2002). Coping resources are specific factors, in place before the potential stressor, on which individuals can draw in order to manage during the stress (e.g., Matheny, et. al., 1993). Increased coping resources have been linked to a myriad of benefits such as increased life satisfaction, lengthened life span, decreased depression, decreased emotional distress, and decreased illness (e.g., Matheny, et al., 1993; Matheny & McCarthy, 2000). Matheny and colleagues (1993) proposed 12 coping resources individuals use to prevent or combat stress. Specific coping resources such as self-disclosure (one's tendency to disclose thoughts, feelings, and opinions), self-directedness (one's decision-making ability and assertiveness), confidence (one's ability to gain mastery over one's environment or

emotions), stress monitoring (one's ability to monitor his/her level of stress), and finally tension control (one's ability to implement relaxation techniques) may be especially relevant to college students' ability to cope because these resources may be more impacted by interventions than would other coping resources such as social support, financial fitness, and/or physical fitness.

Matheny and colleagues (Matheny et al., 1987) have designed the Coping Resource Inventory for Stress (CRIS) as a tool for mental health practitioners to use in order to help individuals increase coping resources. The CRIS is a coping resource inventory yielding an individualized written report that itemizes the coping strengths and weaknesses of the respondents. The report makes suggestions as to what respondents might do to overcome resource weaknesses. While this method would at the least seem to increase awareness around one's coping resources, it is difficult to determine how helpful reading the feedback is.

Another intervention that is supported by a growing body of research is therapeutic writing. The literature suggests that therapeutic writing can have significant, positive, and lasting effects on the health and well being of individuals (e.g., Pennebaker, 1997; Pennebaker, Colder, & Sharp, 1990; Smyth, 1998). Pennebaker and his colleagues have published multiple studies using various samples and methods, all with a variety of positive outcomes (e.g., Rime, 1995; Smyth, 1998; Spera, Buhrfeind, & Pennebaker, 1994). Writing has been shown to increase physical health and immune functioning, increase subjective well being, and decrease depression and distress in college students (Pennebaker, 1997; Pennebaker et al., 1990). Additionally, writing has been linked to higher grades, quicker procurement of employment, lower absentee rates, and decreased

negative affect (e.g., Cameron & Nicholls, 1998; Greenberg & Stone, 1992; Spera, et al., 1994). Smyth's 1998 meta-analysis showed that across a variety of samples, with various procedures, and different outcome variables, writing was associated with decreasing distress.

Many of the samples used in writing studies have focused on populations of trauma survivors (e.g., Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995; Richards, Beal, Seagal, & Pennebaker, 2000) and the research has suggested that the emotional expression they experience as a result of the writing is one reason they benefit from the experience (e.g., Pennebaker et al., 1990; Pennebaker & O'Heeron, 1984; Pennebaker & Susman, 1988). In addition to the emotional expression, writing helps to facilitate cognitive processing of the experience (Ullrich & Lutgendorf, 2002). It is the combination of the emotional expression and cognitive processing that appears to be helpful to individuals (Ullrich & Lutgendorf, 2002).

Research has shown that large percentages of individuals do not disclose feelings about events such as financial problems, relationships, sexuality, death, homesickness, and college adjustment (e.g., Balk, 1997; Fisher, 1988; Lepore, Fernandez-Berrocal, Ragan, & Ramos, 2004; Pennebaker & O'Heeron, 1984; Pennebaker & Susman, 1988). Individuals allow themselves to become vulnerable to the negative effects of stress such depression, anxiety, and illnesses, when they do not express their feelings or process their thoughts (e.g., Pennebaker & Beall, 1986). However, therapeutic writing may help the individual to combat stress through emotional expression and cognitive processing.

Smyth (1998) suggested males might especially benefit from writing, as they are not socialized to express their emotions, which writing allows them to do.

Pennebaker and colleagues found that college students experienced positive benefits from writing about their experiences (Pennebaker, Kiecolt-Glaser, & Glaser, 1988). For example, college students who wrote for 20 minutes, 4 consecutive days about their most traumatic experiences showed an increase in their immune functioning (Pennebaker, et al., 1988); other college students who wrote for a similar amount of time had reduced illness related visits to the doctor for up to 5 months after writing (e.g., Pennebaker & Beall, 1986). Higher grades were reported by students who wrote about their transition to college, compared to those who did not write (Cameron & Nicholls, 1998). Other researchers have found that writing about stressful events lowers depression and decreases distress (Ullrich & Lutgendorf, 2002).

While writing about stressful events has been linked to beneficial emotional and physical health outcomes (e.g., Smyth, 1998), research has yet to specifically investigate the effect that writing has on coping resources. The literature suggests that in addition to the other benefits therapeutic writing provides, writing may be helpful in increasing coping resources. Esterling, L'Abate, Murry, and Pennebaker (1999) state, "there is evidence that therapeutic writing improves organization as well as develop[s] adaptive coping" (p.12). Additionally, Esterling, et al., (1999) suggested that writing could indirectly increase coping resources by increasing characteristics such as awareness, insight, sense of control, and self-esteem, which may in turn, increase coping resources. The combination of emotional expression with the cognitive processing that occurs during the writing process (e.g., Cameron & Nicholls, 1998) may help individuals to

more accurately appraise their coping resources and/or clarify areas that need to be fortified.

