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How do grateful people cope?: exploring the mechanism of positive reappraisal

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MECHANISMS OF POSITIVE REAPPRAISAL

HOW DO GRATEFUL PEOPLE COPE? EXPLORING THE MECHANISM OF
POSITIVE REAPPRAISAL

A Thesis

Presented To

Eastern Washington University

Cheney, Washington

In Partial Fulfillment of the Requirements

for the Degree

Master of Science in Clinical Psychology

By

Debra Elise Hutchison

Spring 2015

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MASTER'S THESIS

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Abstract

After one has experienced a trauma, an important aspect of recovery is posttraumatic growth. Posttraumatic growth helps people move past negative life events with good mental health. Research has indicated a relationship between post-traumatic growth and gratitude. However, there has been little investigation into the links between gratitude and post-traumatic growth. The current study asked participants to write about three different types of negative life events. These writing samples were then coded for the use of positive reappraisal. In addition to the writing samples, participants were asked to complete questionnaires assessing their gratitude, coping style and satisfaction with life. Results showed a positive relationship between an individual's level of gratitude and their positive reappraisal of painful open memories. As predicted, the results indicated that individuals high in trait gratitude showed more frequent use of positive reframing than those low in trait gratitude. Those who were high in trait gratitude and positive reframing also showed higher levels of life satisfaction, which suggests that the use of positive reappraisal may be an effective method of coping that can lead to posttraumatic growth.

Keywords: positive reappraisal, well-being, gratitude, trauma, coping

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MECHANISMS OF POSITIVE APPRAISAL

How Do Grateful People Cope? Exploring the Mechanism of Positive Reappraisal

As unfortunate of a fact as it may be, experiencing trauma is a common occurrence in today's society (Alim et al., 2006). Many individuals experience traumatic events every day around the world, but some of these individuals suffer negative consequences from their experience such as post-traumatic stress disorder (PTSD) and depression (Alim et al. 2006). Others may emerge from a traumatic experience a stronger and happier version of themselves through a process called post-traumatic growth (McElheran et al., 2012). Due to the various ways in which individuals respond to a traumatic event, it is important to understand the mechanisms that individuals utilize to achieve posttraumatic growth. It is also important to further explore these mechanisms in order to understand how they can be used to help individuals who do not cope with trauma in adaptive ways. Some have argued that gratitude is an important and crucial aspect of posttraumatic growth after a trauma (e.g., Lambert, Graham, Fincham, & Stillman, 2012). Indeed, several studies have shown that grateful people tend to cope well with difficult events in their life (McElheran et al, 2012). Although this relationship has been shown several times, the cognitive mechanisms that are used to achieve such states of gratitude and post-traumatic growth after traumatic events, are still unclear (Vernon, Dillon & Stiener, 2009; Ruini & Vescovelli, 2013). There is some evidence suggesting that grateful individuals use positive reappraisal to create a coherent life story that in turn increases well-being and decreases imbalances in emotion regulation abilities, symptoms of depression, and symptoms of anger in individuals with bipolar disorder. In this study I investigated one possible mechanism that has the potential to explain how grateful individuals cope. Specifically, I investigated the possibility that positive and grateful

reappraisal are mechanisms by which grateful individuals are able to more effectively cope with difficult and traumatic life events.

Trauma is often defined as an experience that involves actual or threatened death or serious injury or threat to one's physical integrity (Vernon, Dillon, & Stiener 2009). Traumatic events include war, natural disasters, car or plane crashes, terrorist attacks, sudden loss of a loved one, rape, kidnapping, assault, sexual or physical abuse and childhood neglect. The prevalence of events with these characteristics in America is unsettling and continues to climb. In a 2011 study over 63% of men and 45% of women were exposed to a traumatic event in their lifetime (Alim et al, 2006). There is also a clear gender difference when looking at types of trauma experienced in our society. American women are more likely to be subject to sexual harassment, rape and childhood sexual abuse, while men are more likely to experience accidents, physical assault, combat, disaster, or bear to witness death or injury (Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Even though these numbers seem high there is evidence suggesting that these percentages are lower than actual rates and are not a full representation of the prevalence of trauma, especially in women (Mills, McFarlane, Slade, Creamer, Silove, Teesson, & Bryant, 2011). The numbers climb higher when examining a younger population of adults. Eighty percent of college age student's report experiencing one or more traumatic events in their lifetime (Lauterbach & Vrana, 2001).

Although the prevalence of experiencing a traumatic event is high, individuals who suffer negative psychological consequences from such events is much lower. Only 23% of individuals who experience a traumatic event suffer symptoms that are associated with either depression or PTSD. Children however, are more likely to develop PTSD than

adults in response to a traumatic event (Mills et al 2011; Alim et al 2006). Even though the percentage of those who suffer negative consequences from trauma is lower than the prevalence of trauma events as a whole, there are still many individuals suffering negative consequences resulting from traumatic events. This translates to around 5.2 million Americans having PTSD each year and even more with subclinical manifestations of the disorder. The symptoms suffered by these individuals are disruptive to healthy functioning. These individuals experience symptoms such as re-experiencing the traumatic event, avoiding reminders of the trauma, and increased anxiety, emotional arousal, and depression, just to name a few (Kessler et al. 2005). To this point I have focused on the negative outcome of traumatic events. In other words, what are the remaining 77% of individuals who do not maladaptively cope in response to trauma really experiencing? Are they coping with the stressor in a positive way? I will now discuss various ways that an individual may cope with a traumatic or difficult event in their life.

Coping can be defined as “the efforts to manage the impact of a stressor” (Vernon et al 2009, p.118). Coping is the process that an individual engages in when they experience a traumatic event. Some individuals cope in a positive or proactive way, resulting in posttraumatic growth, while other individuals cope in a negative way or not at all, developing mental and in some cases physical health issues. Positive coping can be defined as “thoughts and behaviors aimed at general resource building to facilitate future goal attainment and personal growth” (Vernon et al 2009, p.117). Some examples of positive coping techniques include seeking social support (going to friends, family or community supports to help you through difficult times), thinking things through

(thinking about what happened and not avoiding processing through the event), positive reframing (changing the way you think about the trauma event so that you see the positives that may have come from it occurring), being goal oriented (focusing on getting through the trauma by focusing on achieving small successes) and wishful thinking (hoping for the best possible outcome). Studies have shown that women who cope with trauma using positive or proactive methods are far less likely to develop PTSD than their counterparts who did not cope with their trauma using positive or proactive coping techniques (Vernon et al., 2009). Although positive coping is more prevalent in the population than negative coping, negative coping is still far too common. The uses of these negative coping techniques have been linked to the development of PTSD and other mental disorders over one's lifetime (Kessler et al., 2005). The majority of patients with PTSD will suffer from long-term effects of the disorder, which illustrates the importance of developing proactive coping skills that can aid in its prevention (Haagsma et al., 2012). One of the more troubling aspects about individuals who do not cope well is that their overall life satisfaction and physical and mental well-being seems to be affected. Subjective well-being is considered as an individual's positive emotions, lack of negative emotions, and overall life satisfaction (Brulde 2007; Diener et al. 2002; Karlson et al., 2013). When an individual's ability to cope affects their well-being, that person tends to be dissatisfied with their life, depressed, and experiences a number of negative emotions. Therefore, creating models that will inform us as to how individuals are able to grow stronger after a trauma event through the use of coping techniques is a primary step toward developing successful psychotherapeutic approaches that enable positive growth in the aftermath of traumatic events. Current research suggests that the posttraumatic

growth model may explain how individuals grow stronger after experiencing a traumatic life event (McElheran et al., 2002). “Post-traumatic growth (PTG) refers to ways in which people are positively transformed by the experience of surviving significant adversity” (Tedeschi & Calhoun, 2004, p. 224). After experiencing a traumatic event, an individual may grow and evolve in five different areas that, combined, are defined as posttraumatic growth. Individuals who exhibit posttraumatic growth increase their personal strength and resilience, explore new possibilities that life has to offer them, form new meaningful interpersonal relationships, have a new found appreciation for life, and develop some new or deeper type of spirituality. These growth factors in an individual may coexist with the emotional stressors that result from a trauma. PTG does not develop instead of the negative trauma side effects. Rather when experienced simultaneously with negative symptoms, PTG gives the individual the ability to move past the negative emotions caused by the trauma. This allows individuals to cease ruminating on the event, which typically promotes the development of an emotional disorder.

