

DOES SELF-COMPASSION AFFECT STRESS?
TESTING A DECREASED VULNERABILITY HYPOTHESIS

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ABSTRACT

Self-compassion is a trait newly developed by Neff (2003a, 2003b, 2004) that is comprised of self-kindness, perceptions of common humanity, and mindfulness, which uniquely captures affective tranquility and the ability to treat the self with warmth and patience. Utilizing the transactional model of stress (Lazarus & Folkman, 1984), I propose a decreased vulnerability hypothesis that holds that self-compassion limits vulnerability to stress by increasing use of approach-oriented coping, decreasing use of avoidance-oriented coping, and fostering challenge appraisals of greater magnitude and threat appraisals of lower magnitude. Two studies used a daily diary methodology to examine the decreased vulnerability hypothesis and followed undergraduate students as they reported how they cognitively appraised and coped with everyday stressors. Although little support was found for the decreased vulnerability hypothesis, self-compassion may buffer the effects of stress on positive affect and be associated with increased confidence in one's ability to address stressors. These potential effects suggest a number of future research directions and have important implications for coping with chronic illness and limiting the impact of stress on well-being.

Two college students in a public speaking class, Michael and Nora, are planning for their midterm: delivering a thirty minute speech to be graded by the professor and their classmates. Michael is terrified; in the weeks leading up to the speech, he is overcome with stress. To escape what he has come to see as a looming disaster, he turns to heavy drinking and tries to convince himself that he doesn't care about the class. On the other hand, Nora faces the speech with equanimity. She starts preparing early and quickly comes to find out that it isn't so bad. "I can do this," she tells herself. "Besides, everybody else is probably stressed about this, too."

Why do these two students face the same situation in profoundly different ways, framing the speech and coping with the stress it brings about so differently? I propose that self-compassion, a newly identified trait, may engender decreased vulnerability to stress. Neff (2003a, 2003b, 2004) developed self-compassion to uniquely capture a positive and benevolent attitude toward the self and a sense of affective tranquility. Indeed, research in this nascent area has shown it to be associated with a broad pattern of adaptive and healthy functioning as well as a buffering effect where reactions to negative self-relevant events are softened. I propose that self-compassion may serve to decrease vulnerability to stress through two mechanisms. First, because self-compassionate people's positive self-feelings emanate from within, many situations may not pose a threat to the self and are, as a result, not as stressful. Second, self-compassionate people, by virtue of a sense of affective tranquility and exercising patience toward themselves, may engage in more adaptive coping strategies that limit distress and enable a stressor to be addressed more efficiently and effectively.

In the present paper, I outline the nascent concept of self-compassion, noting

parallel lines of research that establish the legitimacy and utility of its components and unique functionality. Next, I describe the trait and affective correlates of self-compassion as well as an emerging negative reaction buffering function. Then, I present the transactional model of stress, which is the dominant paradigm for conceptualizing and studying stress. Following this, drawing on the transaction model of stress and self-compassion theory and research, I outline a proposed decreased vulnerability hypothesis and present two potential mechanisms through which it functions.

Self-Compassion

Initially conceptualized by Neff (2003a, 2003b, 2004), self-compassion uniquely captures a sense of affective tranquility and the ability to treat the self with warmth and patience. It is composed of three elements: self-kindness, which entails treating the self with the same patience and warmth one extends to others; common humanity, encapsulating a recognition of the universal, rather than isolating, nature of suffering; and mindfulness, the ability to accurately accept and perceive negative emotions without suppressing or becoming enveloped in them. Consistent with a positive treatment of the self and affective calmness, self-compassion is associated with a variety of adaptive traits including optimism, trait happiness, trait positive affect, and self-acceptance (Neff, 2003b; Neff, Rude, & Kirkpatrick, 2007). In addition to positive traits, self-compassion also serves to buffer reactions to negative events. Both Leary et al. (2007) and Neff, Hsieh, and Dejitterat (2005) found that, following a variety of negative self-relevant events, self-compassionate individuals uniquely experienced a limited decrease in negative affect, greater perspective, and greater equanimity than their non-self-compassionate peers. In addition, a growing body of research in self-compassion supports

the theoretical underpinnings of self-compassion as distinct from self-esteem. Although both self-esteem and self-compassion entail positive feelings toward the self, self-compassion is not contaminated with the negative correlates of self-esteem because self-compassionate individuals' positive self-feelings emanate from a positive treatment of the self rather than positive evaluations (Leary et al. 2007; Neff, 2003a, 2003b).

In the ensuing discussion, I describe self-compassion in greater depth. Because of the nascence of the self-compassion literature, I note, where applicable, research from similar areas that assist in more thoroughly describing self-compassion. I begin by explaining the three components of self-compassion and how they function to uniquely capture a positive treatment of the self and affective tranquility. I then describe its personality and affective correlates as well as an emerging negative reaction buffering function. Finally, consistent with its conceptualization as a healthier derivative of self-esteem, I describe the ways in which it is different from self-esteem.

Defining Self-Compassion

Self-compassion is conceptualized as uniquely capturing a positive treatment of the self and affective tranquility, but it is conceptually grounded in existing research from a number of separate domains. To this end, although the functions of self-compassion are unique, the three components of self-compassion have previously separately received empirical attention and support. Neff (2003a, 2003b) broadly conceptualizes the three components of self-compassion as comprising three distinct continua, with self-compassionate traits occupying one pole and non-self-compassionate traits occupying the other pole. With this in mind, although it is necessary to describe aspects of self-compassion as binary categorical variables in order to most easily define it, self-

compassion and its components are, in reality, continuous variables (Neff, 2003b).

Self-kindness, the first component of self-compassion, entails treating all aspects of the self with patience and warmth, and such patience and warmth extends to numerous domains of the self including personality, behavior, and affect (Neff, 2003b; Neff, Rude, & Kirkpatrick, 2007; Neff, Kirkpatrick, & Rude, 2007; Neff, Hsieh, & Dijitterat, 2005). Occupying the opposite pole of the same continuum, self-judgment instead comprises a “disapproving and judgmental [attitude toward one’s] flaws and inadequacies” (Neff, 2003b, p. 231). For example, following a poor performance on a college exam, an individual engaging in self-kindness should, consistent with a benevolent treatment of the self, refrain from harsh criticism of the self and, instead, treat the self with acceptance and patience.

Neff’s definition shares many characteristics with work conducted by Gilbert and Irons (e.g., Gilbert & Irons, 2004; Gilbert et al., 2006) on the conceptually-related constructs self-warmth and self-criticism. Specifically, they hold that the same cognitive and affective processes that are associated with treating *others* with nurturance and reassurance are, in the context of *self*-warmth, simply directed inward. That is, the only distinction between self-warmth and warmth for others is the person to whom such warmth is directed. Conversely, self-criticism consists of shaming the self in the same way that one might shame another person; similar to Neff’s definition of self-judgment, self-criticism is an active condemnation. Given the conceptual commonality between both poles of the self-treatment continuum (self-kindness/self-warmth and self-judgment/self-criticism) in the work of both Neff as well as Gilbert and Irons, there is sufficient basis for evaluating self-kindness as a valid and useful construct that

encapsulates the ability to treat oneself with patience and warmth.

The second component of self-compassion is a recognition of the universal nature of human suffering, termed by Neff (2003a) “common humanity.” Specifically, this entails the belief that one’s present difficulties are experienced by others and that such difficulties are simply a necessary and normal part of being human. Common humanity is conceptualized as being the polar opposite of isolation, which is characterized by the sense that one’s suffering is unique and not shared by others. To the extent that individuals engaging in common humanity perceptions experience a greater sense of connectedness, common humanity is conceptually related to the well-studied concept of social connectedness. Lee and Robbins (1995, 2000) define social connectedness as a sense of connection to and integration with the interpersonal world and, more broadly, the social world as a whole. Common humanity and social connectedness are united by their focus on an orientation toward engagement and perceived integration with the social world, and, to this end, likely represent different terms for the same underlying construct.

Mindfulness, a well-studied construct, is the third aspect of self-compassion. Neff (2003b) operationalizes mindfulness as being comprised of an openness to accurately experiencing one’s emotions and a balanced awareness of such emotions that entails experiencing them at a moderate level of intensity. Brown and Ryan (2003) add that mindfulness entails an openness, receptivity, and attentiveness to all experience. With both definitions in mind, mindfulness entails an open and measured receptivity to experiencing all events and stimuli.

In summary, although self-compassion is a nascent construct, its components are well-studied, and work from similar lines of inquiry enable the creation of a more

complete definition. Self-compassion is broadly comprised of three components. First, self-kindness refers to a mode of self-treatment characterized by the same benevolent patience and warmth that one would show another individual. Second, common humanity refers to an orientation toward viewing one's own struggles as embedded within the social world and shared by others. Finally, mindfulness refers to a state of openness to all experience and the ability to experience it with balanced awareness. Taken together, these three components function to uniquely encapsulate an ability to treat the self with patience and warmth as well as lessen the severity of negative affective states through recognizing their commonality with all people and hold them in mindful awareness.

Personality and Affective Correlates of Self-Compassion

Self-compassion is associated with a broad pattern of healthy and adaptive traits and patterns of functioning. Neff, Rude, and Kirkpatrick (2007) found self-compassion to be positively correlated with many positive personality traits and negatively correlated with negative ones. Specifically, self-compassion is positively correlated with agreeableness, conscientiousness, extraversion, trait happiness, openness to experience, trait optimism, and personal initiative; on the other hand, self-compassion was found to be negatively correlated with neuroticism. In a similar vein, Neff (2003b) found self-compassion to be positively correlated with self-acceptance, self-determination, and life satisfaction; it was negatively correlated with perfectionism and self-criticism. Given the correlational nature of these findings, it is unclear whether self-compassion effects this pattern of traits, certain traits predispose an individual to be self-compassionate, or the observed pattern of traits and self-compassion occur in parallel and, while correlated, do not interact. Nevertheless, this pattern of relationships does suggest, at minimum, self-

compassion is associated with a broad pattern of healthy traits.