Writing may help to build Self-Disclosure by allowing individuals to disclose their feelings in a manner and at a pace that is comfortable for them (Smyth, 1998). Self-Directedness, individuals' respect for their own decision-making ability and judgment, may increase as they write about their cognitions and emotions regarding the event, and are able to integrate them to make appropriate decisions. Confidence may be bolstered when the individuals use writing to develop a plan for coping with events (e.g., Cameron & Nicholls, 1998), which in turn would help them to gain greater control/mastery over their emotions and the demands of the event. Stress monitoring and tension control may both be increased as the individual's level of awareness is increased by emotional expression and cognitive processing (e.g., Esterling, et al., 1999).

Given the evidence that college students are stressed and only a small percentage report they would seek help (ACHA: 2004; AFNN: Fall 2000) it seems necessary to identify other ways their coping resources can be increased and/or their stress levels decreased. Written feedback about coping strengths and weaknesses and therapeutic writing may be two such interventions.

This study was designed to determine if and to what extent reading feedback and writing can be used with college students to increase coping resources and life satisfaction, and/or decrease perceptions of stress and depression. The specific research questions for this study are as follows:

1. Will only reading feedback about coping resources significantly increase coping resources and satisfaction with life, and decrease perception of stress and depression?
2. Will reading written feedback on coping resources and writing them increase coping resources and satisfaction with life, and/or decrease perceptions of stress and depression more so than only reading written feedback?
3. Will there be any differences in the way that participants respond to the interventions based on gender?

Methods

Participants

Participation in the study was voluntary, and participants were university undergraduates recruited from two classes. All students were provided with an informed consent prior to beginning the study (See Appendix A for an example of the informed consent).

Two hundred and seven participants began the study, and a total of 104 participants completed the study. The participants ranged in age from 17 to 51, years with a mean age of 22.53 years. Forty-one students were male and 63 students were female. While the ethnic makeup of the group was primarily African American (61 participants, 58.7%), participants identifying as White (15 participants, 14.4%), Asian (7 participants, 6.7%), Hispanic (3 participants, 2.9%), American Indian (1 participant, 1.0%), and other (16 participants, 15.5%) also participated in the study. Thirty-one students reported being freshmen (29.8), 21 sophomores (20.2%), 24 juniors (23/1%), 20 seniors (19.2%), and one reported being a post baccalaureate student (1.0%). Of the students who reported

household income (92), 31 were below $39,000, 46 were between $40,000 and $99,000, and 15 reported being above $100,000. Seventy-three percent of the students reported being single.

Instruments

The students were asked to complete a survey battery (pre and post intervention) and a demographics sheet. The demographic sheet elicited the following information: age, sex, racial/ethnic background, educational level, family income, and relationship status. The survey battery contained the following instruments: the Coping Resource Inventory for Stress (CRIS), the Perceived Stress Scale (PSS), the Center for Epidemiologic Studies Depression Scale (CES-D), and the Satisfaction with Life Scale (SWLS).

The Coping Resource Inventory for Stress (CRIS): The CRIS (Matheny, Curlette, Aycock, Pugh, & Taylor, 1987) is a 280-item, true/false, self-report inventory aimed at assessing individuals' perception of their coping resources. The CRIS is based on the transactional model of stress that suggests it is the interaction of the demands and one's resources to meet the demands that determines the level of stress (e.g., Lazarus, 1966). Additionally, research suggests that perceived coping resources tend to be predictive of one's stress level (e.g., Matheny, et al., 1993; Hobfoll, 1988). Thus the CRIS was designed to measure perceived coping resources on a number of scales including self-disclosure, self-directedness, confidence, acceptance, social support, financial freedom, physical health, physical fitness, stress monitoring, tension control, structuring, and problem solving. An overall Coping Resources Effectiveness (CRE) score is aggregated from the individual items, as are three composite scales cognitive restructuring,

functional beliefs, and social ease. The results are provided to the individual in a written interpretative report format highlighting their areas of strengths and weakness with regard to coping resources.

The CRIS has been validated on a variety of populations, through a number of different studies (Matheny, et al., 1993). The CRIS has been correlated with a variety of emotional, personality, and wellness measures. It has been used to predict illness among college students (e.g., Buzzell, Riordan, Smith, & Matheny, 1994; Matheny, et al., 1993). It has been correlated negatively with depression as measured by the Beck Depression Inventory (Matheny, et al., 1993), anxiety as measured by the Taylor Manifest Anxiety Scale (Ellett, 1991), anxiety as measured by the State Trait Anxiety Inventory – Trait (Brock, 1991), and correlated positively with satisfaction with life for college students in the U.S., Turkey, and Mexico (e.g., Matheny, et al., 2002). Other studies have shown that the CRIS correlated negatively with certain MMPI scales indicating psychopathology (White & Franzoni, 1990). Both drug dependency and relapse prevention have been correlated with CRIS scores (negative and positive respectively; e.g., Sineath, 1992; Weatherman, 1991). The CRIS has been shown to be reliable as test-retest reliabilities range from .75 to .95. Chronbach's alpha for CRIS subscales on both convergent and divergent validity range from .84 to .97 (e.g., Matheny et al. 1987; Curlette, Aycock, Matheny, Pugh, & Taylor, 1992; Matheny, et al., 1993).