It is possible that the ability to cease ruminating on a traumatic event is related to “meaning making.” *Meaning making* appears to be related to most areas of PTG, and is defined as relating a life turning point to some part of our understanding of ourselves (McLean & Pratt, 2006). This means that after experiencing a trauma individuals who develop posttraumatic growth not only find meaning in the life they lived pre-trauma, but also create new meaning in their lives by doing new things, interacting with new people, and most importantly live with an increased appreciation for many things within the context of their lives, both positive and negative. These individuals do not simply call negative life events good, but instead appreciate what aspects of these negative events

affected them in a helpful or positive manner. When posttraumatic growth is looked at from that stand point it becomes clear that it does not develop instead of negative trauma emotions, but can help a traumatized person from developing worsening symptoms by maintaining support relationships and strengthening their overall well-being. Thus, creating meaning around the painful event that they have experienced may be crucial to PTG. It seems reasonable to propose that individuals create positive meaning around their traumatic experience through positive reappraisal.

Once that individual has been able to move past the negative emotions caused by the trauma, they are left with new relationships and a new outlook on life that appears to be adaptive. These individuals may develop into people who appear to be grateful for even the most basic aspects of human existence, such as life and interpersonal connections. Studies suggest that grateful individuals tend to be happier and better adjusted (e.g., Watkins et al., 2003). Gratitude is one benefit that may emerge from posttraumatic growth (Runi & Vescovelli, 2012). It can be defined in several ways as an emotion which occurs after people receive aid which is perceived as costly, valuable, and altruistic (Wood, Maltby, Stewart, Linley, & Joseph, 2008) or a life orientation towards noticing and appreciating the positive in the world (Wood et al., 2010). A recent study (Runi & Vescovelli, 2012) was the first to look at the role of gratitude in a sample of breast cancer patients. They evaluated the relationship between gratitude, psychological well-being, PTG, and levels of distress in all of their participants. The higher an individual's levels of posttraumatic growth, the higher levels of gratitude an individual was found to have (Runi & Vescovelli, 2012). This suggests that PTG allows people to

have a positive emotional response after experiencing a traumatic event due to their newfound appreciation for life.

The current psychological literature shows many desirable characteristics that are positively correlated with gratitude. Studies have shown that gratitude is related to increased daily life satisfaction, positive affect, and well-being in both clinical and non-clinical populations, with gratitude having one of the strongest correlational relationships to subjective well-being compared to other personality traits (for a review, see Watkins, 2014; Wood, Joseph, & Linley, 2007). Thus, increasing gratitude should not just be an end goal but a possible treatment intervention when learning healthy coping techniques (Kerr, O'Donovan, & Pepping 2014).

Other areas of one's life where gratitude may have a positive impact is in enhancing social support, which is an important part of any coping process. Gratitude has been found to correlate positively with seeking both emotional and instrumental social support, which subsequently resulted in improved subjective well-being (Wood et al., 2007). With more social support individuals develop less trauma symptoms and for those that do exhibit mental disorders due to trauma, social support increases the rate of recovery (Wood et al., 2007; Algoe, S. B., & Stanton, A. L., 2012).

It is now clear that gratitude helps increase a lot of positive things, but what about decreasing the negative? Gratitude may be useful in that respect as well (Watkins, Cruz, Holben, & Kolts, 2008). Some studies have demonstrated that gratitude negatively correlates with negative coping techniques, thus decreasing negatives such as; behavioral disengagement, self-blame, substance use, denial, unpleasant emotional impact, memory intrusion, PTSD symptom levels, anxiety, depression and hostility-irritability (Lambert,

Graham, Fincham, & Stillman, 2012; Lin, & Yeh, 2013; Rini et al., 2012; Vernon, 2012; Watkins et al., 2008; Wood et al., 2007).

In sum, gratitude appears to be strongly related to various factors of well-being. One strong candidate is that gratitude may enhance an individual's ability to cope. The area of research related to gratitude's unique relationship to coping and well-being is relatively new and the exact relationship between these three factors is unclear. However, it is apparent that gratitude and healthy coping are related (Wood et al., 2007). The way in which they are related is debated. A study done by Lin and Yeh (2013) showed that gratitude had direct effects on undergraduates' active coping styles and well-being. In 2003, Emmons and McCullough found that undergraduates who wrote about what they were grateful for improved their coping behaviors, mood, and physical health symptoms. It is clear that a relationship between gratitude, well-being, and coping exists, but how the relationship functions and the mechanisms by which it does so have yet to be determined.

Recent studies have suggested that positive or grateful reappraisal may play a role in how gratitude helps individuals cope in a positive way and ward off unwanted symptoms of trauma (Lambert, Graham, Fincham, & Stillman, 2012). Gross (1998; 2002) defined *positive reappraisal* as construing an emotion-eliciting situation in such a way that it adaptively alters its emotional impact. For example, an individual goes through a perceived negative event, such as a romantic breakup, later down the road they are able to see the breakup as a positive event, because after the breakup they meet their future spouse. Gratitude may have a close relationship with reappraisal. A study was conducted by Watkins et al. (2008) that investigated grateful reappraisal and its effects on closure of negative emotion memories. In the study participants were asked to recall an open

memory of an unpleasant emotional event and were then randomly assigned to one of three writing conditions (neutral topics, the unpleasant memory itself or positive consequences that occurred due to the unpleasant open memory that they could now be grateful for). The participants wrote in their assigned writing conditions for three sessions. The study concluded that grateful reappraisal of unpleasant memories may help individuals emotionally process trauma events, thus bringing emotional closure to painful incidents (Watkins et al., 2008).

A series of eight studies published by Lambert et al. (2012) were conducted to assess if gratitude related to fewer depressive symptoms through the use of positive emotion and reframing. These studies showed gratitude to be related to fewer depressive symptoms, with positive reframing and positive emotion serving as mechanisms that accounted for this relationship. The main problem with these studies was that the assessment of positive reframing was accomplished via self-report. In other words, people simply agreed with items such as “I like to see the silver lining.” Stating that one engaging in positive reframing is not equivalent to actually using this coping technique in the presence of stress. Nonetheless, since this study suggests that positive reappraisal is a mechanism by which gratitude reduces depressive symptoms, it seems reasonable to infer that positive reappraisal is a mechanism by which gratitude promotes adaptive coping following a trauma.

Another study done with bipolar individuals supports the idea that reappraisal may be an effective emotion regulation strategy for both negative and positive emotions across both healthy adults and individuals with bipolar disorder. This study suggested that positive reappraisal has the potential to be useful when coping with a trauma event

by aiding in the regulation of negative thoughts one might normally perseverate on (Gruber, Hay, & Gross, 2013). In other work, reappraisal was shown to mediate the relationship between gratitude and sense of coherence. *Sense of coherence* refers to people incorporating negative life events into their positive life story (Lambert et al 2009; see also Watkins et al., 2008). If positive reappraisal is indeed the mechanism by which gratitude is able to help grateful individuals create a cohesive life story, that further supports the theory that grateful people successfully cope by making traumatic events a more cohesive part of their positive life story by being able to see the good in even the darkest times.

This idea is supported by the narrative approach to one's identity, which means that people think of their life as a story that is constructed by their life choices and experiences (McAdams, 2013). It is not that the self is measured by assessing ones life stories, but rather the self *is* a story (McLean, & Pratt, 2006; McAdams, 2013; Manczak, Zapata-Gietl, & McAdams, 2014). This theory argues that our life story *is* our identity. If our life story is our identity then we naturally want our life story to be a positive one. When a trauma occurs this causes a disruption of one's personal positive identity and the individual struggles with how to fit this life event into their positive life story. This lack of cohesiveness then results in negative trauma side effects such as rumination, depression, anxiety and disorders like PTSD. It is as if our self-identity has been shaken to its core. It is no wonder that when individuals suffer through negative consequences of a trauma they likely engage in deep self-reflection that consequently allows them to develop PTG in the process. Research has found that when traumatic life events are reappraised in a grateful or positive way this helps an individual have memory closure,

less unpleasant emotional impact, and less intrusiveness of open memories (Watkins et al., 2008).