In addition to its association with healthy traits, self-compassion is associated with healthier self-relevant patterns of functioning in performance contexts. Neff, Hsieh, & Dejitterat (2005, study 1) conducted a study investigating the effects self-compassion in the context of academic achievement and found it to be positively correlated with perceived competence and negatively correlated with fear of failure. This competence is theorized to reflect a positive judgment of the self rather than complacency (Neff, 2003a, 2003b); indeed, there was no relationship between self-compassion and both self-reported GPA and exam performance (Neff, Hsieh, & Dejitterat, 2005). The findings from this study suggest that self-compassion may enable positive beliefs about the self that engender a sense of competence, but that this sense of competence does not give rise to complacency. That is, it is possible that self-compassionate individuals can approach an academic achievement task without anxiety and perceived incompetence and still attain a performance equal to that of their peers. Along similar lines, Neff, Kirkpatrick, and Rude, (2007, study 1) conducted a mock job interview to investigate self-compassion in another achievement-relevant setting. After describing an undesirable trait, self-compassionate individuals experienced lower levels of state anxiety than their non-self-compassionate counterparts. Performance on the interview was not assessed in this study, so it is unclear whether or not this decreased anxiety appreciably affected performance.

Consistent with a pattern of salubrious traits and functioning, self-compassionate individuals show a pattern of greater positive affect and lower negative affect. Trait anxiety (Neff, 2003b; Neff, Hsieh, & Dejitterat, 2005) and depression (as measured by the Beck Depression Inventory; Neff, 2003b, study 1) were both found to be negatively

correlated with self-compassion. Neff, Rude, and Kirkpatrick (2007) also found trait positive affect to be positively correlated with self-compassion and trait negative affect to be negatively correlated with self-compassion. Future studies are needed to investigate whether these trait-level patterns of affectivity are associated with moment-to-moment patterns of state affect. In addition, it is possible that self-compassionate individuals simply respond to measures of affect and personality differently because of their greater acceptance of negative states but, in reality, experience patterns of affect that are indistinguishable from non-self-compassionate individuals.

Negative Reaction Buffering Function

Two studies have converged in showing a negative reaction buffering function for self-compassion in which self-compassionate individuals, in the wake of an aversive self-relevant event, broadly experience lower levels of negative affect and greater equanimity. Leary et al. (2007) conducted a series of five studies showing that “self-compassion was associated with lower negative emotions in the face of real, remembered, and imagined events and with patterns of thoughts that generally facilitate people’s ability to cope with negative events” (p. 901). In study 1, participants reported on the worst event they encountered in four successive 20-day periods. Self-compassionate people showed a unique pattern of “keeping the situation in perspective ... and lower [frequency of] negative emotions” (p. 891). In study 2, respondents indicated their reactions to a series of standardized scenarios, and, again, self-compassionate individuals showed a pattern of lower negative affect and greater equanimity. In study 3, participants were given either positive feedback or negative feedback from an individual ostensibly rating the extent to which the participant was likable, socially skilled, warm, and intelligent. In the negative

feedback condition, self-compassionate individuals showed lower negative affect. Although it may be argued that these results, and, indeed, all results in the self-compassion literature, reflect self-enhancing inaccurate perceptions about the self (cf. Dunning, Heath, & Suls, 2004), study 4 showed that self-compassionate individuals' ratings of a videotaped performance of an embarrassing task did not differ from that of neutral raters, indicating that self-compassion does not function to alter self-perceptions of ability and performance. In study 5, self-compassion was induced, and, in the self-compassion induction condition, negative affective reactions to a remembered negative life event were lowest. Interestingly, these individuals still showed internal attributions for the negative event, further demonstrating that self-compassion does not make self-perceptions inaccurately positive. Taken together, these findings provide evidence from a number of approaches that self-compassion buffers reactions to negative events while still enabling accurate self-perceptions.

In addition to Leary et al.'s (2007) findings, Neff, Hsieh, and Dejitterat (2005) found that self-compassionate individuals engaged in healthier coping strategies after a negative event. Specifically, self-compassion was positively correlated with emotion-focused coping and negatively correlated with avoidance-focused coping. In this instance, the observed pattern of coping is seen as more adaptive and healthy (Carver, 2007; Lazarus & Folkman, 1984), suggesting that self-compassion has a buffering effect in the wake of negative events such that self-compassionate individuals engage in healthier behaviors after a negative event.

Taken together, these two studies provide evidence suggesting that a central function of self-compassion is to buffer reactions to aversive events. This buffering

function may take a variety of forms, including lower levels of negative affect, greater perspective, and healthier coping strategies. Importantly, this buffering function does not appear to be the product of inaccurately enhanced positive self-perceptions; Leary et al. (2007) found that self-compassionate people, although buffered from the effects of negative events, still perceived themselves and their role in the negative events accurately. Similarly, this buffering effect may not be a result of self-compassion promoting complacency; as stated above, both Neff, Kirkpatrick, and Rude, (2007, study 1) and Neff, Hsieh, and Dejitterat (2005) found no differences in performance between self-compassionate individuals and their non-self-compassionate peers.

Differentiating Self-Compassion from Self-Esteem

Self-esteem has a number of undesirable correlates including narcissism (Raskin, Novacek, & Hogan, 2006), in-group bias (Aberson, Healy, & Romero, 2000), and unduly positive perceptions of the self (Taylor & Brown, 1988). It is in response to this contamination of a positive attitude toward the self with negative traits that self-compassion was developed. To this end, self-compassion and self-esteem differ in the source of positive feelings about the self. Self-esteem is fundamentally evaluative in nature; positive feelings toward the self only arise when evaluations are favorable (Leary, 1999; Robins & Trzesniewski, 2005). For instance, sociometer theory holds that self-esteem functions as a metric of the extent to which one is valued and well-regarded by others (Leary, 1999; Leary & Baumeister, 2000). From this perspective, positive feelings about the self are contingent upon others' evaluations. Leary et al. (2007) found that, in contrast to the evaluative nature of self-esteem, self-compassionate individuals react with equanimity to negative interpersonal feedback. This suggests that self-compassion is,

indeed, uncontaminated by the requirement that positive self-feelings grow out of positive evaluations from others. In addition, Crocker (e.g., Crocker & Knight, 2005; Crocker et al., 2003) suggests that self-esteem is affected by how successful an individual is in succeeding in domains that are relevant to self-worth. This perspective similarly implies an evaluative basis for self-esteem in that self-esteem rises and falls with the extent to which one evaluates performance in self-relevant domains as being positive. Self-compassionate individuals react less negatively to events that are self-relevant and threaten the self (Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007), suggesting that, in self-compassion, potential or real failure in self-relevant domains do not have an undue negative effect. The absence of such a negative effect suggests that the self is insulated/buffered from the effects of real or imagined failure in self-relevant domains.

Summary

In summary, self-compassion is a unique construct with a distinct pattern of functionality. Self-kindness, common humanity, and mindfulness interact to effect a positive treatment toward the self and affective tranquility. Consistent with this benevolence toward the self and measured reactions to environmental stimuli, self-compassion is associated with a number of salubrious traits including optimism and trait positive affect. In addition, a negative reaction buffering function has emerged wherein self-compassionate individuals experience less negative affect and greater equanimity in response to negative self-relevant events. One potential explanation for this negative reaction buffering function is that self-compassion and self-esteem, while both encapsulating a positive attitude toward the self, draw positive self-feelings from

fundamentally different sources. Positive self-feelings emanate from a positive treatment of the self with self-compassion, while, with self-esteem, positive self-feelings arise from positive evaluations. This different source of positive self-feelings as well as the unique functions of self-compassion may have great relevance for a number of areas of inquiry. Indeed, although the majority of research on self-compassion has been conducted by Neff and colleagues, other researchers are beginning to extend it in a number of directions. In the realm of eating disorders, self-compassion has been researched in relation to overeating (Adams & Leary, 2007) and body image (Brown, 2008). Self-compassion is also being examined in the context of psychotherapy, both as a therapeutic intervention (Shapiro, Brown, & Biegel, 2007; Weibel, 2008) and as a means of conceptualizing psychopathology (Mills et al., 2007).

The Relationship Between Self-Compassion and Stress

Past research, as outlined above, has revealed that self-compassion serves a protective function *after* a negative event (Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2007; Neff, Kirkpatrick, & Rude, 2007). It has also established positive correlations between self-compassion and traits associated with calm, equanimity, and a positive outlook, and negative associations with those related to distress (Neff, 2003b; Neff, Rude, & Kirkpatrick, 2007; Neff, Hsieh, & Dejitterat, 2005, study 1). These findings demonstrate that self-compassion broadly cushions individuals from negative stimuli and promotes a generally positive outlook. With this in mind, it is possible that self-compassion may, in addition to reducing the impact of negative events *after* they occur, also reduce the impact of anticipating potentially-negative events *before* they occur. Specifically, I propose that self-compassion is associated with decreased vulnerability to

stress. Although this potential is clearly indicated by existing research and theory, self-compassion's utility in the study of stress has yet to be realized. The present investigation represents the first extension of self-compassion to the domain of stress, and, more broadly, anticipatory evaluations and reactions to potentially-aversive stimuli.

In the ensuing discussion, I outline the transactional model of stress, which is the dominant paradigm for defining and studying stress. I then draw from existing research and theory in both self-compassion and stress to develop and support a decreased vulnerability hypothesis wherein self-compassionate individuals may be less vulnerable to experiencing stress. Finally, I differentiate self-compassion's effect on stress from other conceptually-related constructs, arguing that self-compassion captures a unique stress-relevant self-process with attendant unique effects on stress.

The Transactional Model of Stress

Lazarus and Folkman's transactional model of stress (e.g., Lazarus & Folkman, 1984; Folkman, 1984) is the dominant paradigm for conceptualizing stress. It holds that stress is the product of an interplay between the individual and the environment wherein the individual makes dynamically interacting primary and secondary cognitive appraisals of a stimulus. The nature of these appraisals, as explained below, may give rise to stress. Although the terms *primary* and *secondary* appraisals imply importance and temporal order, this is not the case. Lazarus and Folkman (1984) note that "the choice of terminology, 'primary' and 'secondary,' [is] unfortunate. ... [T]hese terms suggest, erroneously, that one is more important (i.e., primary) than the other, or that one precedes the other in time. Neither of these meanings is intended" (p. 31). Indeed, primary and secondary appraisals are in a state of simultaneous mutual and systemic interplay and

neither appraisal is more important than the other.