The Perceived Stress Scale (PSS): The PSS (Cohen, Kamarck, & Mermelstein, 1983) is a 14 item, self-report inventory aimed at assessing perceptions of stress. It has been widely used in stress and coping research as an indicator of the individual's level of stress (e.g., Cohen, 1986; Hewitt, Flett, & Mosher, 1992; O'Brien, VanEgeren, &

Mumby, 1995; Rintala, Rohinson-Whelen, & Matamoros, 2005). There have been no differences found for males and females. Participants respond on a 5-point Likert scale (1= never to 5 = very often) to items such as “In the last month, how often have you been upset because of something that happened unexpectedly?” and “In the last month, how often have you been angered because of things that happened that were outside of your control?” Regarding reliability, consistency coefficient scores ranged from .84 to .86 (Chronbach’s alpha), and test-retest alphas from .87 and .82 (Diener, Emmons, Larsen, & Griffen, 1985). The PSS has been correlated with scales such as life-events, depressive and physical symptomology, and social anxiety. Since writing has been shown to decrease stress in participants in other studies (Donnelly, & Murry, 1991), the PSS was included in this study to determine if there was change in the perception of stress after the interventions.

The Center for Epidemiologic Studies Depression Scale (CES-D): The CES-D (Radloff, 1977) is a widely used (e.g., Keaveny & Zauszniewski, 1999; Radloff, 1991; Radloff, 1977; Sheehan, Fifield, Reisine, & Tennen, 1995; Zhang & Norvilitis, 2002), 20-item, self-report measure of depression. This measure was developed and normed on an average population, and for that reason was chosen for use in this study. The CES-D incorporates depressive symptomology from five different depression scales including the Beck Depression Inventory. Items are answered on a 4-point Likert scale (1 = rarely or none of the time, less than one day, to 4 = most or all of the time, 5-7 days). Some examples of items are “you were bothered by things that usually don’t bother you” and “you had trouble keeping your mind on what you were doing.” With regard to reliability, split-half reliabilities are in the .90s (Steer, Beck, & Garrison, 1986) the CES-D shows

test-retest reliability that was significant at the .001 level (Radloff, 1991). Finally, the CES-D has excellent internal consistency with a Cronbach's alpha of .85.

The Satisfaction with Life scale (SWLS): The SWLS (Diener, Emmons, Larasen, & Griffen, 1985) is a 5 item, self-report measure that is aimed at assessing one's global satisfaction with life. Items are answered on a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. Sample items include, "if I could live my life over, I would change almost nothing" and "I am satisfied with my life." The SWLS is widely used in the literature with samples ranging from college students, to military wives, to prison inmates, to abused women (e.g., Pavot & Diener, 1993). The SWLS is culturally appropriate and is available in French, Duch, Russian, Korean, and Hebrew (e.g., Balatsky & Diener, 1993; Pavot & Diener, 1993). Regarding reliability, the SWLS has a short-term reliability (two week to two months) of 0.80 and a long-term reliability (10 weeks to 4 years) of between 0.50 and 0.54 (Pavot & Diener, 1993). Correlations with other measures of life satisfaction range from .47 to .68 (Gurin Scale, Fordyce Scale and Delighted-Terrible Scale) and the coefficient alpha is .87 (Diener, Emmons, Larsen, & Griffin, 1985).

Procedure

Students from eight classes were randomly assigned to one of three conditions. All of the students participated in five research sessions. For the initial session (pretest) the researcher attended the class and introduced the purpose of the study. All of the participants took the pretest instruments and were assigned to one of three conditions. Participants in the control group (group 0) wrote about an insignificant topic for three sessions (see below for prompt). Participants in group one received their written

feedback, and then wrote about insignificant topics for three sessions. Participants in group two received their written feedback and wrote about coping for three sessions. All participants were retested at the end of the semester. With the exception of the first session, either the researcher or the instructor conducted the other sessions. The researcher conducted make-up sessions as necessary for students who missed in-class sessions. A description of each condition follows.

Condition 0

Participants who were assigned to the control condition completed the pretest battery of instruments. During the second, third, and fourth sessions, the participants wrote for 20 minutes about an insignificant topic (See Appendix B for specific instructions). An example of the insignificant prompt (e.g., Pennebaker, et al., 1990) is as follows: “During today’s writing session, I want you to describe in detail what you have done since you woke up this morning. It is important that you describe things exactly as they occurred. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible.” The participants were told that their writing would never be collected, and that they did not need to be concerned the instructor or researcher would read their journals. After the participants completed the fourth session, there was a six-week wait before the posttest (e.g., Smyth, 1998). The students in the control group did not receive any feedback from the CRIS until after they completed the posttest instruments, at which time they were given their CRIS written feedback.

Condition 1

Participants who were assigned to condition one completed the pretest instruments during session one. In session two, they were given the written feedback from the CRIS and asked to read the results (See Appendix B for specific instructions). After reading the results they were prompted to write for 20 minutes about the same insignificant topic as the control group. The participants were told that the writing would not be collected, and that they did not need to be concerned the instructor or researcher would read their journals. In the third and fourth sessions, they were prompted to write about insignificant topics. Six weeks form the fourth session, the participants took the posttest measures.