It seems as if there are many potential benefits of gratitude, especially in the area of PTG and coping with trauma events. Before exploring any of these potential benefits of gratitude it is necessary to understand the mechanisms by which it helps individuals cope with traumatic and negative life events (Wood et al., 2007). Identifying these mechanisms should help obtain a better understanding of how the cognitions of grateful individuals work. If positive reappraisal is found to be the mechanism by which grateful individuals cope, there may be important practical applications that would be beneficial to individuals suffering from stressful events in their life. Knowing the specific mechanisms that promote posttraumatic growth and positive coping could lead to the development of improved coping techniques for individuals who have experienced trauma or more minor stressful life events. Eventually, this information may benefit less grateful individuals by helping them manifest gratitude even during difficult times.

The purpose of this study was to evaluate positive reappraisal as a mechanism by which grateful individuals are able to cope with traumatic life events and make them cohesive with their positive life story. In this study, individuals of varying levels of gratitude wrote about open and closed unpleasant memories, and they also responded to an unpleasant scenario that is common for college students. I theorized that grateful individuals cope by reframing painful or traumatic life events in a positive way. Thus, I predicted that individuals high in trait gratitude would show more use of positive reframing than those low in trait gratitude. Moreover, I hypothesized that individuals high

in trait gratitude would cope more effectively with negative life events and will report higher levels of subjective well-being, life coherence, and life satisfaction.

Method

Design

This study used a correlation design where I investigated positive reappraisal as the mechanism by which grateful individuals are able to cope with stressful and traumatic life events.

Participants

In this study, 228 participants completed the protocol in exchange for partial course credit. All participants were recruited from undergraduate and graduate psychology courses at Eastern Washington University. There were a total of 74 male and 152 female participants ranging in age from 18 to 41, with an average age of 20 years old.

Materials

In this study I administered the following questionnaires to all participants: The Gratitude Resentment and Appreciation Test revised short form (GRAT; Watkins et al., 2003), The Gratitude Questionnaire 6 (GQ-6; McCullough et al., 2002), The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), The Ways of Coping Questionnaire—Five-Factor Model (Sørliie & Sexton2001), The Marlowe-Crowne Social Desirability Scale and The International Positive Affect Negative Affect Schedule-Short Form(IPANAS-SF)(Thompson, E.R, 2007).

Primary Measures

Coping style. The 26-item Ways of Coping Questionnaire (Sørliie & Sexton2001), was administered to all participants to assess the way that people cope with specific types

of stressful situations. The questionnaire is composed of five subscales each assessing one of the types of coping (wishful thinking, goal oriented, seeking support, thinking it over and avoidance). A positive reappraisal subscale, composed of four additional items (tried to look for positives that came from the situation, tried to find the meaning in the situation, considered it as a growth opportunity and considered the potential benefits) was added to the questionnaire to assess participants' self-report usage of positive reappraisal as a coping strategy. The participants were asked to complete the questionnaire based on how likely they are to use each item when faced with a negative stressful life event. Their responses were scored on a four point Likert scale (1=Never to 4=Always). High scores on any of the subscales indicated a particular coping style for the participants. The scale has demonstrated high reliability and validity (McWilliams, Cox, & Enns, 2003).

Gratitude measures. I am interested in using two measures to assess participants' gratitude; the GRAT revised short form and the GQ-6. The GQ-6, which assesses a persons overall level of gratitude, is a six item questionnaire (McCullough et al., 2002). The 6-item questionnaire is completed by participants using a 7-point Likert scale (1- strongly disagree to 7- strongly agree). The measure has shown good internal consistency ($a = .82$) (McCullough et al., 2002).

The GRAT revised short form (Thomas & Watkins, 2003), developed to measure three factors of gratitude: Sense of Abundance, Simple Appreciation, and Appreciation of Others, is a 44-item Likert scale questionnaire. Participants will answer questions on a 5-point Likert scale (1- strongly disagree to 5 – strongly agree). The measure shows good internal consistency ($a = .92$). The measure has also exhibited good reliability with $r=.94$

(Thomas & Watkins, 2003). This form of the GRAT was used to assess if any specific aspect of being grateful will be related to coping using positive reappraisal.

Well-being measure. I used The Satisfaction with Life Scale (SWLS) and The International Positive Affect Negative Affect Schedule-Short Form (IPANAS-SF) (Thompson, E.R, 2007) to assess participants' current overall well-being. The SWLS (Diener et al., 1984) is a 5-item questionnaire that assesses current as well as previous life satisfaction. This questionnaire uses a 7-point Likert Scale (1-strongly disagree to 7-strongly agree). The measure has been shown to be both valid and reliable ($r=.82$, $\alpha=.82$). The International Positive Affect Negative Affect Schedule-Short Form (IPANAS-SF)(Thompson, E.R, 2007) is a well validated, cross culturally reliable, brief 10 item version of the PANAS, which is a self-report measure to assess the participants' current feelings or emotional predisposition and is known as one of the standard affect measures. The I-PANAS-SF measures both positive and negative affect. For Positive Affect, items are Active, Alert, Attentive, Determined and Inspired, with reported internal consistency between .73 and .78. For Negative Affect, items are Afraid, Ashamed, Hostile, Nervous and Upset, with reported internal consistency between .72 and .76. Participants rate each item on a 5-point likert scale (1- Never and 5- Always) for how much they generally experience the feeling for each item. The I-PANAS-SF was developed for general use in research situations where either time or space are limited and was used in this research for that reason. Two additional items (Delightful and Joyful) were added to the measure to assess for pre-test gratitude.

Writing prompts. Participants responded to three writing prompts during the study that included a closed memory prompt, an open memory prompt and a scenario

writing prompt. They were asked to respond to each writing prompt in order to evaluate if they used positive reappraisal in new situations (the scenario), when actively coping to negative life events (open memory) and in past negative life events which they have laid to rest (closed memory). The instructions for each of these prompts can be seen below.

After data collection all writing samples were coded for word count and positive reappraisal by three coders. In instances where the coder felt it was a possibility that they may have known the participant, only two coders assessed the writing samples.

Closed Memory Instructions

We would like you to recall and write about a stressful negative experience that happened to you in the past six months, which is a closed memory. A closed memory is a memory that you feel you now understand, you feel like you have put the incident behind you and the memory does not haunt you any longer. Please try to imagine the event as vividly as you can, and write about your experience in the space below. Please write freely about this event (don't worry about grammar or spelling), and record whatever thoughts come to mind as you think about this event.

Open Memory Instructions

We would like you to recall and write about a stressful negative experience that happened to you in the past six months, which is a open memory. An open memory is a troubling memory from your past that you feel is not yet behind you and is poorly understood. It's an emotional memory that may intrude into your consciousness at unwelcome times, and you feel you have some "unfinished business" associated with this memory. In other words, in many ways this emotional memory is still an "open book" for you. Please try to imagine the event as vividly as you can, and write about your experience in the space

below. Please write freely about this event (don't worry about grammar or spelling), and record whatever thoughts come to mind as you think about this event.

Scenario Instructions

We would like you to write about the scenario that is below, of a stressful negative experience. Please read it carefully and try to imagine the event as vividly as you can, and write about how you would respond to the event in the space below.

Imagine that you have been going out with someone for the past six months, and you have found yourself quite attracted to this person. The feeling is clearly mutual, and you think that you're "in love" with this person, and you are considering whether they could be a permanent life partner for you. Suddenly, seeming to come from out of the blue, your boyfriend/girlfriend breaks up with you, without warning or reason. In a free form way write about how you would think about this disappointment and how you would respond to it in the space below.