Primary appraisals concern whether a stimulus poses a threat or challenge, has resulted in harm/loss to the individual, or is irrelevant. Threat appraisals indicate that a situation poses a danger to the individual and sets into motion a pattern of physiological and affective responding that is aimed at addressing the threat (Lovallo, 2005; Knight & Mather, 2006). For example, threat appraisals give rise to negative affect, including anxiety, and a heightened state of physiological arousal (Folkman, 1984). Harm/loss appraisals signal that a negative outcome has already occurred. Lazarus and Folkman (1984) note, however, that harm/loss appraisals often also cooccur with threat appraisals because a situation that has caused a negative outcome may effect another negative outcome in its wake. In contrast, challenge appraisals indicate “an opportunity for growth, mastery, or gain” (Folkman, 1984, p. 840), and, to this end, mobilize positive affect in the service of taking advantage of a positive opportunity. Threat, harm/loss, and challenge appraisals give rise to stress because, although their content and implications for the individual differ, they all signal that action is needed to bring about resolution. Although these categories of appraisal are conceptualized and studied as being discrete and mutually exclusive, they typically cooccur. For instance, Folkman and Lazarus (1985) found that college students preparing for an examination typically made both challenge and threat appraisals, indicating that the examination entailed both the potential for harm and the potential for personal gain.

In concert with a stress-yielding primary appraisal, individuals also make a secondary appraisal that broadly entails an assessment of the availability of resources that can be leveraged to bring about a resolution of the situation (Lazarus & Folkman, 1984).

The secondary appraisal process entails an assessment of both the potential coping strategies available for addressing the stressor as well as their potential effectiveness. The nature of the coping strategies that can be used affect the primary appraisal because the extent to which a situation can be addressed and resolved affects its potential to pose a threat and/or a challenge. For instance, in an typical exam a student has the opportunity to study well beforehand in order to ensure an adequate performance. This situation may be appraised as entailing more of a challenge and less of a threat because the individual can engage in concrete proactive behaviors to ensure its successful resolution. On the other hand, a similar exam given without prior notice would likely be met with a greater threat appraisal and less challenge appraisal because very little can be done to cope with the demands of the situation. These contrasting situations illustrate that the coping options—that is, the secondary appraisals—play a key role in determining whether a situation poses a threat or a challenge.

Differential Vulnerability Hypothesis

A great deal of research has been conducted to investigate the individual differences that are associated with different patterns of stress (i.e., primary and secondary appraisals). One such line of inquiry involves the differential vulnerability hypothesis. Initially used to account for different patterns of stress-related health decrements in women, the differential vulnerability hypothesis holds that different variables (e.g., a personality trait or gender) make some groups more vulnerable than others to experiencing stress (i.e., making stress-yielding primary and secondary appraisals) and the attendant effects of stress regardless of actual exposure to stressors (Roxburgh, 1996; Bolger and Zuckerman, 1995, refer to this same idea as the decreased

reactivity hypothesis). With the transactional model of stress in mind, this differential vulnerability is expressed as different patterns of appraisal of a stimulus. For instance, the differential vulnerability hypothesis states that women are more likely to appraise a stimulus as stressful (i.e., are more *vulnerable* to stress-yielding appraisals) because of the unique social, occupational, and family pressures that women face, and this effect should occur independent of the valence and frequency of stressors women experience. The differential vulnerability hypothesis has recently been extended by Eaton and Bradley (2008) to posit that trait negative affect also functions as a vulnerability factor such that individuals high in trait negative affect are more likely to appraise a situation as stressful than individuals low in trait negative affect. The effects of such differential vulnerability should exist regardless of actual exposure to stressors.

Although support for the differential vulnerability/reactivity hypothesis is somewhat heterogeneous in the domain of women's stress-related health decrements (see McDonough & Walters, 2001), it offers a powerful, useful, and unique organizing principle for conceptualizing individual difference variables that explain why some people tend to experience more stress than others. The stress buffering hypothesis, which holds that a given trait reduces (i.e., buffers) the effect of stress on another variable like mental or physical health, has been extensively examined (see Cohen & Wills, 1985). However, stress buffering effects conceptually differ from the differential vulnerability hypothesis in that differential vulnerability effects should affect whether or not stress takes place at all, whereas stress buffering effects occur after a stimulus has been appraised as stressful. In other words, differential vulnerability effects happen *before* stress buffering effects do. To this end, differential vulnerability effects may be even

more important than stress buffering effects because stress buffering occurs only after differential vulnerability effects do. Despite this important role, differential vulnerability effects, both *per se* and as studied by conceptually-identical but differently-titled mechanisms, are not well-studied (Uchino, 1996, p. 35). This may be due to the relative difficulty of identifying individual differences associated with differential vulnerability.

The Decreased Vulnerability Hypothesis of Self-Compassion

Borrowing from the concept of the differential vulnerability hypothesis, I propose a decreased vulnerability hypothesis wherein self-compassionate individuals are less vulnerable to stress because they appraise some stressors as being less threatening and engage in approach coping strategies (i.e., problem-focused and emotion-approach). Both of these potential decreased vulnerability mechanisms are grounded in a great deal of past work, and these findings can be applied to self-compassion to explain a potential decreased vulnerability effect.

Different Cognitive Appraisals

The first mechanism through which decreased vulnerability effects may occur is a difference in how evaluative contexts are appraised. Evaluative contexts are those in which performance in some domain will be assessed, either explicitly or implicitly. For example, both college exams and attempting to forge new friendships are evaluative contexts because they both entail an assessment of performance and ability in a given domain. With self-compassion, individuals' positive self-feelings emanate principally from positive treatment of the self (Leary et al., 2007; Neff, 2003a, 2004). In contrast, as stated above, with self-esteem, positive self-feelings are fundamentally evaluative in nature, emanating from *external* evaluations. This difference in the source of positive

self-feelings demonstrates an essential stress-relevant feature of self-compassion: self-compassionate individuals should not perceive evaluative contexts as threatening because their self-feelings are not affected by evaluation. That is, an evaluative context poses little threat to self-compassionate individuals because the self is not at risk.

In the domain of stress, self-compassionate individuals should not make a primary appraisal of threat because, as stated above, evaluative contexts inherently do not pose a threat; instead they should either make challenge or irrelevance appraisals because evaluations pose little potential for disaster. Indeed, in support of the notion that evaluative contexts do not pose the risk of disaster, both Leary et al. (2007) and Neff, Hsieh, and Dejitterat (2005) found that, following negative self-relevant events, self-compassionate individuals' reactions were characterized by less negative affect and greater equanimity than non-self-compassionate individuals'. These studies indicate that self-compassionate individuals are, indeed, less affected by negative evaluations, offering support to the theoretical postulate of self-compassion suggesting that self-compassionate individuals' positive self-feelings have little basis in evaluation (Neff, 2003a, 2004).

Evaluative contexts pervade everyday life, especially for college students; many situations entail some kind of evaluation, whether explicit or implicit. For example, social situations are fundamentally evaluative because their successful negotiation requires a positive evaluation from others. Academic situations are similarly evaluative because their success, too, depends on positive evaluations from a professor. Given the ubiquity of evaluative situations, especially for college students, if the decreased vulnerability hypothesis is accurate then self-compassionate individuals experience fewer situations as being stressful.

Approach Coping Strategies

The second mechanism through which decreased vulnerability effects may occur in self-compassion is through the use of different coping strategies. Broadly defined, coping refers to the specific cognitive and behavioral techniques individuals use to address and, when possible, resolve the demands of a stressful situation (Lazarus & Folkman, 1984). Coping has recently been categorized into approach and avoidance coping strategies (Folkman & Moskowitz, 2004; Carver 2007); approach coping strategies entail being actively engaged with addressing the stressor, while avoidance coping strategies involve attempting to disengage completely from the stressor (Carver, 2007).

Approach coping strategies consist of problem- and emotion- focused coping. Problem-focused coping is a class of coping behaviors that broadly entail engaging in concrete actions that are aimed at reducing the stressor and/or controllable aspects of the stressor; naturally, problem-focused coping efforts are most adaptive when aspects of the stressor are actually controllable (Park, Armeli, & Tennen, 2004). Emotion-focused coping entails attempting to lessen the emotions that arise from the stressor rather than the stressor itself. Emotion-focused coping is most adaptive when the stressor is not controllable. In contrast, avoidance coping consists of behaviors categorized by Carver, Scheier, and Weintraub (1989) as involving denial as well as mental, behavioral, and drug/alcohol-induced disengagement. Avoidance coping behaviors are generally not regarded as adaptive or healthy because, in addition to not resolving either the stressor or its effects, this class of behaviors includes many injurious inclinations including drug use (Suls & Fletcher, 1985).

Stanton and colleagues (Stanton et al., 1994; Stanton et al., 2000) have recently further differentiated emotion-focused coping into emotional-approach and emotional-avoidance coping. Along similar lines as the distinction between approach and avoidance coping strategies, emotional-approach coping is regarded as adaptive and healthy while emotional-avoidance coping is not. Specifically, emotional-approach coping involves actively engaging with and resolving emotions effected by the stressor, while emotional-avoidance coping consists of behaviors aimed at disengaging from the emotional effects of the stressor. Use of problem-focused and emotion-approach coping has been shown to be associated with lower levels of both perceived stress and distress during a stressor provided that they match the demands of the situation (Carver, 2007; Christensen et al., 1995; Park, Armeli, & Tennen, 2004; Stanton et al., 2004).

Self-compassionate individuals may show a pattern of healthy and adaptive coping behaviors that assist in lessening the affective burden of stress and bringing a more rapid resolution to the stressor. Self-compassion has been theoretically postulated and empirically shown to enable a more measured affective and behavioral response to aversive stimuli which, in turn, effects greater engagement with the environment and less detachment from it (Neff, 2003a; Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007). That is, self-compassionate people can better experience and accept their negative emotions, which enables them to continue to be fully engaged with their environment even during negative events. This pattern of behavior has important implications for coping because it suggests that self-compassionate individuals may be better able to engage in approach coping strategies, specifically problem-focused and emotion-approach coping.