Condition 2

Participants who were assigned to condition two completed pretest instruments during session one. In session two, they were given the written feedback from the CRIS and asked to read the results (See Appendix B for specific instructions). After reading the results they were prompted as follows to write for 20 minutes about stress and coping: "For this experiment, your task is to write about your very deepest thoughts and feelings about your stress level/major stressors, and your coping resources or the ways that you could/do cope with stress. In your writing, try to let yourself go and to write continuously about your emotions and thoughts related to any or all of these topics. You can write about a recent event that was stressful or some other past experience that you continue to think about these days. The primary task, however, is for you to reflect on your most basic thoughts and emotions about stress and coping." (e.g., Cameron & Nicholls, 1998; Pennebaker et al., 1990; Pennebaker & Beall, 1986). The participants were told that the

writing would not be collected, and that they did not need to be concerned that the instructor or researcher would read their journals. During sessions three and four, participants in this group were given the same prompt as in session two, and asked to write for 20 minutes. Six weeks after session four, participants completed the posttest instruments.

Schedule

For a week-by-week schedule of activities throughout the semester see Appendix C. Students in every condition were allowed to make up a missed session during that same week outside of class with the researcher.

Results

Upon completion of the study, there were 34 participants in the control group (23 females, 11 males), 36 participants in group one (23 females, 13 males), and 34 participants in group two (17 females, 17 males). The participants were distributed in eight undergraduate classes. A series of initial One-Way ANOVAs (using the factor of class membership on each of the variables: CRIS, PSS, SWLS, and CES-D) showed no significant differences in the pre or posttest scores among the classes.

One of the common assumptions made when setting the alpha level is that it is consistent with the purpose of the research (Henkel, 1976). That is, a more stringent level (such as .05 or .01) is adopted when the research is confirmatory, and a more liberal level (such as .10) is used for exploratory research (e.g., Henkel, 1976; Tukey, 1991; Minium, Clarke, & Coladarci, 1999). Since this study is linked only conceptually, and no previous studies have examined these specific topics or instruments, the more liberal alpha level of .10 was adopted for analysis decisions. There is one caveat in that a .05 alpha level will

be used as the cut off when previous research suggests it is appropriate. The exact level of significance is reported for each analysis. The Holm procedure (Holm, 1979) was used to control the escalating alpha level of examining multiple hypotheses. The Holm procedure is an improved Bonferroni procedure according to Holland and Copenhaver (1988) as it maintains the alpha level, while accounting more liberally for multiple hypotheses.

A bivariate correlation table showed unusual relationships among the instruments. The scores (pre and post) for the PSS were uncorrelated with the CRE scores (pre r = -.167, p = .09; post r = -.153, p = .12; at the .05 level of significance as research as supported these correlations). Recall that the CRE is the overall coping scale on the CRIS, and has been consistently correlated with one's perception of stress (e.g., Matheny, et al., 1993; Simons, Aysan, Thompson, Hamarat, & Steele, 2002). As previous research has suggested there is a gender difference in the coping styles and strategies of men and women (e.g., Beasley, Thompson, & Davidson, 2003; Billings, & Moos, 1984; Kesimci, Goral, & Gencoz, 2005), the correlations were rerun controlling for the genders (Tables 1 and 2). The results showed that women's PSS scores did correlate with their CRE scores at both the pre (r = -.249, p = .04) and posttest (r = -.269, p = .03) times. However, the male's PSS and CRE scores remained uncorrelated (pre r = .003, p = .98; post r = .030, p = .85).

These data, along with the findings of previous research (e.g., Pennebaker, et al., 1990; Smyth, 1998; Tamres, et al., 2002) suggest that the results may be gender specific and should be considered separately. In order to test this hypothesis, a MANOVA (gender by variables) was conducted, and the Wilks' Lambda criterion revealed

significant main effects for gender at the .10 level of significance ($F_{3, 103}$=2.15, p = .08). A follow up One-Way ANOVA (using gender as the factor) showed a significant difference at pretest on the PSS ($F_{1,102}$ = 7.22, p = .01), with males perceiving more stress. As gender differences seem to have made a difference in these data, further analysis testing for the effects of the treatment was conducted separately for the meals and females.

Females

A One-Way ANOVA (using group membership as the factor) for pretest scores of the female participants showed no significant differences among the groups on the variables (i.e., SWLS, PSS, CES-D, CRE). In order to determine the effect, if any, that the CRIS feedback had on the participants' posttest scores, the scores for all the participants who received the CRIS feedback (i.e., group 1 and group 2) were collapsed into one group for comparison; see Table 3 for means and standard deviations. Repeated measures analysis of variance showed a significant interaction effect of the treatment by time for the CRE ($F_{1, 61}$=6.053, p = .01); the other variables show no significant interaction. The scores for those in the CRIS feedback group showed a significant increase on the CRE scores. The effect size for this group was .33 (see Table 4). Follow up repeated measures ANOVAs were conducted to determine if the change was only in the CRE score, or if other specifically selected coping resources scales were affected by the intervention. Of the five coping resources analyzed (self- disclosure, self-directedness, confidence, stress monitoring, and tension control) none were significant at the .10 level of significance (after controlling for multiple hypotheses). These

Table 1

Correlations for Females Pre and Post Test

	SWLS	PSS	CESD	CRE
SWLS		-.220	-.229	.343**
PSS	-.100		.355**	-.249*
CESD	-.463**	.327**		-.680**
CRE	.443**	-.269*	-.560**	

Note. Pre test scores are above the diagonal and posttest scores are below the diagonal. Scores with two asterisks (**) are significant at $p < .01$, scores with one asterisk (*) is significant at $p < .05$.