Positive reappraisal measures. This study attempted to determine whether or not participants are using positive reappraisal to cope with current painful open memories, as well as if they used positive reappraisal as a tool for coping in the past by evaluating closed memories. As previously mentioned, a positive reappraisal scale was added to the Ways of Coping Questionnaire. Each writing prompt was coded by three coders for the presence of positive reappraisal in the participants writing. For these purposes positive reappraisal was operationally defined as including any of the following: 1) Positive aspects or consequences of this difficult experience, 2) Gratitude or thankfulness for the event was expressed, 3) Individuals expressed that they have benefited from the event in some way, 4) Individuals expressed that they have grown or gained personal strength

from experiencing the event, 5) The event has made them better able to deal with challenges in the future, 6) The event has helped put their life in perspective, and 7) The event has helped them appreciate the truly important people and things in their life. Lastly, the participants were given one minute to write down all of the positive consequences that they can think of that were a result of going through each of the three situations from the writing prompts. They were instructed to leave this portion of the measures packet blank if they felt no positive consequences occurred as a direct result of the event. Each positive consequence recorded by the participant will also be rated on how important it was to the individual (Importance Rating) and how grateful the individual is that the listed positive occurred (Gratitude Rating) directly following their one minute of positive consequence listing.

Secondary measures. For exploratory purposes I included several additional measures and questions throughout the course of the study. These included demographic information and the Marlowe-Crowne Social Desirability Scale. Demographic information collected from participants included the following: race/ethnicity, age, sex, year in school (Freshman, Sophomore, Junior, Senior or Graduate Student) and relationship status (single, in a relationship, married, divorced or widowed).

The marlow crowne social desirability scale. The Marlow Crowne Social Desirability Scale (M-C SDS) is a measure that was designed to assess social desirability independent of any participant psychopathology. In the research setting this measure is used to assess whether or not participants are responding truthfully or are misrepresenting themselves in order to preserve their perceived personal persona. The current study primarily used the measure to serve as a distractor task between demographic information,

the I-PANA-SF and the first writing prompt (closed memory) to prevent potential priming effects from the I-PANA-SF and participant demographic information. The M-C SDS is a 33-item questionnaire, which uses a true false format to ask participants to respond to each item with true or false as the item pertains to their personality. This measure is considered to be psychometrically sound with good consistency and reliability (internal consistency= .88 and test retest reliability = .89).

Procedure

The present study was reviewed and approved by Eastern Washington Universities Institutional Review Board for the ethical treatment of human subject. Individuals participated in this study for extra credit in various Eastern Washington University classes. If students opted out of the present study, alternate extra credit opportunities were provided. Twenty-four hours prior to participating in the study, participants were read a recruitment script in class by their professor, which gave them general details of the studies content. On the day of the study, participants entered the classroom and were each given an information sheet about the study and their rights as participants to read. The participants were then each given a measures packet and asked not to begin until instructed to do so. Once all participants had received a measures packet the researcher instructed them to complete the first three pages of the packet, which included demographic information, the PANAS-SF and the Marlowe-Crowne Social Desirability Scale. After completing the first three pages they were prompted to wait for further instructions before continuing to the next page. When all participants had completed this portion of the study the researcher instructed the participants to turn to the next page and the experimenter read the first writing prompt (Closed Memory)

instructions aloud. The participants were then given seven minutes to write about their closed memory before being instructed to turn to the next page. The participants were then given one minute to list as many positive consequences that were a result of the closed memory as possible. If they did not experience any positive consequence they were asked to leave the listing page blank. After the end of the one minute time period the participants were asked to rate both the importance and the gratitude that they felt for each positive consequence listed using a 9-point Likert scale. After all participants completed their ratings they were asked to turn the page and complete the SWLS (Diener 1985). After all participants had completed the measures they were instructed to turn to the next page and read the second writing prompt (Open Memory). Once again the instructions were read aloud by the experimenter. The participants were then given seven minutes to write about their open memory before being instructed to turn to the next page. The participants were then given one minute to list as many positive consequences that were a result of the open memory as possible. If they did not experience any positive consequence they were asked to leave the listing page blank. After the end of the one minute time period the participants were asked to rate both the importance and the gratitude that they felt for each positive consequence listed using a 9-point Likert scale. After all participants completed their ratings, they were asked to turn the page. Once the participants had moved to the next section of the packet, the researcher read the third writing prompt (Scenario) instructions aloud. The participants were then given five minutes to write about the scenario before being instructed to turn to the next page. The participants were then given one minute to list as many positive consequences that were a result of the scenario as possible. If they did not experience any positive consequence

they were asked to leave the listing page blank. After the end of the one minute time period, the participants were asked to rate both the importance and the gratitude that they felt for each positive consequence listed using a 9-point Likert scale. After all participants completed their ratings they were asked to turn the page and complete the remaining three pages of the packet at their own pace. Once the participants finished their questionnaire packets they gave their completed packet to one of the available researchers, signed a participant log to receive credit for their participation, and were given a debriefing sheet before exiting the classroom. For an ordered list of the measures used in the present study see Table 1 below.

Table 1:

Order of Measures

Order Number	Measure
1	Demographics
2	The International Positive Affect Negative Affect Schedule-Short Form
3	Marlowe-Crowne Social Desirability Scale
4	Closed Memory Writing Sample
5	The Satisfaction with Life Scale
6	Open Memory Writing Sample
7	Scenario Writing Sample
8	The Ways of Coping Questionnaire--Five-Factor Model
9	Gratitude Resentment and Appreciation Test revised short form
10	Gratitude Questionnaire 6

Results

Reliability Analyses

An interrater reliability analysis using Kappa was performed to assess constancy amongst the three coders when coding each writing sample (Open Memory, Closed Memory and Scenario) for the use of positive reappraisal. The interrater reliability was the same for each of the three writing samples collected for the coding of the use of positive reappraisal. It was indexed as excellent by Cohen's kappa, $k = 1.00$. The percentage of agreement between the three independent coders was 100%.

A composite measure of gratitude consisting of all items from the GRAT ($\alpha = .82$) and the GQ6 ($\alpha = .75$) was assessed for internal consistency. Cronbach's alpha for the 22 item composite measure was .89, showing the composite gratitude measure to be internally consistent. The Marlow Crowne Social Desirability scale was analyzed and the current sample of participants reported average ratings of social desirability ($M = 16.22$, $SD = 4.45$), meaning it is unlikely that participant self-monitoring responses had an effect on the results of the current study.

Primary Analyses: Gratitude and Positive Reappraisal

In my primary analysis I chose to use mostly correlations to assess the relationship between gratitude and positive reappraisal with closed memories, open memories, and a scenario. Chi Square analysis was conducted comparing the relationship between participants' level of gratitude in tertiles (low gratitude, medium gratitude and high gratitude) to their use of positive reappraisal in each writing sample. The results showed a significant relationship between gratitude and use of positive reappraisal when

coping with open memories, $\chi^2(2, N = 228) = 7.03, p = .030$. As seen in Figure 1, individuals high in gratitude were more than four times likely to use positive reappraisal when writing about a negative open memory than individuals with low or medium gratitude ratings. A significant relationship was not found between gratitude rating and use of positive reappraisal for closed memory writing samples, $\chi^2(2, N = 228) = 3.34, p = .188$, or the scenario writing sample, $\chi^2(2, N = 228) = 0.78, p = .679$. This indicates that participants high in gratitude used positive reappraisal more than individuals low in gratitude when coping with negative open memories.