In summary, self-compassion should be associated with more adaptive coping strategies that lessen both distress and perceived stress. Self-compassion entails the ability to experience negative stimuli without disengaging from them, and, as a result, self-compassionate individuals' coping should consist of problem-focused and emotion-approach coping strategies.

Summary

In summary, I have proposed two specific mechanisms through which self-compassion may be associated with decreased vulnerability to stress. First, self-compassionate people, because their positive self-feelings emanate from a positive treatment of the self rather than positive evaluations of performance, should appraise evaluative contexts as posing less of a threat. Second, self-compassion should be associated with approach-oriented coping strategies, specifically problem-focused and emotion-approach coping. Problem-focused and emotion-focused coping are both associated with decreases in perceived stress, so, because they make greater use of these strategies, self-compassionate individuals should experience their benefits.

Differentiating Self-Compassion's Decreased Vulnerability Effects from Other

Constructs

There are a number of conceptually-similar constructs that may be argued to better account for the proposed stress-relevant decreased vulnerability effects of self-compassion. I argue, however, that no extant constructs account for these effects and that self-compassion instead represents a unique self-process with attendant unique effects on stress.

Hardiness and resilience offer valuable paradigms for organizing stress-relevant

effects of individual differences but capture concepts that differ in important ways from self-compassion. As Tugade and Fredrickson (2004) aptly describe, resilience entails “the ability to bounce back from negative emotional experiences and flexible adaptation to the changing demands of stressful experiences” (p. 320). Once under stress, the resilient individual has the ability to adapt to the stressor, and, following its resolution, return more rapidly and completely to a normative and salubrious mode of functioning. Although self-compassionate individuals may, in fact, prove to be resilient, the class of effects being investigated at present differ from resilience. The decreased vulnerability hypothesis of self-compassion holds that many events do not become stressors at all and those events that do become stressors are met with different coping strategies that more rapidly put an end to stress. These effects take place before resilience effects would take place because they preempt the presence of and negative affective experience of stress, and, therefore, eliminate the need for resilience to take place.

Hardiness was initially conceptualized as a personality trait that engendered a resistance to the health effects of stress and was comprised of greater perceived control over life events, more commitment to important domains and pursuits, and the tendency appraise stimuli as a challenge rather than a threat (Kobasa, 1979). However, a number of studies have failed to replicate the structure and components of hardiness, finding that challenge is unrelated to the health effects of stress and that the effects of control and commitment are independent of each other (Funk & Houston, 1987; Hull, Van Treuren, & Virnelli, 1987). As Hull, Van Treuren, and Virnelli (1987) point out, the three aspects of hardiness were well-studied previously; the utility of hardiness lies in its *combination*

of the three factors. That this combination has not found great success in being replicated suggests that hardiness may not comprise a single unified trait.

However, if hardiness does, indeed, comprise a single unified trait, the origins of the effects of hardiness differ profoundly from those of self-compassion. Hardiness should preempt distress such that hardy individuals are constitutionally resistant to distress (Kobasa, 1979). Self-compassionate people, in contrast, accurately experience distress but are better able to accept it (Neff, 2003a, 2004). Therefore, while the putative effects of hardiness should be derived from *preemption* of distress, the effects of self-compassion should come from *acceptance* of distress and of the self. For instance, with self-compassion, decreased threat appraisals in evaluative situations are hypothesized to be the result of positive self-regard not being threatened. This is because positive self-regard emanates from benevolent treatment of the self. This internal source of positive-self regard is accounted for by self-compassion but not hardiness (i.e., not by control, commitment, or challenge, or any combination thereof). In support of this, Foster and Dion (2003) examined the mechanisms through which hardiness affected women's reactions to simulated gender discrimination. Hardiness mediated reactions through "minimization of the pervasiveness of discrimination" (p. 205) and promoting state self-esteem. Both of these mechanisms demonstrate the difference in the microprocesses in hardiness and self-compassion. The minimization mechanism entails inducing a distortion in how one views the world, which is antithetical to self-compassionate individuals' ability to accurately and openly perceive and engage with the world (Neff, 2003a, 2004). Also, the promotion of state self-esteem to attenuate the effects of the

discrimination is also inimical to self-compassion because self-compassion's fundamental characteristic is that it differs from self-esteem (Neff, 2003a, 2004).

Self-compassion's effects should similarly differ from those of mindfulness. Although self-compassion includes mindfulness as a central component (Neff, 2003a, 2004), its effects should be broader because its functionality is broader. Mindfulness entails the ability to experience a negative state in balanced awareness, as evidenced by neither ruminating/obsessing about it nor detaching from it (Brown & Ryan, 2003). Self-compassion, on the other hand, entails a broader affective tranquility and self-kindness. Although these concepts are similar, self-compassion's functionality is substantially more broad; consequently, self-compassion's effects are also substantially more broad. Mindfulness entails the ability to react to negative states with calmness, but has little functionality in preventing stress. Self-compassion, however, should actively prevent stress before it starts per the decreased vulnerability hypothesis. Mindfulness also does not fully account for the hypothesized stress buffering function of self-compassion is comprised of more than a limited affective reactivity. Rather, it emanates from trait optimism, low trait neuroticism, low trait negative affect, high trait positive affect (Neff, Rude, & Kirkpatrick, 2007), as well as the negative reaction buffering function that both Leary et al. (2007) and Neff, Hsieh, and Dejitterat (2005) found to be unique to self-compassion.

In addition, self-efficacy should also not account for the effects of self-compassion because they conceptually differ. Self-compassion entails a benevolent treatment of the self and affective tranquility, while self-efficacy entails a belief in one's ability to accomplish tasks and affect the environment. That is, while self-compassion is a

general orientation toward viewing and interacting with the self and the world in a measured manner, self-efficacy is a specific belief about a specific capacity. Therefore, self-compassion and self-efficacy affect two very different domains of the self. As a result, their effects on stress are presumed to be similarly different.

It may be argued that self-compassionate individuals are less vulnerable to stress because they experience more patience toward themselves following a failure, and, as a result, self-compassionate individuals may simply become complacent and unconcerned with performance-relevant domains. Past research suggests that this is not the case. Despite exercising patience toward the self, self-compassionate individuals' performance is indistinguishable from that of non-self-compassionate individuals. For instance, Neff, Hsieh, and Dejitterat (2005) found self-compassionate individuals' self-reported GPA and exam performance to be the same as their peers', and Neff, Kirkpatrick, and Rude (2007) similarly found self-compassionate individuals' performance on a mock job interview to be equal to that of their non-self-compassionate peers. Therefore, although self-compassionate individuals are kinder toward themselves, they still perform at the same level as their peers. As a result, any stress-relevant effects of self-compassion are not likely due to complacency vis-à-vis performance.

The Present Studies

To test the decreased vulnerability hypothesis, two daily diary studies were conducted. A mainstay of stress research, daily diary studies entail following a cohort of participants for several days and taking daily measurements of stress-relevant variables. As a type of interval-contingent experience sampling methodology (see Reis & Gable, 2000), it offers a number of advantages that are appropriate for the present investigation.

First, by examining self-compassion's decreased vulnerability effects in response to actual stressors encountered in real life, ecological validity is maximized. Second, diary studies are prospective in that they entail taking repeated measurements that will predict an outcome variable. As a result, conclusions about potential decreased vulnerability effects can be strengthened. Third, since participants report on only one day's worth of events in each measurement period, recall difficulties are limited. Finally, as Reis and Gable (2000) point out, experience sampling methodology has great utility for theory-building because it yields an extremely rich dataset where both within- and between-person processes can be examined as they play out in the real world.

The present studies' hypotheses cluster around two central aims. First, I am to support the decreased vulnerability hypothesis. To this end, three hypotheses will be tested:

1. Self-compassion will predict stress such that higher levels of self-compassion predict lower levels of stress.
2. The effects of self-compassion on stress will be partially mediated by frequent use of approach-oriented coping strategies and infrequent use of avoidance-oriented coping strategies.
3. Additionally, the effects of self-compassion on stress will be partially mediated by threat appraisals of low magnitude, challenge appraisals of high magnitude, and centrality appraisals of low magnitude.

Second, following from research that self-compassion blunts the magnitude of affective consequences of negative self-relevant events (Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007, study 1), self-compassion may limit

the effects of stress on affect; that is, self-compassion may have a stress buffering function. Cohen and Pressman (2004) define stress buffers as variables that “protect [people] from the potential pathogenic effects of stressful events” (p. 780). Thus, these studies will examine the possibility that self-compassion serves to limit the harmful effects of stress on negative and positive affect. Two hypotheses will be tested in this domain:

1. Self-compassion will predict negative affect such that, after controlling for stress, self-compassion will predict lower levels of negative affect.
2. Self-compassion will predict positive affect such that, after controlling for stress, self-compassion will predict higher levels of positive affect.

Controlling for stress in these stress-buffering hypotheses prevents the different levels of stress created by the diversity of events participants will likely encounter from serving as a confound.

STUDY 1

Currently, self-compassion has not yet been studied as it relates to stress, cognitive appraisals, and coping. The present study sought to examine these potential relationships through the lens of a decreased vulnerability hypothesis. A daily diary methodology was employed that enabled the use of ecologically-valid real-life events, rather than more contrived laboratory-created ones. For five days during the end of the fall semester, participants responded to a measure of daily stress as well as measures of coping and cognitive appraisals as they relate to a self-identified worst and/or most stressful aspect of the day.

Method

Participants

Thirty full-time undergraduate students at SUNY New Paltz participated in exchange for extra course credit and an entry into a raffle for one of five gift certificates to a local restaurant. The present sample consisted of six males and 24 females, and there were 28 non-hispanic white participants, one Puerto Rican participant, and one participant who did not indicate an ethnicity. The average age was 18.20 ($SD = .48$), and there were 27 freshmen, two sophomores, and one junior. Participants were recruited through announcements made at the beginning of introductory psychology classes. The study began with 40 participants, yielding an attrition rate of 25%.