Table 2

Correlations for Males Pre and Post Test

	SWLS	PSS	CESD	CRE
SWLS		-.059	-.466**	.419**
PSS	.172		-.043	.003
CESD	-.578**	.052		-.718**
CRE	.510**	.030	-.683**	

Note. Pre test scores are above the diagonal and post test scores are below the diagonal. Scores with two asterisks (**) are significant at $p < .01$.

findings indicate that while the overall coping effectiveness scores increased, the five selected individual coping resources did not change significantly.

To determine if journaling about the CRIS feedback increased the CRE scores above and beyond only reading about the feedback, the two intervention groups (i.e., group 1 and group 2) were compared to each other using repeated measures ANOVAs. No significant interaction effect was found on the CRE, which was previously found to be significant (when the groups were combined into a feedback and a no feedback group), or any of the other variables. Thus participants did not benefit from journaling, above and beyond the benefits they amassed from simply reading the written CRIS feedback.

Males

Similar to the females, a One-Way ANOVA (using group membership as the factor) for pretest scores was conducted to test for differences among the pretest scores. The male participants showed significant differences on pretest scores, by group, on three of the four instruments, SWLS $F_{2,38}$=5.905, p = .006, CES-D $F_{2,38}$=7.244, p = .002, and CRE $F_{2,38}$=2.505, p = .09 (See Table 4 for means and standard deviations). Males in groups one and two (i.e., those who read and those who both read and wrote) had significantly higher scores on SWLS than did those in the control group. Participants in the control group had significantly higher scores on the CES-D than participants in group one (i.e., reading only). And finally, participants in group two (i.e., reading and writing) had significantly higher CRE scores than participants in the control group. The control group had significantly higher scores (i.e. more depression) than group two. The regression lines for the data were not equal and because of that, the equal slope

Table 3

Means and Standard Deviations of Females With and Without CRIS Feedback

	Control (23)					Treatment (40)				
	Pre Test		Post Test		Effect	Pre Test		Post Test		Effect
Variable	Mean	SD	Mean	SD	Size	Mean	SD	Mean	SD	Size
SWLS	19.13	6.98	19.61	5.32	.07	20.78	6.13	22.72	6.61	.30
PSS	30.04	3.24	28.43	3.81	.45	30.17	3.52	29.05	3.55	.32
CESD	16.52	6.83	16.13	7.70	.04	14.93	8.01	14.55	7.28	.05
CRE	60.11	12.12	58.99	13.35	.08	65.18	12.81	70.07	15.93	.33

Note. The treatment group consists of those participants from both groups one and two. Effect size listed only for treatment group.

Table 4

Means and Standard Deviations at Pretest for Males

	Control (11)		Group One (13)		Group Two (17)	
Variable	Mean	SD	Mean	SD	Mean	SD
SWLS	16.36	5.33	25.23	6.78	23.94	7.57
PSS	27.82	3.15	28.15	2.91	28.65	4.25
CESD	20.18	9.05	9.85	3.84	13.29	6.68
CRE	58.84	15.91	68.23	13.17	70.35	12.47

assumption for an analysis of covariance (ANCOVA) was not met. Thus the ANCOVA could not be used to control for the differences in the groups at pretest. As previously described, the scores for the feedback groups (i.e., group 1 and group 2)

Table 5

Means and Standard Deviations of Males With and Without CRIS feedback

	Control (11)					Treatment (30)				
	Pre Test		Post Test		Effect	Pre Test		Post Test		
Variable	Mean	SD	Mean	SD	Size	Mean	SD	Mean	SD	Effect Size
SWLS	16.36	5.33	18.55	7.54	.33	24.50	7.14	21.07	5.45	.54
PSS	27.82	3.15	29.36	3.82	.43	28.43	3.68	27.93	3.66	.14
CESD	20.18	9.05	21.64	9.67	.15	11.80	5.81	14.50	8.16	.38
CRE	58.84	15.91	61.97	17.10	.18	69.43	12.60	64.84	13.21	.36

Note. The treatment group consists of those participants from both groups one and two. Effect size listed only for treatment group.

were collapsed into an intervention group and compared to the control group; see Table 5 for means and standard deviations. Repeated measures ANVOA showed that the treatment have no significant interaction effect for any of the variables.

Discussion

This study was designed to determine if, and to what extent, focusing one's attention on coping resources, through reading feedback and journaling would increase coping resources and satisfaction with life, and decrease perceptions of stress and depression. The results, while mixed, clearly suggest that the coping resources for females can be positively and significantly increased when they read feedback about their current coping strengths and weakness.

During analysis, the data were separated by gender as correlations from this data, and results from previous research, showed differences between the genders (e.g., Beasley, et al., 2003; Billings, & Moos, 1984; Kesimci, et al. 2005; Pennebaker, et al.,

1990; Smyth, 1998; Tamres, et al., 2002). For females, reading written feedback about coping resources positively increased their overall coping scores. However, they did not gain any more benefits from writing about their stress and coping resources. Neither intervention impacted the other variables significantly. Males, on the other hand, did not benefit either from reading about their coping resources or writing about them. Contrary to Pennebaker's research (e.g., Pennebaker, 1997; Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990), these results show writing was not helpful for either gender with regard to increasing satisfaction with life and coping resources, or decreasing perceptions of stress and depression.