Additional correlations were conducted to investigate the relationship between gratitude and the number of positive consequences listed, average importance rating, average gratitude rating for each writing sample (closed memory, open memory and scenario). See Tables 2, 3, and 4 for complete listing of these correlations. No significant relationships were observed between gratitude and the number of positive consequences listed, $r(228) = .06, p = .396$ (closed memory), $r(228) = .08, p = .251$ (open memory), $r(228) = .06, p = .359$ (scenario). Suggesting that how grateful an individual is does not relate to how many positive consequences they can list when recalling and writing about a negative event. Positive significant relationships were observed between gratitude and average importance ratings for all three writing samples, $r(228) = .21, p = .004$ (closed memory), $r(228) = .17, p = .040$ (open memory), $r(228) = .19, p = .040$ (scenario). This demonstrates that the level of gratitude relates to the level of importance individuals associate with positive consequences that occurred from experiencing a negative life event. A significant positive relationship between gratitude and average gratitude ratings of positive consequences was only observed within the closed writing sample, $r(228)$

$r(228) = .19, p = .007$ (closed memory), $r(228) = .15, p = .077$ (open memory), $r(228) = .14, p = .087$ (scenario). This suggests that gratitude is only related to average gratitude ratings of positive consequences when individuals recall a closed memory.

Mediation Analysis

One of the goals of this project was to investigate how gratitude and positive reappraisal might interact to impact subjective well-being. The primary theory behind this project was that trait gratitude should enhance the likelihood of positive reappraisal that should in turn enhance subjective well-being. Because positive reappraisal was a dichotomous variable, this mediation analysis could not be performed. I did, however, investigate the possibility that positive reappraisal of open memories enhances trait gratitude that in turn increases subjective well-being. Because the mediator variable in this model was continuous (i.e., trait gratitude), this mediation analysis could be carried out.

I used Hayes (2013) PROCESS program to investigate whether trait gratitude mediated the relationship between positive reappraisal and satisfaction with life. From this ordinary least squares path analysis, I found that positive reappraisal indirectly enhances satisfaction with life by enhancing trait gratitude. Participants who used positive reappraisal were higher in gratitude than those who did not ($a=0.989, p=.02$), and those higher in gratitude were more likely to report higher satisfaction with life ($b=1.84, p<.00009$). Importantly, the indirect effect of positive reappraisal on satisfaction with life by increased gratitude was also significant. A bias-corrected bootstrap confidence interval for the indirect effect ($ab=1.820$) based on 1,000 bootstrap samples was completely above zero (0.467 to 3.068), and the Sobel test was also significant ($z=2.214$,

$p=.03$). Moreover, there was no evidence of a direct effect of positive reappraisal of open memories on satisfaction with life ($c'=.880, p=.442$). This suggests that positive reappraisal impacts satisfaction with life by enhancing gratitude.

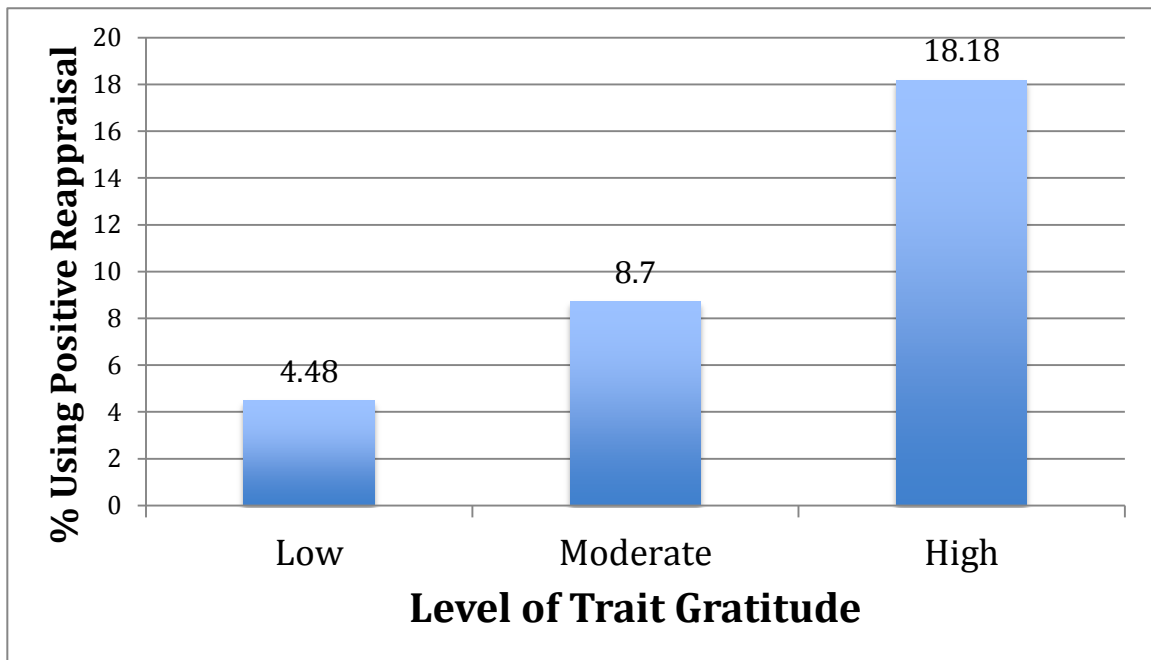
Secondary Analyses

Further correlational analyses were conducted to determine if relationships existed between positive reappraisal use and life satisfaction. Using a Pearson's correlation analysis, a significant positive relationship was found for both closed memories, $r(228) = .14, p = .014$ and open memories, $r(228) = .12, p = .047$. This indicates that positive reappraisal used with closed or open memories is related to higher levels of life satisfaction. If an individual uses positive reappraisal to cope with a negative open or closed memory they are likely to have higher levels of life satisfaction compared to individuals not using positive reappraisal. Additional correlations were conducted to further assess life satisfactions relationship to positive reappraisal usage by looking at its relationship to several variables related to positive reappraisal, such as number of positive consequences listed; average importance rating of positive consequences; average gratitude rating of positive consequences for each writing sample. A significant positive relationship was found between satisfaction with life scale scores and closed memory positive consequence mean importance ratings, $r(228) = .20, p = .005$, as well as closed memory positive consequence mean gratitude ratings, $r(228) = .18, p = .012$. This suggests that the more important a participant perceived the positive consequences they listed and the more grateful they were for a positive consequence occurring as a result of experiencing their painful closed memory the higher the participant rated their satisfaction with life. A significant positive relationship was found

Figure 1. Percent of participants using positive reappraisal in dealing with open memories by level of gratitude between satisfaction with life scale scores and scenario positive consequence mean importance rating, $r(228) = .15, p = .038$, as well as for scenario positive consequence mean gratitude ratings, $r(228) = .15, p = .037$. Suggesting that the more important participants perceived the positive consequence occurring as a result of the painful scenario the higher participants rated their satisfaction with life. No significant relationships were found between these variables in the open memory writing sample, suggesting that individuals do not receive the benefit of increased life satisfaction until positive reappraisal has been used to effectively close the memory and lay it to rest.

Figure 1

Percent of participants using positive reappraisal in dealing with open memories by level of gratitude



Note: Bar graph showing participants in gratitude tertiles (low, medium and high) by the percent of participants that used positive reappraisal when coping with an open negative life event.

Table 2
Correlation Matrix for Open Memory Writing Sample

Variable	1	2	3	4	5	6	7	8	9
1. GRAT mean	1	.73* *	.93* *	.17*	.12	.09	.18*	.24* *	.53* *
2. GQ6 Mean	.73* *	1	.93* *	.14*	.10	.06	.09	.08	.55* *
3. Composite Gratitude Score	.93* *	.93* *	1	.16*	.12	.08	.17*	.15	.58* *
4. Was positive Reappraisal Present in the Subjects Open Memory?	.17*	.14*	.16*	1	.13	.22* *	.14	.12	.15*
5. Word Count	.12	.10	.12	.13	1	.18*	.10	.17*	.12
6. Number of Positive Consequences	.09	.06	.08	.22* *	.18*	1	.09	.13	.10
7. Mean Gratitude Rating of Positive Consequences	.18*	.09	.17*	.14	.10	.09	1	.60* *	.06
8. Mean Importance Rating of Positive Consequences	.24* *	.08	.15	.12	.17*	.13	.60* *	1	.13
9. SWLS	.53* *	.55* *	.58* *	.15*	.12	.10	.06	.13	1

Note. ** $p < .01$, * $p < .05$. Above correlations involving a dichotomous variable were analyzed using a Kendall tau correlation and all remaining correlations were analyzed using a Pearson correlation.