Measures

The Self-Compassion Scale (Neff, 2003b) is a 26-item measure of self-compassion. Respondents indicate their agreement with various self-statements (e.g., “When I feel inadequate in some way, I try to remind myself that feelings of inadequacy

are shared by most people.”) on a five-point Likert scale. This measure consists of six subscales comprised of four to five items that correspond to aspects of the construct self-compassion: self-kindness, self-judgment, common humanity, isolation, mindfulness, and overidentification. Neff (2003b, study 2) found test-retest reliability over a three-week period for the overall scale to be $\alpha = .93$; for the self-kindness subscale, $\alpha = .88$; for the self-judgment subscale, $\alpha = .88$; for the common humanity subscale, $\alpha = .80$; for the isolation subscale, $\alpha = .85$; for the mindfulness subscale, $\alpha = .85$; and for the over-identification subscale, $\alpha = .88$. Neff (2003b) also found support for the factor structure of the Self-Compassion Scale as consisting of the six distinct subscales mentioned above.

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) measures self-esteem. Respondents indicate their agreement with ten self-statements (e.g., “One the whole, I am satisfied with myself) using a four-point Guttman scale, and the sum of each participant’s responses indicates the magnitude of their self-esteem. Sinclair and colleagues (2010) examined the psychometric properties of the Rosenberg Self-Esteem Scale with a sample of 503 American adults, and found the internal consistency reliability to be $\alpha = .90$ and found the scale to have acceptable convergent and discriminant validity. In addition, Vispoel, Boo, and Bleiler (2009) found that the format in which the Rosenberg Self-Esteem Scale is administered (paper or computer) does not affect how respondents answer.

The Interpersonal Support Evaluation–12 (Cohen & Hoberman, 1983) is a 12-item measure of the amount and types of social support individuals perceive is available to them, and consists of subscales for belonging and tangible support and for appraisal. It consists of statements (e.g., “If I were sick, I could easily find someone to help me with

my daily chores.”) respondents indicate their agreement with using a four-point Likert scale. Cohen (2008), in summarizing several studies of the psychometric properties of the ISEL–12, found that the scale has good convergent validity as evidenced by correlations with other measures of social support. Additionally, Cohen (2008) indicates that the internal consistency of the ISEL–12 is $\alpha = .86$.

Cohen and Williamson (1988) developed a 10-item version of the Perceived Stress Scale (PSS-10). Respondents answer questions about how they have felt over a given time period (e.g., “In the last month, how often have you felt confident about your ability to handle your personal problems?”) Although the PSS-10 was initially designed to be used to reflect stress over the last month, it will be used in the present study for the past week. Cohen indicates that using the PSS-10 for shorter time periods is acceptable (see <http://www.psy.cmu.edu:16080/~scohen/PSSfaqs.doc>). During the daily portion of the study, a four-item version of the Perceived Stress Scale (Cohen & Hoberman, 1983) was used. Cohen, Kamarck, and Mermelstein (1988) found the internal consistency reliability to be $\alpha = .86$, and, based on the ISEL–12’s correlation with a checklist measure of stressful life events, acceptable convergent validity.

Developed by Scheier, Carver, and Bridges (1994), the Life Orientation Test—Revised (LOT-R) is a measure of optimism and pessimism. It consists of ten items (e.g., “If something can go wrong for it, it will.”) that respondents indicate their agreement with using a five-point Likert scale. Scheier and Carver (1994) found the LOT-R to have internal consistency reliability of $\alpha = .78$, at a six-month interval, test-retest reliability to be $r = .68$, and, as shown by a correlation with another measure of optimism, acceptable convergent validity.

In order to determine the day's most stressful event, participants responded to the following prompt: "Looking back over today, what was the most negative and/or stressful aspect of today? (For example, a fight with a boyfriend or girlfriend, an approaching exam, or being sick with a cold)." This approach was successfully used by Park, Armeli, and Tennen (2004). Participants also responded to the two questions pertaining to this event. First, they were asked "How negative was this aspect of today?" and responded using a seven-point scale where 1 is anchored with "very minor," 4 with "No worse and no more minor than average," and 7 with "the worst imaginable." Second, they were asked "How important is it that you successfully resolve this?" and responded using a seven-point scale where 1 is anchored with "very unimportant", 4 with "average importance," and 7 with "extremely important."

Peacock and Wong (1990) developed the Stress Appraisal Measure to measure primary and secondary appraisals. The threat, challenge, and centrality subscales, each consisting of four items, were used. The remaining three subscales (controllable-by-self, controllable-by-others, and uncontrollable) were not of sufficient relevance to warrant their inclusion. In the Stress Appraisal Measure, respondents indicate their agreement with statements (e.g., "I feel this situation may have a negative outcome.") on a five-point Likert scale. Peacock and Wong (1990, study 1) found the internal consistency reliability to be $\alpha = .75$ for the threat subscale, $\alpha = .74$ for the challenge subscale, and $\alpha = .90$ for the centrality subscale. Additionally, across three studies, Peacock and Wong (1990) found support for the Stress Appraisal Measure's division into the six subscales listed above.

The Brief COPE (Carver, 1997) is a 28-item measure of coping strategies used to

address a specific stressor. It consists of statements about having engaged in various coping behaviors (e.g., “I’ve been turning to work or other activities to take my mind off things.”), and respondents indicate how frequently they have engaged in each behavior on a four-point Guttman scale. The Brief COPE yields 13 subscales (the internal consistency reliability, per Carver [1997], for each is listed in parenthesis): self-distraction ($\alpha = .71$), active coping ($\alpha = .68$), denial ($\alpha = .54$), substance use ($\alpha = .90$), use of emotional support ($\alpha = .71$), use of instrumental support ($\alpha = .64$), behavioral disengagement ($\alpha = .65$), venting ($\alpha = .50$), positive reframing ($\alpha = .64$), planning ($\alpha = .73$), humor ($\alpha = .73$), acceptance ($\alpha = .57$), religion ($\alpha = .82$), and self-blame ($\alpha = .69$). Carver (1997) conducted an exploratory factor analysis that supported the organization of the Brief COPE into the 13 subscales listed above.

Adding to the items on Carver’s COPE, Stanton and colleagues (2004) developed a scale to measure emotional approach coping. Comprised of four-item subscales for emotional processing and emotional expression, this scale consists of statements of having engaged in a certain coping behavior (e.g., “I allow myself to express my emotions.”) and respondents indicate the frequency of having used them on a four-point Guttman scale. Stanton and colleagues (2004) found the internal consistency reliability for the emotional processing subscale to be $\alpha = .91$ and, for the emotional expression subscale, $\alpha = .91$. Test-retest reliability over a period of one month for the emotional processing subscale was $r = .78$ and, for the emotional expression subscale, $r = .74$.

Procedure

Data collection took place online using SurveyMonkey.com. Participants were directed to a web site that contained a link to an informed consent form. After agreeing to

participate, participants read a statement indicating that they would be asked to fill out several questionnaires, and then would fill out follow-up questionnaires each evening over the subsequent five days. Participants initially filled out the Self-Compassion Scale, Rosenberg Self-Esteem Scale, Interpersonal Support Evaluation–10, Life Orientation Test–Revised, and the Perceived Stress Scale–10. During the next five days, participants received an e-mail each night at 6:30pm directing them to a survey to fill out that night between 7:30pm and 1:30am. This survey consisted of a prompt asking participants to identify the most stressful and/or negative event of the day, a question asking how negative and/or stressful the event was, how important successful resolution of the event was, the threat, centrality, and challenge appraisal subscales of the Stress Appraisal Measure, the Brief COPE, and the emotional approach subscale for the Brief COPE. On the last day of the study, participants also responded to the Self-Compassion Scale (to assess test-retest reliability) and the Perceived Stress Scale–10 for the past week.

Results

Data drawn from the first day of the daily diary period were used for the present analyses. Descriptive statistics for the initial and daily measures are presented in table 1.1. Zero-order correlations are shown in table 1.2.

To examine whether self-compassion predicted lower levels of stress on day one after controlling for self-esteem, functional social support, stress during the past week, and optimism, hierarchical regression was used. The full results are presented in table 1.3. Step 1 included four control variables (self-esteem, functional social support, stress during the past week, and optimism) and did not account for any variance in day one stress, $R^2 = .20$, $F(4,21) = 1.30$, $p = .30$. Step 2 added self-compassion and did not account

for any additional variance in day one stress, $\Delta R^2 = .00$, change $F(1,20) = .001$, $p = .93$. The overall regression did not account for any variance in day one stress, $R^2 = .20$, $F(5,20) = 1.00$, $p = .45$. After controlling for self-esteem, functional social support, stress during the past week, and optimism, self-compassion did not predict day one stress, $\beta = .03$, $t = .09$, $p = .93$. Thus, the hypothesis that self-compassion will predict day one stress after controlling for self-esteem, functional social support, stress during the past week, and optimism was not supported.

To examine the hypotheses that higher levels self-compassion would be associated with threat and centrality appraisals of lower magnitude, semipartial correlations were used. After controlling for self-esteem, functional social support, and optimism, self-compassion was not correlated with threat appraisals, $r_{sp}(21) = -.15$, $p = .48$. Thus, the hypothesis that self-compassion would be associated with threat appraisals was not supported. Self-compassion was also not correlated with centrality appraisals, $r_{sp}(21) = -.10$, $p = .64$, after controlling for self-esteem, functional social support, and optimism. Thus, the hypothesis that self-compassion would be associated with challenge appraisals was not supported.

To examine the hypotheses that higher levels self-compassion would be associated with challenge appraisals of greater magnitude, a semipartial correlation was used. After controlling for self-esteem, functional social support, and optimism, self-compassion was marginally negatively correlated with challenge appraisals, $r_{sp}(21) = -.35$, $p = .09$. Despite this marginally significant correlation, the hypothesis that self-compassion would be associated with challenge appraisals was not supported.

To examine the hypotheses that higher levels of self-compassion would be

associated with greater use of problem-focused and emotional-approach coping and lower levels of emotional-avoidance coping, semipartial correlations were computed controlling for self-esteem, functional social support, and optimism. The results are presented in table 1.4. After controlling for self-esteem, functional social support, and optimism, self-compassion was negatively correlated with self-blame, $r_{sp}(21) = -.44, p < .05$.