These gender specific results fit with the previous literature that suggests men and women appraise potential stressors, and cope with stressors, differently (e.g., Matheny, Ashby, & Cupp, 2005; Tamres, et al., 2002). While the majority of research suggests that males use problem-focused coping styles while women use more emotion-focused coping styles (La France & Banaji, 1992; Mathey, Ashby & Cupp, 2005), Tamres et al. (2002) suggested that females are significantly more likely to respond to stress with active coping and by engaging in planning than are men. Further, they suggested that males tend to cope with stress by avoiding or withdrawing (Tamres, et al., 2002). While the specifics of how men and women differ in their approach to coping may be debated, the literature is clear that differences do exist. The written CRIS feedback specifically targets behaviors and beliefs that aid in coping, however it is difficult to determine how the respondent perceives and uses the feedback.

It may be that, consistent with Tamres et al.'s view, females perceived the CRIS feedback to be helpful in their active coping process. For instance, receiving the CRIS

feedback may have helped females engage in more planning during their coping process. In addition, it may be that, for males, receiving the CRIS feedback may have undermined their tendency to cope by withdrawing by focusing their attention on coping resources. In contrast, and consistent with the findings that women use more emotion-focused coping styles, it may be that females perceived their emotional response to coping was strengthened as a result of the CRIS feedback. Consistent with these findings, the males in the study may have perceived the CRIS feedback to be too emotion focused and, as such, unhelpful in their coping process.

The analyses showed no significant change in the coping resources of either the males or the females in the writing group. That is, for females it was as beneficial to receive written feedback, as it was to receive written feedback and journal about coping resources for three sessions. For males, neither intervention significantly changed their coping resources. The implications of this finding suggest that by reading written feedback about their coping resources, the coping resources of females can be positively and significantly increased, thereby potentially helping to insulate them from a myriad of physical and psychological illnesses (e.g., Matheny, et al., 1993; Matheny & McCarthy, 2000).

For the males in the study, the correlations among the measures at pretest were unexpected; specifically the PSS and CRE were not significantly inversely correlated. The measures for the females were correlated as expected, which suggested that the data for the males was atypical. Additionally, the male groups at pretest were significantly different on three of the four measures (SWLS, CES-D, and CRE). Recall that the participants were assigned randomly to groups, which should have controlled for

differences between the groups. However, randomization was not effective in controlling for the differences among the groups with this group of participants. The groups began the experiment different from each other. Thus, extrapolating the differences between the groups posttest is difficult.

Because the design of this study was a replication of previous studies (e.g., Cameron & Nicholls, 1998; Pennebaker et al., 1990; Pennebaker & Beall, 1986), the journals from the students were not collected for confidentiality reasons. Students were assured that they could be free to write and not worry about someone else seeing the content of their journal. However, had the journals been collected, they may have shed light on why the male data was atypical.

One reason the male participants in the study did not improve may be related to the time constraint presented by conducting the study within one semester. A longitudinal design may have been able to capture changes in the scores that occurred after the 14 weeks of this particular study. Pennebaker and Beall (1986) found changes in participants' scores six weeks to five months after the intervention. Six weeks was the most common number of weeks to wait until retest in the literature, however evidence suggests that a longer period of time before retesting may be more reflective of the actual changes in the scores. Pennebaker (1993) and Smyth (1998) both noted that physical and psychological short-term distress seems to increase immediately following the intervention. That is to say, even though long-term benefits are likely, if the participants are retested too soon, their scores will actually show movement in a negative direction.

As illustrated in Figure 1, Pennebaker's participants' level of health or wellness dropped immediately following the intervention, and then as time progressed, began to

climb. In this study it may be that the females' scores began to climb more quickly than the males' scores; at the time of retest the females' scores showed improvement while the males' scores had not yet significantly changed. Were the males available for retest two to four weeks after they were post tested (i.e. at 8 – 10 weeks post intervention), it is possible they would have indicted positive changes similar to the females.

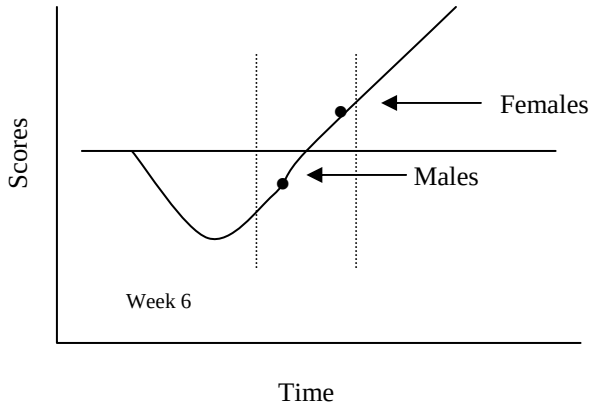

Figure 1. Possible Pattern of Participants Scores Over Time

Pennebaker's studies were focused on the effect that journaling had on participants and not on their coping resources, however it may be that participants in this study followed a pattern similar to Pennebaker's in terms of improvement over time.

Implications for Counseling

The findings of this study have several implications for counseling both. Implications for counseling and treatment with females suggest that it is helpful for them to get feedback about their strengths and weaknesses related to coping resources. By focusing attention on what they do well or where they need to improve, the clinician can help them increase their coping resources in a time limited span such as brief therapy or over the course of one semester. Additionally, if a female student presents to counseling with low coping resources in addition to other problems (such as depression or lower

satisfaction with life), the evidence from this study suggests that it is not enough to simply address the coping resources and expect the other problems to change. While it is important to address the coping resources, it may be necessary to take a multi-focused approach.