Table 3.**Correlation Matrix for the Closed Memory Writing Sample**

Variable	1	2	3	4	5	6	7	8	9
1. GRAT mean	1	.73**	.93* *	.16*	.12	.07	.16*	.19* *	.53* *
2. GQ6 Mean	.73**	1	.93* *	.08*	.09	.03	.19* *	.19* *	.55* *
3. Composite Gratitude Score	.93**	.93**	1	.13*	.12	.06	.19* *	.21* *	.58* *
4. Was positive Reappraisal Present in the Subjects Open Memory?	.16*	.08	.13	1	.04	.31*	.18*	.09	.14*
5. Word Count	.12	.09	.12	.04	1	.18* *	.01	.06	-.00
6. Number of Positive Consequences	.07	.03	.06	.31* *	.18*	1	.28* *	.08	.09
7. Mean Gratitude Rating of Positive Consequences	.16*	.19**	.19*	.18	.01	.28* *	1	.61* *	.17*
8. Mean Importance Rating of Positive Consequences	.19*	.19**	.21* *	.09	.06	.08	.61* *	1	.19* *
9. SWLS	.53**	.55**	.58* *	.14	-.00	.09	.17*	.19* *	1

Note. ** $p < .01$, * $p < .05$. Above correlations involving a dichotomous variable were analyzed using a Kendall tau correlation and all remaining correlations were analyzed using a Pearson correlation.

Table 4.**Correlations Matrix for the Scenario Writing Sample**

Variable	1	2	3	4	5	6	7	8	9
1. GRAT mean	1	.73**	.93**	.11	.10	.08	.18*	.17*	.53**
2. GQ6 Mean	.73**	1	.93**	.04	.01	.03	.19	.18	.55**
3. Composite Gratitude Score	.93**	.93**	1	.08	.06	.06	.20**	.19	.58**
4. Was positive Reappraisal Present in the Subjects Scenario?	.11	.04	.08	1	.22**	.30**	.18*	.10	-.05
5. Word Count	.10	.01	.06	.22**	1	.33**	-.00	-.01	.07
6. Number of Positive Consequences	.08	.03	.06	.30**	.33*	1	.13	.01	.11
7. Mean Gratitude Rating of Positive Consequences	.18*	.19**	.20**	.18*	-.00	.13	1	.60**	.15*
8. Mean Importance Rating of Positive Consequences	.17*	.18*	.19*	.10	-.01	.01	.60**	1	.14*
9. SWLS	.53**	.55**	.58**	-.05	.07	.11	.15*	.14*	1

Note. ** $p < .01$, * $p < .05$. Above correlations involving a dichotomous variable were analyzed using a Kendall tau correlation and all remaining correlations were analyzed using a Pearson correlation.

Discussion

My results modestly supported the theory that individuals high in gratitude are more likely to use positive reappraisal as their coping strategy when facing painful

negative life events than individuals low in gratitude. Participants who reported high levels of gratitude were four times more likely to use positive reappraisal when coping with an open negative life event than participants that reported lower levels of gratitude. There were not similar results indicative of this pattern in the closed memory or the scenario writing samples. These results support previous findings that grateful individuals use positive reappraisal more than less grateful individuals (Lambert et al., 2012). However, the results also shed some new light on how grateful individuals use positive reappraisal. As the participants were four times more likely to use this coping strategy when recalling an open memory of a negative life event, we may be able to infer that grateful individuals use positive reappraisal while actively coping with a negative life event, potentially to aide in the process of gaining memory closure to be able to have the situation become an aspect of their positive life story.

The data also suggests that positive reappraisal of open memories may cause individuals to have higher levels of gratitude which increases individuals' overall satisfaction with life as indicated by the mediation discussed in the results section above. This suggests that when an individual looks back on painful life events that they have not yet laid to rest and attempt to see the good that could come from their occurrences, it makes them grateful for the positives that already exist within their life. Perhaps a critical foundation of being a grateful person is being able to positively reappraise difficult situations. It seems likely that having the ability to see the positives in one's life allows individuals to evaluate the good in their life, altering the individuals perceptions (becoming more positive), allowing for individuals to obtain higher levels of life satisfaction. This means that those of us who look for the positives in the most trying of

situations are more likely to be grateful individuals who are more satisfied with their life. The ability to see the good that comes from the bad that an individual experiences is a skill that may help individuals view their life story in a more positive light, in turn increasing satisfaction and happiness with ones life. However, trait gratitude, positive reappraisal and satisfaction with life were found to have significant relationships with each other through correlational analyses, therefore if it had been possible to run a mediation analysis with positive reappraisal as the mediator there may have been a similar result indicating positive reappraisal as the mediator in this relationship. This allows for the conclusion that the three variable are interrelated, however the manner in which they function together remains less than clear.

Additionally, the data indicates that high gratitude scores and the use of positive reappraisal were not correlated with the number of positive consequences that were listed by participants for each writing condition. This indicates that the amount of positive things that an individual can recall happening because of a negative life event do not relate to whether or not an individual is using positive reappraisal to cope with the event or to how grateful of a person they are. For example, if you were able to list many positive consequences from a negative life event that does not mean that you are a grateful person or that you are using positive reappraisal to cope with the event.

I originally hypothesized that the number of positive consequences listed by participants would correlate with the use of positive reappraisal and high levels of gratitude. However, I believe this alternate result can be explained by the following. Participants rated each positive consequence that they listed on both importance and gratitude (how important the positive consequence was to them and how grateful they

were that the positive consequence had occurred). Results showed that participants' importance and gratitude ratings for their positive consequences positively correlated to both trait gratitude and use of positive reappraisal. Individuals who perceive positive consequences as highly important and were grateful for them were somewhat more likely to use positive reappraisal to cope and were somewhat more likely to have higher levels of gratitude than individuals who were not grateful for and did not see the importance of the positive consequences that they listed. It appears that these results imply that it is not simply the sheer number of positive things that one can recall resulting from a negative life event that is indicative of reframing the event in a positive way. Rather, it is the quality of the positive consequences that one recalls that relates to whether or not an individual is viewing the negative event in a more positive light. In conclusion, these results suggest that when using positive reappraisal, it is the quality of the perceived positive consequences rather than the quantity of positives one can recall that is most important. This may indicate that those using the process of positive reappraisal and reframing are engaging in the process of meaning making, providing evidence to support the hypothesis that individuals who use positive reappraisal to cope are able to effectively use the processes of cognitive restructuring to alter their perceptions to see the good in life, allowing the good to become a part of their positive life story.

While my hypotheses were generally supported with open memories, the strength of my findings were weaker than anticipated. This was due in part to the fact that positive reappraisal was not used frequently in response to open memories. In retrospect, it makes sense that gratitude was only associated with positive reappraisal for open memories. By definition, closed memories already make sense to individuals, and more than likely

participants had already used positive reappraisal to bring closure to these events. Thus, no differences were found between grateful and less grateful people in the use of positive reappraisal for closed memories. Indeed, positive reappraisal was used significantly more frequently for closed than for open memories, supporting the interpretation that these memories were closed because individuals had used positive reappraisal. Further rationale and suggestions for future research design improvements, to increase the strength of these findings and improve the analyses, will be discussed in more detail below.

The results of this study relate to and support several important studies in the area of positive reappraisal and gratitude. The two most relevant studies to this project are Lamberts et al.'s (2009) study entitled "How gratitude can affect sense of coherence through positive reframing" and Watkins et al.'s (2008) study entitled "Taking care of business? Grateful processing of unpleasant memories." The present study is closely tied to Lambert's study that found a relationship between gratitude, positive reappraisal and sense of memory coherence. The results of his study suggested that individuals high in trait gratitude use positive reappraisal more than the average individual to help incorporate negative life events into their positive life story. As this study measured positive reappraisal by asking participants for self-report questions generated by the researchers, we sought to take it a step further, not simply asking participants if they use positive reappraisal but asking them to write about negative life events and see if the use of positive reappraisal could actually be observed in the subjects' writing. My results indicate that participants are actively using positive reappraisal to cope with painful memories both in and out of the lab, as the use of positive reappraisal was shown with

both open and closed memories. The use of positive reappraisal with open memories suggests that participants actively cope with the event in the lab. Also, the use of positive reappraisal with closed memories suggests that participants used the coping skill in the past to lay a negative experience to rest.