To examine the hypothesis that higher levels of self-compassion would be associated with lower ratings of how negative and/or stressful participants' self-identified most negative and/or stressful event of the day was, a semipartial correlation was used. After controlling for self-esteem, functional social support, stress during the past week, and optimism, ratings of how negative and/or stressful this event was were not correlated with self-compassion, $r_{sp}(21) = -.32, p = .14$. To examine the hypothesis that higher levels of self-compassion would be associated with lower ratings of how important successful resolution of participants' self-identified most negative and/or stressful event of the day was, a semipartial correlation was used. After controlling for self-esteem, functional social support, stress during the past week, and optimism, ratings of how important successful resolution of this event was were not correlated with self-compassion, $r_{sp}(21) = -.16, p = .46$.

A trend emerged where, after controlling for self-esteem, functional social support, stress during the past week, and optimism, self-compassion was marginally significantly predictive of greater confidence in participants' ability to handle their personal problems (question 2 on the Perceived Stress Scale-4). The results of a hierarchical regression showing this trend are presented in table 1.5. Step 1 included four control variables (self-esteem, functional social support, stress during the past week, and

optimism) and accounted for 49.9% of the variance in confidence in ability to handle personal problems, $F(4,21) = 5.24, p < .05$. Step 2 added self-compassion and marginally significantly accounted for an additional 6.8% of the variance in confidence in ability to handle personal problems, change $F(1,20) = 3.16, p = .09$. Self-compassion was marginally significantly predictive of ability to handle one's personal problems, $\beta = .37, t = 1.78, p = .09$.

In addition, self-compassion was associated with greater confidence in ability to handle personal problems asked in the context of the PSS-10 during the initial battery of measures (question 4). A semipartial correlation indicates that, after controlling for self-esteem, functional support, and optimism, self-compassion is correlated with confidence in ability to handle personal problems, $r_p(23) = -.47, p < .05$. Additionally, after controlling for self-esteem, functional support, and optimism, self-compassion is associated with perceived ability to control irritations in one's life at the trend level, $r_p(23) = -.37, p = .07$.

STUDY 2

Study 1 found little support for the decreased vulnerability hypothesis; self-compassion did not predict stress, coping behaviors, or cognitive appraisals. However, the potential remains that self-compassion, while not predictive of stress, may still affect how individuals react to stress. To this end, study 2 sought to examine whether self-compassion buffered the effects of stress on positive and negative affect. Like study 1, study 2 used a daily diary methodology in which participants responded to measures of daily stress, cognitive appraisals, and coping behaviors. In addition, positive and negative affect were measured each day. The present study was conducted during the end of the spring semester as a means of keeping the types of stressors participants encountered consistent between studies 1 and 2, and lasted for three days.

Method

Participants

Sixteen full-time undergraduate psychology majors at SUNY New Paltz participated in the present study in exchange for credit toward required participation in research. There were two males and 14 females in the present sample, and 14 participants identified as non-hispanic white, one as Latino or Hispanic, and one preferred not to indicate an ethnicity. Participants' average age was 21.06 years ($SD = 1.95$), and there were two sophomores, eight juniors, five seniors, and one participant who did not indicate a year in school. Participants were recruited through an e-mail sent to all psychology students and a listing on the psychology department's subject pool web site. The study began with 20 participants, yielding an attrition rate of 20%.

Measures

Several measures described earlier were used: the Self-Compassion Scale (Neff, 2003b), Rosenberg Self-Esteem Scale (Rosenberg, 1965), Interpersonal Support Evaluation–12 (Cohen & Hoberman, 1983), ten- and four- item versions of the Perceived Stress Scale (Cohen & Williamson, 1988), Life Orientation Test–Revised (Schier, Carver, & Bridges, 1994), a question assessing “how negative and/or stressful” a self-selected event during the day was as well as another question assessing how important resolution of this event was, the Stress Appraisal Measure (Peacock & Wong, 1990), Brief COPE (Carver, 1997), and emotional processing and emotional expression subscales for the Brief COPE (Stanton et al., 2000).

In addition to these measures, the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) was used. This scale measures positive and negative affect via two subscales, one for positive affect and one for negative, each of which consists of 10 adjectives describing various affective states (e.g., scared, alert, jittery). Participants rate the extent to which they have experienced each affective state over the past day using a five-point Guttman scale ranging from “very slightly or not at all” to “extremely.” Watson, Clark, and Tellegen (1988) found the internal consistency reliability for the positive affect subscale to be $\alpha = .86$ and the internal consistency reliability for the negative affect subscale to be $\alpha = .84$. They also found acceptable convergent validity for the negative affect subscale as indicated by correlations with measures of distress and, for both subscales, correlations with other measures of mood.

Procedure

Data collection was conducted online using SurveyMonkey.com. Participants

were directed to a web site containing a link to an informed consent form. After agreeing to participate, participants read a description of the study indicating that they would be asked to fill out several questionnaires, and then would fill out follow-up questionnaires each evening over the subsequent three days. Participants initially filled out the Self-Compassion Scale, Rosenberg Self-Esteem Scale, Interpersonal Support Evaluation–10, Positive and Negative Affect Schedule, and the Perceived Stress Scale–10. During the next five days, participants received an e-mail each night at 6:30pm directing them to a survey to fill out that night between 7:30pm and 1:30am. This survey consisted of a prompt asking participants to identify the most stressful and/or negative event of the day, a question asking how negative and/or stressful the event was, how important successful resolution of the event was, the threat, centrality, and challenge appraisal subscales of the Stress Appraisal Measure, the Brief COPE, and the emotional approach subscale for the Brief COPE. On the last day of the study, participants responded to the Positive and Negative Affect Schedule and the Perceived Stress Scale–10 for the past four days.

Results

In addition to data from the Positive and Negative Affect Schedule from the first and last days of data collection, data drawn from the first day of the daily diary period were used for the present analyses. Descriptive statistics for initial, daily, and outcome measures are presented in table 2.1. Zero-order correlations among study variables are included in table 2.2.

The hypothesis that self-compassion would predict lower levels of stress on day one after controlling for self-esteem, functional social support, stress during the past week, and optimism, hierarchical regression was used, and the full results are presented

in table 2.3. Step 1 included four control variables (self-esteem, functional social support, stress during the past week, and optimism), and did not account for any variance in day one stress, $R^2 = .58$, $F(4,6) = 2.10$, $p = .20$. Step 2 added self-compassion and did not account for any additional variance in day one stress, $\Delta R^2 = .00$, change $F(1,5) = .04$, $p = .84$. The final model did not account for any variance in day one stress, $R^2 = .59$, $F(1,5) = 1.42$, $p = .35$, and self-compassion did not account for any variance in day one stress, $\beta = .13$, $t = .21$, $p = .84$. Thus, this hypothesis was not supported.

To examine the hypotheses that greater levels of self-compassion would be associated with threat and centrality appraisals of lesser magnitude, partial correlations were computed controlling for self-esteem, functional social support, and optimism. Self-compassion was not correlated with centrality appraisals, $r_p(6) = -.57$, $p = .13$, or threat appraisals, $r_p(6) = -.58$, $p = .13$. Thus, these two hypotheses were not supported. The hypothesis that greater levels of self-compassion would be correlated with challenge appraisals of greater magnitude was examined using a partial correlation controlling for self-esteem, functional social support, and optimism. Self-compassion was not correlated with challenge appraisals, $r_p(6) = -.26$, $p = .54$. Thus, this hypothesis was also not supported.

To examine the hypotheses that higher levels of self-compassion would be associated with greater use of problem-focused and emotional-approach coping and lower levels of emotional-avoidance coping, semipartial correlations were computed controlling for self-esteem, functional social support, and optimism. The results are presented in table 2.4. Self-compassion was positively correlated with active coping, $r_p(6) = .87$, $p <$

.01, use of humor, $r_p(6) = .72, p < .05$, and, at the trend level, emotional processing, $r_p(6) = .64, p = .09$. These findings lend partial support to this hypothesis.

To examine the hypothesis that higher levels of self-compassion would be associated with lower ratings of how negative and/or stressful participants' self-identified most negative and/or stressful event of the day was, a semipartial correlation was used. After controlling for self-esteem, functional social support, stress during the past week, and optimism, ratings of how negative and/or stressful this event was were negatively correlated with self-compassion, $r_p(6) = -.83, p < .05$. Thus, this hypothesis was supported. To examine the hypothesis that higher levels of self-compassion would be associated with lower ratings of how important successful resolution of participants' self-identified most negative and/or stressful event of the day was, a semipartial correlation was used. After controlling for self-esteem, functional social support, stress during the past week, and optimism, ratings of how important successful resolution of this event was were not correlated with self-compassion, $r_p(6) = -.29, p = .49$. Thus, this hypothesis was not supported.

Hierarchical regression was used to examine whether the present data replicated the finding from study 1 that, after controlling for self-esteem, functional social support, stress during the past week, and optimism, self-compassion was marginally significantly predictive of greater confidence in participants' ability to handle their personal problems (question 2 on the Perceived Stress Scale-4). The full results are presented in table 2.5. Self-compassion was not predictive of confidence in participants' ability to handle their personal problems, $R^2 = .66, F(1,5) = 1.94, p = .24$. Hierarchical regression was also used to examine whether the present data replicated the finding from study 1 that, after

controlling for self-esteem, functional social support, stress during the past week, and optimism, self-compassion was marginally predictive of confidence in handling one's personal problems.

To examine the hypothesis that self-compassion would predict greater levels of positive affect during duration of this study, hierarchical regression was used, and the full results are presented in table 2.6. Step 1 included baseline positive affect (assessed at the start of the study in the initial battery of measurements), self-esteem, functional social support, optimism, and preexisting stress, and, at the trend level, accounted for 81.5% of the variance in positive affect, $F(5,5) = 4.39, p = .07$. Step 2 added self-compassion, and, at the trend level, accounted for an additional 11% of the variance in positive affect, change $F(1,4) = 5.79, p = .07$. The final model accounted for 92.4% of the variance in positive affect, $F(1,4) = 8.13, p < .05$. Self-compassion predicted positive affect at the trend level, $\beta = .86, t = 2.41, p = .07$.