For both genders, it appears that though therapists commonly recommend journaling, it does not appear to be helpful when the client is specifically interested in increasing coping resources. It may be enough for clients to focus their attention on their ability to cope through methods such as reading written feedback from the CRIS. For males, further research is necessary to determine clear implications.

Limitations and Future Research

Because of the experimental design of the study, attrition was high as the semester progressed. Approximately 50% of the students who began did not finish the study. As a result, the overall number of participants in the study was low in comparison to the number of groups and variables. In order for significant results to be detected, the actual difference in the groups or the pre and posttest would have had to be fairly large.

An additional limitation of the study is that the CRIS instrument has 280 items. The informal qualitative feedback from the participants was that the test was prohibitively long and they would not choose to take it regardless of the benefit of the results. Some of the attrition is a result of students who completed all the experimental sessions, except for the posttest instruments and reported they did not want to complete it because it was too long.

One factor that is important to acknowledge when trying to understand the atypical results, is that participants were recruited from two classes that may attract

different students than would be found in the typical student population. Both of the classes are electives that are often recommended for students who want to boost their grade point average. The classes are in no way remedial and probably contain more within in-group differences than between-group differences. However, it is also possible that these students may have started out with more stressors or less coping resources than the average undergraduate student, and as such, may respond differently to any strategy to increase coping resources in their lives. For this reason and because all the participants were enrolled in an urban university located in the Southeastern United States, generalization of the results is limited.

Future research should focus on obtaining a more representative sample than was used in this study; specifically males groups without initial differences, and representative student population that would allow for wider generalizations to be made from the data. If logistics permit, a longitudinal design may helpful in determining what the long-term effects are from the interventions.

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Appendix A

Georgia State University

Department of Counseling and Psychological Services

Informed Consent

Title: Interventions for Stress and Coping
Principal Investigator: Jeffery S. Ashby, Ph.D., Wendy L. Dickinson, MS

I. Introduction:
You are invited to participate in a research study to examine interventions related to stress and coping. Participation involves the completion of three phases of the study. The first and third phases involve the completion research surveys that take approximately 90 minutes each. The second phase will occur about one or two weeks later. In the second phase, you will be asked to write about a topic for 20-minutes on each of three different days. You will have to return for the brief writing periods. You will receive research credit from your instructor for participating in this study when he/she receives a list of participants who completed the study at the end of the semester. In order to participate in this study you must be present for the next four [DAYS] of class [DATES].

II. Procedures:
After signing up for this study, you will receive a research packet from your instructor. The packet includes this consent form, an instruction sheet, a demographic sheet, a survey, and two scantrons. There are three phases of this study. In the first phase, you will complete this set of questionnaires given to you by the researcher. These questionnaires concern certain attitudes you have about yourself, stress, coping, and emotional functioning, and they should take about 90 minutes to complete. In the second phase, you will be asked to read about the results and write for 20 mintues about them on three different days. In the third phase, towards the end of the semester, you will complete another set of questionnaires dealing with stress, coping, and emotional functioning, and these should take about 90 minutes to complete also. In all, participating in the study will require approximately 4 hours or less. There will be an approximate total of 250 participants in this study. You are asked NOT to discuss this study with those also participating in the study until the completion of the study at the end of the semester.

III. Risks:

There are no known risks involved in completing the study and many students may find that they learn something about themselves from participating in similar studies. Nonetheless, if being part of the study makes you feel uncomfortable, you may consider speaking to a counselor who may be able to help you with your reactions. You can contact a counselor through the Georgia State University Counseling Center (106 Courtland Street, 404.651.2211).

IV. Benefits:

You may benefit by participating in this study through increased awareness and self-understanding. You will also be contributing to knowledge regarding researchers' ability to understand psychological factors involved in stress and coping.

V. Voluntary Participation and Withdrawal:

Participation in research is voluntary. You have the right to refuse to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may only participate in this study if you are 18 years old or older.

VI. Confidentiality:

Your identity will be kept confidential to the extent provided by law. Your responses on the questionnaires will be assigned a code number. The list connecting your name to this number will be kept in a password-protected computer file. When the study is completed and the data have been analyzed, the list will be destroyed. The information you provide will not be part of your school records or in any way affect your academic evaluation. The findings of the study will be summarized and reported in group form. You will not be identified personally. You will not be identified personally. Your instructor will not know what you choose to disclose in the study and will never open your packet.

VII. Contact Persons:

If you have any questions concerning the survey, you may contact Dr. Jeff Ashby, 404.651.0798, jashby2@gsu.edu; or Wendy Dickinson, wdickinson1@student.gsu.edu. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-463-0674 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Subject:

We will give you a copy of this consent form to keep. If you are willing to volunteer for this research, please sign below.

_____ _____

Participant's Signature Date

Print Name: _____

_____ ____ _____

Principal Investigator Date

Appendix B

(Instructions 1 for All Conditions)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   - Two copies of the Informed Consent
   - A demographics sheet
   - Two scantron sheets (one blue and one green)
   - A survey booklet

3. Take this packet with you to complete outside of class. It will take you approximately 1 – 1.5 hours to complete.
   - Read and sign one informed consent (the other is for you to keep)
   - Complete the demographics sheet
   - Follow the directions in the survey booklet and complete all the questions

4. Bring this packet back with you to class NEXT WEEK.

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class for the next 4 weeks on [insert day] in order to participate.

(Instructions 2 for Condition 0)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. "During today's writing session, I want you to describe in detail what you have done since you work up this morning. It is important that you describe things exactly as they occurred. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible."