In the latter study, Watkins et al. (2008) found that individuals in a gratitude writing condition positively coped with painful memories, showing increased memory closure and decreased open memory intrusions. This study indicates that when individuals write about negative life events through the perspective of gratitude they are able to more positively cope with negative life events than individuals who lack the presence of gratitude in their coping process. At the onset of the current study I hypothesized that these results would be obtained because those writing from a grateful perspective were positively reframing their negative life event during the grateful writing, ultimately leading to the benefits obtained in the grateful writing sample. In other words, I hypothesized that the mediator between gratitude and benefits from positive coping was positive reappraisal of the painful negative memory. Although our findings confirm a relationship between gratitude and positive reappraisal, the mediator of this relationship may vary from what was originally hypothesized, with the results potentially implicating that positive reappraisal increases gratitude which fosters positive coping and an overall increased satisfaction with one's life. It is also possible that while positive reappraisal helps build the grateful disposition, grateful people are also prone to use positive reappraisal, which further strengthens their disposition toward gratitude. Thus, it is possible that there is an upward spiral between positive reappraisal and gratitude, and future research could investigate this idea.

The results of the current study indicate that individuals high in gratitude cope with painful negative life events through the use of positive reappraisal. This suggests that grateful people are able to see the good in a negative life situation and interpret the memory in a more positive way. This positive reappraisal helps move the memory from a painful one associated with negative memories to a positive memory associated with personal growth and positive life outcomes. The current findings are also consistent with the theory that gratitude and positive reappraisal have a reciprocal relationship where both positive reappraisal and gratitude work together to increase positive benefits for individuals after they experience a negative life event. This suggests that the more grateful an individual is the more likely they are to use positive reappraisal to cope and the more an individual uses positive reappraisal to cope the more grateful they become. Both of which result in an increase in personal benefits such as increased life-satisfaction. The active use of positive reappraisal during difficult times in our lives appears to have a number of benefits that range from increased levels of gratitude to being more satisfied with your life, which ultimately shows us that using positive reappraisal to cope with human suffering leads individuals to lead happier and more fulfilled lives.

The current study provides support for a pool of research that indicates positive reappraisal is an effective and beneficial coping technique to use when one is faced with a painful life event (Lambert et al., 2012). Positive reappraisal has been shown to be an effective coping technique as it has previously been linked to negative memory closure, decreases in negative open memory intrusions, and an increase in an individual's sense of having a cohesive life story which is related to higher ratings of well-being, life-satisfaction and happiness (Watkins et al., 2008; Lambert et al., 2012). Previous research

also indicates that gratitude is related to increased benefits within an individual such as happiness, well-being, life-satisfaction and active positive coping. My study supports these findings confirming gratitude's links to both life-satisfaction and active positive coping (positive reappraisal). Taken together, these results suggest that one reason that grateful people tend to be happy is because they use effective coping techniques such as positive reappraisal. Therefore, the current study not only provides new insight to the relationship between gratitude and positive reappraisal, but it also strengthens the current body of data in these areas.

The results of the current study suggest that positively reappraising open painful memories helps foster gratitude in individuals, which in turn leads to higher levels of life satisfaction. This shows that the more one engages in positive reappraisal of open painful memories the more trait gratitude is developed, allowing for such painful events to be interpreted by the individual as important aspects of their positive life story. This implies that if positive reappraisal is used to cope with a negative life event individuals may be able to acknowledge the event as negative and yet see the positives that came out of a bad situation. This would allow an individual to see the importance of going through negative life situation. If an individual can see the rationale for the initial suffering of going through something painful, then individuals may be able to fit the negative life event into an overall positive life story, thus increasing the sense of coherence in the life story. Increased coherence in an individual's life story is linked to higher levels of well-being, life-satisfaction and gratitude (Lambert et, al 2009).

My results suggest that the use of positive reappraisal could be beneficial to a wide range of individuals across a wide variety of situations. For example, positive

reappraisal training might be used for those coping with trauma or negative life events. As most individuals do not use positive reappraisal naturally on their own, training individuals to use positive reappraisal as a coping technique could foster gratitude in struggling individuals potentially leading to PTG and overall increased levels of life satisfaction. Therefore, guiding people to use positive reappraisal during hard times could help individuals heal and gain back life satisfaction.

Positive reappraisal and gratitude training may also be used with individuals who are aware that they will be facing potentially traumatic situations, such as soldiers in times of war. Training these individuals in the use of these effective coping skills could potentially provide them with additional resiliency against the development of mental disorders such as PTSD, reducing the overall prevalence of such disorders in at risk populations.

The results of the current study also imply that gratitude training programs should consider incorporating positive reappraisal into their treatment package. If indeed positive reappraisal contributes to the development of a grateful person, it follows that this should be included in programs designed to enhance individual's disposition of gratitude. Future research should consider how positive reappraisal might best be trained in individuals.

As the present study's results are primarily correlational it is pertinent to consider any alternate explanations for the results and conclusions explored above. It is also important to review the possibility that one or more of the significant correlations may be a result of false positive, due to the amount of exploratory correlations conducted while analyzing the data. I would like to conclude that trait gratitude encourages positive

reappraisal, but there appear to be two primary competing explanations for the results of this study. The first alternate explanation to be considered is the potential that a third variable, such as the level of an individual's psychological resiliency, causes individuals to be higher in trait gratitude and use positive reappraisal more frequently. As there is no current or previous studies eliminating this third variable as a confound it could be a reasonable assumption, given the data, that high levels of something such as psychological resiliency could be what causes both high levels of gratitude and the use of positive reappraisal as a coping technique. Future studies addressing relationships between psychological resiliency and the variables in the present study could address such potential confounds and add to the collective body of data on coping and resiliency. A second alternate explanation for the results of the present study could be that the need in individuals to have a positive life story leads them to positively reappraise a negative life event, which in turn fosters gratitude. Previous research has indicated that individuals with a cohesive positive life story have higher levels of well-being. It is then a reasonable theory that the drive to be a happier more satisfied individual would lead someone to have more positive oriented thought processes (including positive reappraisal) when coping with negative life events.

Three relevant areas relating to this study's external validity (subjects, setting and location) will be discussed along with their potential impact on the results of the present study, though I conclude that the issues mentioned below have little impact on the generalizability of the study's results to the population. There were several issues with the participants used within this study, although none of the participant concerns fall outside the norm for the typical participants in most psychological research. The age

range of participants was limited from 18 to 41 year olds with an average age of 20 years old. As both trauma and negative stressful events are highly common in this age range (indeed even slightly more than the general population) there is little potential for the age range of these participants to have skewed the results. An additional issue with the participants was that a large proportion of participants consisted of college freshman who were currently enrolled in psychology coursework. This factor has the potential of skewing results as individuals in this developmental stage and time in their life may still be developing coping methods for handling such negative stressful events and traumas. The sample within this study was not representative of the ethnic ratio in this country today, as certain populations such as African Americans were under represented in the sample. The final and most prevalent issue with the current sample of participants is that almost twice as many females than males made up the sample, and past research has indicated that females may cope differently than males when faced with stressful situations this participant issue is the largest concern when assessing the study's generalizability. However, despite this discrepancy a large number of males did participate in the study.

There is one primary issue with the setting of the present study which is that the study was conducted in an artificial classroom setting as opposed to realistic naturalistic observations of individuals coping with a trauma. This is a potential concern as part of the objective of collecting this data was to assess if positive reappraisal was actually being used by participants to cope with negative life events, as past research only assessed this via self-report (e.g., yes I use positive reappraisal or no I do not use positive reappraisal to cope). The final generalizability concern lies within the place/location the

research was conducted in. All participants in this study were students at Eastern Washington University in Washington State. One could argue individuals vary throughout the country so only using Washington citizens could affect the data's generalizability. However, as the participants were all college students it is possible that a desirable level of local diversity may have been achieved as people tend to move from areas around the country and the world to attend college, so we may at least assume the diversity of the sample is more generalizable than if all local individuals were used as participants in the study.