To examine the hypothesis that self-compassion would predict lower levels of negative affect during duration of this study, hierarchical regression was used, and the full results are presented in table 2.7. Step 1 included baseline negative affect (assessed at the start of the study in the initial battery of measurements), self-esteem, functional social support, optimism, and preexisting stress, and did not account for any variance in negative affect, $R^2 = .69, F(5,5) = 2.20, p = .20$. Step 2 added self-compassion, and did not account for any additional variance in negative affect, $\Delta R^2 = .10$, change $F(1,4) = 1.84, p = .25$. The final model did not account for any variance in negative affect, $R^2 = .79, F(1,4) = 2.45, p = .20$. Self-compassion was not predictive of negative affect, $\beta = .69, t = 1.36, p = .25$. Thus, this hypothesis was not supported.

To examine the hypothesis that self-compassion would predict lower levels of stress during duration of this study, hierarchical regression was used, and the full results are presented in table 2.8. Step 1 included preexisting stress, optimism, functional social support, and self-esteem, and, at the trend level, accounted for 70.1% of the variance in stress, $F(4,6) = 3.52$, $p = .08$. Step 2 added self-compassion and did not account for additional variance in stress, $\Delta R^2 = .09$, change $F(1,5) = 1.98$, $p = .22$. The final model accounted for 78.6% of the variance in stress at the trend level, $F(1,4) = 3.67$, $p = .09$. Self-compassion was not predictive of stress, $\beta = .64$, $t = 1.41$, $p = .22$. Thus, this hypothesis was not supported.

DISCUSSION

The present studies examined the hypothesis that higher levels of self-compassion would be associated with decreased vulnerability to stress as a result of greater use of approach-oriented coping, less use of avoidance-oriented coping, threat appraisals of lower magnitude, and challenge appraisals of greater magnitude. I also hypothesized that self-compassion's effects would not be accounted for by functional social support, optimism, or, consistent with existing research and theory about self-compassion (e.g., Neff, 2003a, 2003b, 2004), self-esteem. These hypotheses were examined with two daily diary studies, one conducted during the end of the fall semester and the other during the end of the spring semester. Participants filled out a number of baseline measures and then, for either five or three days, responded to daily questionnaires concerning the most stressful event of the day and how participants appraised and coped with it. The extent to which events were seen as negative and requiring successful resolution were controlled for as a means of ensuring that the nature of participants' most stressful event of the day did not differ, as this may have been confounded with self-compassion. That is, higher levels of self-compassion may result in participants experiencing different types of events that give rise to different levels of stress, so this possibility was controlled for. The second study added measures to examine self-compassion's potential to buffer the effects of stress on positive and negative affect.

Decreased Vulnerability Hypothesis

The decreased vulnerability hypothesis was largely unsupported by these studies. After controlling for the nature of events participants experienced, as well as functional social support, optimism, and self-esteem, self-compassion did not predict daily stress

levels. Similarly, study 2 found that self-compassion did not predict stress during the four-day duration of the study period. These studies measured stress in several ways, including a question asking participants “how negative and/or stressful” participants’ most stressful event of the day was, the Perceived Stress Scale (four-item version; Cohen & Williamson, 1988) for each day of the daily diary portion, and, in study 2, the Perceived Stress Scale (10-item version; Cohen & Williamson, 1988) for the study’s four-day duration. In study 2, self-compassion was found to be negatively correlated with how negative and/or stressful participants’ most stressful event of the day was, such that higher levels of self-compassion were associated with lower ratings of how negative and/or stressful this event was. However, this was the only finding produced across the present two studies in support of the decreased vulnerability hypothesis. Given the plurality of measures of stress used in the present studies, compelling and meaningful support for the decreased vulnerability hypothesis would have required a more consistent pattern of results.

Though limited in its usefulness because it was the only finding of this nature produced across two studies and multiple measures of stress, the negative correlation between self-compassion and how negative and/or stressful participants rated their worst event of the day as being suggests two possibilities. First, people who are more self-compassionate may encounter different types of events that they experience as being less negative and stressful. The present studies did not examine why such exposure to different types of events may occur, but self-compassion’s positive associations with agreeableness, extraversion, and openness to experience (Neff, Rude, & Kirkpatrick, 2007) may elicit more positive reactions from people during the course of everyday life.

Such positive reactions may give rise to more pleasant interactions, which may limit the extent to which potentially-negative exchanges—for example, bringing an item to a store for a refund—become negative or stressful. In this way, it may be that the personality characteristics associated with self-compassion affect the nature of people’s interactions with others in ways that make everyday events and interactions less negative and stressful.

Second, people high in self-compassion may encounter similar events to those low in self-compassion but experience them differently. For example, if an individual high in self-compassion has a negative exchange with a clerk at a grocery store, he/she may not experience this as being as negative as someone low in self-compassion would because the common humanity perceptions (Neff, 2003a, 2004) and more tranquil affect (Neff, 2003a, 2004) that accompany self-compassion. Leary and colleagues’ (2007) and Neff, Hsieh, and DeJitterat’s (2005) findings that people high in self-compassion experience more balanced and even-tempered reactions to negative events than those low in self-compassion offers some support to the possibility that those high in self-compassion experience can experience the same event as being less negative than those low in self-compassion. If this is the case, the decreased vulnerability hypothesis should have been supported because, fundamentally, it held that, when exposed to the same event, those higher in self-compassion would experience it as being less stressful than those lower in self-compassion. It could be the case that there are, in fact, differences in how events are experienced as a function of self-compassion, but that these differences either do not extend to the realm of stress or that the measures used in this present study

somehow did not capture the different stress levels effected by self-compassion. This latter possibility is discussed in greater depth below.

Although study 2 indicated a negative correlation between self-compassion and participants' ratings of how negative and/or stressful the worst event of their day was, there was not consistent and meaningful support for the decreased vulnerability hypothesis. Thus, this study indicates that self-compassion likely does not affect stress.

Interestingly, a trend emerged in study 1 where self-compassion was associated with confidence in one's "ability to handle personal problems." Specifically, after controlling for functional social support, optimism, self-esteem, and stress during the past week, greater levels of self-compassion predicted increased confidence in one's ability to handle personal problems as measured by question 2 on the daily version of the Perceived Stress Scale (four-question version; Cohen & Williamson, 1998). This trend parallels other findings from the self-compassion literature. For example, Neff, Hsieh, and Dejitterat (2005, study 1) found self-compassion to be associated with increased confidence in performing an academic task. However, because self-compassion's relation to confidence is not well-documented and was only supported at the trend level in study 1, the relationship between self-compassion and confidence must remain speculative.

If it is, indeed, the case that greater confidence in one's ability to handle personal problems accompanies higher levels of self-compassion, it suggests that, despite a lack of support for the decreased vulnerability hypothesis, self-compassion may still have relevance to the domain of stress. Greater confidence should affect secondary appraisals because an increased belief and/or perception in one's ability to address a stressor should necessarily affect the extent to which one feels they have the necessary resources to

address a stressor. Indeed, Carver and Scheier (1994) found that, in the context of an upcoming exam, students' greater confidence in their ability to do well was negatively predictive of feelings of threat, which, Lazarus and Folkman (1984) indicate, give rise to stress; that is, those with greater confidence experience fewer and less intense feelings of threat, which are theorized to be related to stress. Similarly, Paulík (2001) found that self-confidence had a stress-buffering effect and was associated with a more salubrious pattern of coping. Thus, it may be the case that higher levels of self-compassion are associated with increased confidence in one's ability to address a stressor. This, in turn, should be associated with secondary appraisals that reflect a greater ability to address a stressor, giving rise to challenge, rather than threat, appraisals and, ultimately, lower levels of stress.

The present studies did not seek to examine the relationship between self-compassion, confidence, cognitive appraisals, and stress, so confidence was not assessed adequately enough to evaluate it; confidence was only measured by a single question on the Perceived Stress Scale. The results of the present studies do not offer compelling support for this relationship. There was no relationship between self-compassion and stress, and the relationship between self-compassion and confidence was tenuous; for the proposed relationship between self-compassion, confidence, cognitive appraisals, and stress to have been borne out by these studies, self-compassion would have to have predicted stress. Nevertheless, despite the present studies' lack of support for this relationship, the extant research outlined above does offer some support for it.

It may be that the tenuous support for a relationship between self-compassion and confidence in one's ability to handle personal problems found in study 1 despite

empirical (i.e., Neff, Hsieh, & Dejitterat, 2005, study 1) and theoretical support for it is the result of a semantic inconsistency present in conceptualizing and measuring confidence. The “confidence” that affects stress and was assessed by a question in the Perceived Stress Scale used in these studies may be directly related to secondary appraisals—that is, the resources one believes one has to draw upon in addressing a stressor—and, ultimately, stress. This type of confidence may be conceptualized as referring to trust in one’s ability to draw on personal resources like hardiness and resilience. On the other hand, the “confidence” that self-compassion may be more directly related to may center around a “can do” attitude and a readiness to approach and address a stressor. This second type of confidence may serve as a stress buffer, limiting the affective consequences of stress but not affecting stress itself. This idea of self-compassion’s relation to a “can do” attitude is consistent with existing theorizing and research about self-compassion; there is some consensus that those high in self-compassion are better able to remain engaged with negative stimuli than those low in self-compassion (Neff, 2003a; Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007). Such engagement is quite similar to the ready engagement that accompanies a “can do” attitude and the type of confidence that may be related to self-compassion but not cognitive appraisals and stress.

Coping Styles

The decreased vulnerability to stress that was hypothesized to arise from high levels of self-compassion was, in part, hypothesized to be the result of greater use of approach-oriented coping and less use of avoidance-oriented coping among those higher in self-compassion. Interestingly, the present studies indicated that higher self-

compassion is associated with different coping behaviors, but there was no clear trend across the two studies that suggested a coherent pattern. In study 1, after controlling for functional social support, optimism, and self-esteem, higher levels of self-compassion were associated with less use of self-blame. In study 2, after controlling for functional social support, optimism, and self-esteem, higher levels of self-compassion were associated with greater use of active coping, use of humor, and, marginally, emotional processing. These findings do not lend support to the hypothesis that higher levels of self-compassion would be associated with greater use of approach-oriented coping and less use of avoidance-oriented coping, but do indicate that there is a relationship between self-compassion and coping behaviors. This parallels past research supporting self-compassion's relation to coping behaviors (Neff, 2003a; Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007).