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, Gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class for the next 2 weeks on [insert day] in order to participate.

(Instructions 3 for Condition 0)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. *"During today's writing session, I want you to describe in detail what you plan to do until you go to bed tonight. It is important that you describe things exactly as precisely as you can. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible."*

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, Gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class next week on [insert day] in order to participate.

(Instructions 4 for Condition 0)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. *"During today's writing session, I want you to describe in detail the last social event you attended. It is important that you describe things exactly as precisely as you can. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible."*

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, Gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study.

(Instructions 2 for Condition 1)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   CRIS interpretative report
   Blank writing pages

3. Read the interpretative report:
   The CRIS interpretive report is based on your responses to the survey questions you completed several weeks ago. Please thoroughly read the report

4. Write the exact time here: _____

5. Add 20 minutes to the time above and write it here: _____

6. *"During today's writing session, I want you to describe in detail what you have done since you work up this morning. It is important that you describe things exactly as they occurred. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible."*

7. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

8. After writing for 20 minutes, Gather your belongings and leave class (taking your writing with you)

9. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class for the next 2 weeks on [insert day] in order to participate.

(Instructions 3 for Condition 1)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. *"During today's writing session, I want you to describe in detail what you plan to do until you go to bed tonight. It is important that you describe things exactly as precisely as you can. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible."*

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, Gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class next week on [insert day] in order to participate.

(Instructions 4 for Condition 1)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. *"During today's writing session, I want you to describe in detail the last social event you attended. It is important that you describe things exactly as precisely as you can. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible."*

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, Gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study.

(Instructions 2 for Condition 2)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   CRIS interpretative report
   Blank writing pages

3. Read the interpretative report:
   The CRIS interpretive report is based on your responses to the survey questions you completed several weeks ago. Please thoroughly read the report.

4. When you have finished reading, write the exact time here: _____

5. Add 20 minutes to the time above and write it here: _____

6. *"For all three writing days of this experiment, your task is to write about your very deepest thoughts and feelings about your stress level or major stressors, and your coping resources or the ways that you could/do cope with stress. In your writing, try to let yourself go and to write continuously about your emotions and thoughts related to any or all of these topics. You can write about a recent event that was stressful or some other past experience that you continue to think about these days. The primary task, however, is for you to reflect on your most basic thoughts and emotions about stress and coping."*

7. Please begin writing now on the above topic on the paper provided, and write until the time on line 5 (for 20 minutes).

8. After writing for 20 minutes stop writing, gather your belongings and leave class (taking the CRIS interpretative report and your writing with you)

9. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class for the next 2 weeks on [insert day] in order to participate.

(Instructions 3 for Condition 2)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. *"For all three writing days of this experiment, your task is to write about your very deepest thoughts and feelings about your stress level or major stressors, and your coping resources or the ways that you could/do cope with stress. In your writing, try to let yourself go and to write continuously about your emotions and thoughts related to any or all of these topics. You can write about a recent event that was stressful or some other past experience that you continue to think about these days. The primary task, however, is for you to reflect on your most basic thoughts and emotions about stress and coping."*

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study. Mark your calendar, as you will need to be present in class next week on [insert day] in order to participate.

(Instructions 4 for Condition 2)

INSTRUCTIONS

1. Read the instructions to the end before leaving class

2. Verify that your packet contains the following
   Blank writing pages

3. Write the exact time here: _____

4. Add 20 minutes to the time above and write it here: _____

5. *"For all three writing days of this experiment, your task is to write about your very deepest thoughts and feelings about your stress level or major stressors, and your coping resources or the ways that you could/do cope with stress. In your writing, try to let yourself go and to write continuously about your emotions and thoughts related to any or all of these topics. You can write about a recent event that was stressful or some other past experience that you continue to think about these days. The primary task, however, is for you to reflect on your most basic thoughts and emotions about stress and coping."*

6. Please begin writing now on the above topic on the paper provided, and write until the time on line 4 (for 20 minutes).

7. After writing for 20 minutes, gather your belongings and leave class (taking your writing with you)

8. Do not discuss this experiment with other students until it is completed at the end of the semester

**Thank you for your participation in this study.

Appendix C

Schedule of Activities

Week of Semester	Dates	Action	Details
4	1.30.06-2.3.06	Pretest	
4	Friday 2.3.06	Pretest make up date	In CPS dept
5	2.6.06-2.10.06	Collect Pretests	In class and box at CPS
6	2.13.06-2.17.06	Week 0ne of study – Condition 0 writes Condition 1 reads/writes Condition 2 reads/writes (1)	Return CRIS results to students
6	2.17.06	Make up date	In CPS dept
7	2.20.06-2.24.06	Week two of study – Condition 0 writes Condition 1 writes Condition 2 writes	
7	Friday 2.24.06	Make up date	In CPS dept
8	2.27.06-3.3.06	Week three of the study – Condition 0 writes Condition 1 writes Condition 2 writes	
8	Friday 3.3.06	Make up date	In CPS dept
9	3.6.06		
10	3.13.06		
11	3.20.06		
12	3.27.06		
13	4.3.06		
14	4.10.06		
15	4.17.06-4.21.06	Posttest passed out in class for take home	In class
16	4.24.06-4.28.06	Pass out/collect Posttests	In class and box at CPS
17	5.2.06-5.8.06	FINALS	Collect packets