As mentioned above, there are an abundance of future research opportunities and directions suggested by the results of the current study. These future opportunities fall into two primary domains: either making alterations to the current study to increase its generalizability and strength or developing clinical tools from the current study's data and theories. First we can take a look at potential improvements to the current study. Future studies have the opportunity to increase the power of the design to achieve consistent, yet stronger, results by creating a design that encourages participants to write about their coping strategy that was used during traumatic or negative events more directly than the present study. A future study could consist of a similar design but simply have the addition of a sentence to each writing sample instructing participants to write about their negative life event and how they coped with it, or how they are coping with it. The potential trade off here is that adding this instruction may increase the transparency of the design and would have the potential of increasing participant bias.

Another direction for future research in this area could relate to the development and testing of positive reappraisal training. No matter how the results of the present study

are interpreted, two factors remain clear. Positive reappraisal and gratitude are related, and the use of these tools simultaneously during traumatic or stressful times is correlated with important benefits such as life satisfaction and well-being. As the data suggested, most individuals are not using positive reappraisal to cope with negative life events and are therefore missing out on a wide variety of positive benefits. Positive reappraisal training could teach individuals to actively practice the use of positive reappraisal in the hope that they would use the coping tool in the future to cope with stressors or traumas that are faced throughout our lives.

To summarize, the current study revealed that there is a clear relationship between positive reappraisal, gratitude, and life satisfaction. It also indicates that individuals with high trait gratitude use positive reappraisal more than those less grateful when coping with painful life events, and that positive reappraisal has potential benefits for individuals with painful open memories. These findings have widespread implications for the general population as all individuals go through stress, negative situations, or trauma at some point in their life. Additionally, some individuals experience these types of events more frequently than others, with no one immune to such experiences. Thus, the potential to develop a tool, using positive reappraisal, that could help all individuals facing difficult times in their life come out of them a more grateful and satisfied individual is worth exploring further. Everyone faces painful and even traumatic events over the course of life (Emmons et al., 2003). It would be encouraging if these trying times could be used as personal advantages, increasing positive growth with each new trial encountered throughout life. Positive reappraisal has the potential to be that tool for individuals across clinical and non-clinical populations.

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Appendix

Closed Memory

We would like you to recall and write about a stressful negative experience that happened to you in the past six months, which is a *closed memory*. A closed memory is a memory that you feel you now understand, you feel like you have put the incident behind you and the memory does not haunt you any longer. Please try to imagine the event as vividly as you can, and *write about your experience in the space below. Please write freely about this event (don't worry about grammar or spelling), and record whatever thoughts come to mind as you think about this event.*

Open Memory

We would like you to recall and write about a stressful negative experience that happened to you in the past six months, which is a *open memory*. An open memory is a troubling memory from your past that you feel is not yet behind you and is poorly understood. It's an emotional memory that may intrude into your consciousness at unwelcome times, and you feel you have some "unfinished business" associated with this memory. In other words, in many ways this emotional memory is still an "open book" for you. Please try to imagine the event as vividly as you can, and *write about your experience in the space below. Please write freely about this event (don't worry about grammar or spelling), and record whatever thoughts come to mind as you think about this event.*

Scenario

We would like you to write about the scenario that is below, of a stressful negative experience. Please read it carefully and try to imagine the event as vividly as you can, and *write about how you would respond to the event in the space below.*

Imagine that you have been going out with someone for the past six months, and you have found yourself quite attracted to this person. The feeling is clearly mutual, and you think that you're "in love" with this person, and you are considering whether they could be a permanent life partner for you. Suddenly, seeming to come from out of the blue, your boyfriend/girlfriend breaks up with you, without warning or reason. In a free form way write about how you would think about this disappointment and how you would respond to it in the space below.

For each positive consequence that you listed on the previous page, please use the following scales to fill in the importance of each consequence, and how grateful you are for each positive consequence.

In the column headed “I” on the previous page, rate how important this positive consequence is for you in the big picture of your life using the following scale:

1	2	3	4	5	6	7	8	9
Not Important				Moderately Important				Extremely Important

In the column headed “G” on the previous page, rate how grateful you are for each positive consequence using the following scale:

1	2	3	4	5	6	7	8	9
Not Grateful				Moderately Grateful				Extremely Grateful

Thinking about yourself and how you normally feel, to what extent do you generally feel. Answer the following questions by circling the appropriate number for each of the questions below:

1. Upset

1	2	3	4	5
Never				Always

2. Hostile

1	2	3	4	5
Never				Always

3. Alert

1	2	3	4	5
Never				Always

4. Ashamed

1	2	3	4	5
Never				Always

5. Inspired

1	2	3	4	5
Never				Always

6. Nervous

1	2	3	4	5
Never				Always

7. Determined

1	2	3	4	5
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Never

Always

8. Attentive1
Never

2

3

4

5
Always**9. Afraid**1
Never

2

3

4

5
Always**10. Active**1
Never

2

3

4

5
Always

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
19. I sometimes try to get even rather than forgive and forget.
20. When I don't know something I don't at all mind admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of leaving someone else be punished for my wrongdoings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Rate the following items by putting the appropriate number in each blank based on the scale below for how likely you are to use each item when coping with a negative or stressful life event.

1	2	3	4
Never			Always

1. Hope for a miracle
2. Blamed it on fate/luck
3. Daydreamed a better time
4. Wished the situation away
5. Had fantasies or wishes
6. Prepared for the worst
7. Concentrated on what to do
8. Tried to analyze the problem
9. Bargained or compromised
10. Looked for the silver lining
11. Said things to oneself that helped
12. Talked to someone to find out
13. Got professional help
14. Talked to someone who could do
15. Asked advice from relative/friend
16. Talked to someone about feelings
17. Drew on past experiences
18. Focused efforts on solution
19. Resolutions for future change
20. Realized other solutions
21. Kept feelings to myself
22. I preserved my pride
23. Refused to think about it
24. Kept others from knowing how bad
25. Minimized seriousness of it
26. Didn't let feelings interfere
27. Tried to look for positives that came from the situation
28. Tried to find meaning in the situation
29. Considered it as a growth opportunity
30. Considered the potential benefits

OPINION QUESTIONNAIRE

Please provide your honest feelings and beliefs about the following statements which relate to you. There are no right or wrong answers to these statements. We would like to know how much you feel these statements are true or not true of you. Please try to indicate your true feelings and beliefs, as opposed to what you would like to believe. Respond to the following statements by filling in the number in the blank provided that best represents your real feelings. Please use the scale provided below, and please choose one number for each statement (i.e. don't write in two numbers), and record your choice in the blank preceding each statement.

1	2	3	4	5	6	7	8	9
I		I disagree		I feel		I mostly		I
strongly		somewhat		neutral		agree		strongly
disagree				about the		with the		agree
				statement		statement		with the
								statement

1. I couldn't have gotten where I am today without the help of many people.
2. Life has been good to me.
3. There never seems to be enough to go around and I never seem to get my share.
4. Oftentimes I have been overwhelmed at the beauty of nature.
5. Although I think it's important to feel good about your accomplishments, I think that it's also important to remember how others have contributed to my accomplishments.
6. I really don't think that I've gotten all the good things that I deserve in life.
7. Every Fall I really enjoy watching the leaves change colors.
8. Although I'm basically in control of my life, I can't help but think about all those who have supported me and helped me along the way.
9. I think that it's important to "Stop and smell the roses."
10. More bad things have happened to me in my life than I deserve.
11. Because of what I've gone through in my life, I really feel like the world owes me something.
12. I think that it's important to pause often to "count my blessings."
13. I think it's important to enjoy the simple things in life.
14. I feel deeply appreciative for the things others have done for me in my life.
15. For some reason I don't seem to get the advantages that others get.
16. I think it's important to appreciate each day that you are alive.

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for.
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone.

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