It is unlikely that these studies' failure to find support for the coherent pattern of coping styles hypothesized to be associated with self-compassion is due to methodological errors. Both studies were conducted at the end of semesters to ensure that participants would face similar stressors (i.e., exams and final papers). Additionally, the magnitude of and importance of resolving stressors were controlled for, so, even if the stressors faced by the studies' cohorts did differ, such differences should have been eliminated by using these controls. The two studies' samples did differ in age and year in school (in study 1, the mean age was 18.20 most participants were freshmen, while in study 2 the mean age was 21.06 and most participants were juniors), and this may partially explain why the coping behaviors associated with self-compassion differed between the two studies.

There may be differences in how people cope with stressors as a function of age. Amirkhan and Auyeung (2007) found that, although there is no effect of age on the structure of coping strategies people use (i.e., seeking support, problem solving, and avoidance), as people age they tend to make more use of problem-solving coping behaviors and less use of avoidance coping behaviors. This suggests two explanations for having found relationships between self-compassion and different coping behaviors between the present two studies. First, slight age-related differences in coping behaviors consistent with those found by Amirkhan and Auyeung (2007) may have been present across the two studies, and these age-related effects may have served as a spurious variable that confounded the relationship between self-compassion and coping. It is important to note, however, that the difference in age between both studies' cohorts was small, so the extent of age-related differences in coping, if present, are likely minor. Second, it may be that there are effects of self-compassion on coping behaviors, but the nature of these effects differ based on age (i.e., the effects of self-compassion on coping behaviors may be moderated by age). There is presently no research on how self-compassion develops over the lifespan and whether those potential effects are related to other age-related changes in personality (cf. Jones & Meredith, 1996), and, as a result, there are no empirical or theoretical clues about how self-compassion may affect coping behaviors as a function of age. Allemand, Zimprich, and Hendriks (2008) found that agreeableness and conscientiousness increased with age, and Jones and Meredith (1996) found that assertiveness increased with age. These findings hint at a pattern of a propensity toward greater engagement with stimuli as one ages. Given that such a propensity is already present among those with high levels of self-compassion (Leary et

al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007), perhaps self-compassionate people become yet more able to remain engaged with negative stimuli as they age. In the domain of coping, this may be reflected by less use of avoidance-oriented coping during younger years—a sort of “baseline” of engagement with stimuli—and greater use of approach-oriented coping during later years—evidence of further increased engagement with negative stimuli. However, as noted above, because the age differences between the two studies’ cohorts was small, the extent to which such age-related differences in people’s propensity to engage negative stimuli may be limited. Thus, although the difference in participants’ ages between both studies may partially account for having found different coping styles to be associated with self-compassion in each study, additional reasons for this finding remain unclear and warrant future investigation.

Cognitive Appraisals

The decreased vulnerability to stress that self-compassion was speculated to engender was hypothesized to arise partially from a distinct pattern of cognitive appraisals in which higher levels of self-compassion would be associated with threat and centrality appraisals of lower magnitude and challenge appraisals of greater magnitude. Neither study found support for this hypothesized pattern; there were no relationships between self-compassion and any of the three types of cognitive appraisal. As stated above, self-compassion’s lack of effects on cognitive appraisals is puzzling because of its relationship to confidence that was marginally supported in study 1 and in other research (Neff, Hsieh, & Dejitterat, 2005, study 1). If greater levels of self-compassion are associated with increased confidence, consistent with the transactional model of stress

(Lazarus & Folkman, 1984), then self-compassion should be associated with lower stress and this effect should be at least partially mediated by confidence. The lack of effects of self-compassion on cognitive appraisals also calls into question the extent to which those higher in self-compassion view events differently than those lower in self-compassion. A great deal of research has found that those higher in self-compassion adopt a more benevolent and measured view of the world and events around them (Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007, study 1).

Of particular importance to the development of self-compassion is the finding that self-compassion was not associated with centrality appraisals and ratings of how important successful resolution of the day's most stressful event was. It could be argued that any salubrious effects of self-compassion are simply due to a tendency among those higher in self-compassion to devalue stressors rather than seek to resolve them. For example, while preparing for an exam, an individual lower in self-compassion may become concerned about his/her ability to do well and experience elevated levels of stress, while an individual higher in self-compassion may decide that they are unconcerned with their exam performance and experience low levels of stress. Although the explanatory and theory-building power of such null findings is quite limited, it is nevertheless important to note that self-compassion was not associated with this pattern of devaluing stressors.

Positive and Negative Affect

Study 2 examined the possibility that self-compassion may play a role in preserving positive affect and preventing increases in negative affect in response to stressors. Although self-compassion had no effect on negative affect, support was found

at the trend level for self-compassion's ability to preserve positive affect. Specifically, after controlling for self-esteem, functional social support, optimism, and preexisting stress, higher levels of self-compassion predicted more positive affect. Thus, after controlling for stress levels, higher in self-compassion was predictive of more positive affect. The small sample size used in study 2 may partially explain why this finding was only marginally significant; with a larger sample, this finding may have been more robust. The relationship between self-compassion and positive affect parallels past research indicating that self-compassion is associated with trait positive affect (Neff, Rude, & Kirkpatrick, 2007) and less affective reactivity to events (Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005). Because self-compassion is associated with higher trait positive affect, it is unclear if study 2's findings about positive affect are due to highly self-compassionate individuals' tendency to generally have more positive affect across contexts. However, this possibility was addressed by controlling for baseline positive affect. More promising is the possibility that self-compassion buffers the effects of stress on positive affect such that those who are higher in self-compassion are less affected by stress in the area of positive affect. This possibility is suggested by some extant research in self-compassion (Leary et al., 2007; Neff, Hsieh, & Dejitterat, 2005) indicating that greater levels of self-compassion are associated with more moderate and limited reactions to negative events.

Limitations and Future Directions

The present two studies used a daily diary methodology, which, while enabling the study of participants' actual lives rather than contrived laboratory-controlled events, presents several challenges to stress research. Participants experienced and responded to a

wide range of diverse life events rather than a single, standardized event. Although several controls were used in order to limit the detrimental effects of such a diversity of events, it cannot be ruled out that different events, rather than self-compassion per se, better account for the present studies' findings. Additionally, although both studies were conducted at the same time of the fall and spring semesters, it is possible that the fall and spring semesters bring with them inherently different challenges. These different challenges may have affected this study. Further, the age and year in school of the participants in study 1 and study 2 differed. There is presently little research or theorizing about the effects of age on self-compassion, but there has been support for the notion that age affects coping (Amirkhan & Auyeung, 2007) and, more broadly, personality (Allemand, Zimprich, & Hendriks, 2008; Jones & Meredith, 1996). Thus, it is possible that, as discussed above, age affected the results of these studies and also may account for the lack of consistency in findings between studies 1 and 2. Moreover, as is the case with much research conducted with undergraduate psychology students, the lack of diversity among both studies' samples limits the extent to which conclusions can be generalized. Finally, both studies used small samples that suffered from high rates of attrition, which limited their ability to detect relationships between the study variables and examine both studies' hypotheses. Future research in this domain may benefit from incorporating larger sample sizes.

Although there was little support found for the decreased vulnerability hypothesis, several areas for further exploration are suggested by the current research. The decreased vulnerability hypothesis should be tested in the laboratory using a standardized stressor. The present studies sought to maximize ecological validity by studying everyday events

at the cost of limiting internal validity. Further, as discussed above, the diverse range of events participants experienced and responded to may have unduly affected the results. For these reasons, it may be useful to examine whether self-compassion is associated with stress under more tightly- and rigorously-controlled conditions. Such conditions will also allow an exploration of whether self-compassion's effects on stress differ based on the extent to which the stressor is self-relevant for participants. This topic was not adequately addressed by the present studies but, as outlined above, is a central aspect of how self-compassion's potential decreased vulnerability effects may function. In addition to laboratory studies, self-compassion's effects on stress should also be examined as they relate to confidence in one's ability to handle a stressor and buffering the effects of stress on positive affect. Both of these possibilities were suggested by trends in the present studies' results, but, because neither study was designed to focus on these areas, limited analysis was possible. Further naturalistic studies like the present studies as well as laboratory studies as described above may be useful in examining these possibilities.

The study of coping with and adjustment to chronic illness in particular may benefit from further inquiry into the relationships among self-compassion, coping, positive affect, confidence, and stress. Positive adjustment to chronic illness is often conceptualized in part as entailing the preservation of positive affect (Stanton, Revenson, & Tennen, 2007). If self-compassion does, indeed, have a stress buffering function where, during periods stress, high levels of self-compassion preserve positive affect, then self-compassion may enable the preservation of positive affect—that is, positive adjustment—by limiting the effects of the stress of chronic illness on positive affect. Further, high levels of positive affect in the context of chronic illness are associated with

greater perceptions of control over the illness (Folkman & Moskowitz, 2000a, 2000b) regardless of its actual, inherent controllability. Such enhanced perceptions of control are associated with greater use of approach-oriented coping, which is associated with more positive adjustment (Stanton & Revenson, 2007; Stanton, Revenson, & Tennen, 2007). Additionally, the enhanced confidence that self-compassion may engender also has the potential to promote greater use of approach-oriented coping. These effects may have salubrious consequences by promoting positive affect, quality of life, and positive adjustment to chronic illness as well as limiting stress associated with chronic illness and its physiologically-taxing effects.

The potential for self-compassion to preserve positive affect and enhance confidence while individuals face stressors suggests that interventions to boost self-compassion, especially before anticipated high-stress periods, may be very useful in preserving well-being and quality of life in the general population. To this end, interventions aimed at increasing self-compassion that are presently in development to treat eating disorders (e.g., Adams & Leary, 2007) could be expanded and used to boost self-compassion among those anticipating high-stress periods. Preserving positive affect and increasing confidence may have the added effect of limiting the extent to which depression arises from major life stressors (cf. Holahan & Moos, 1991). Further, self-compassion may also be useful in preserving positive affect and enhancing confidence immediately after a stressor has occurred and may be useful in complementing critical stress debriefing programs.

Conclusions

Support for the decreased vulnerability hypothesis, which held that greater levels of self-compassion would be associated with lower levels of stress due to greater use of approach-oriented coping strategies, threat appraisals of lower magnitude, and challenge appraisals of greater magnitude, was limited in the present two studies. However, it appears that self-compassion may affect confidence in one's ability to address stressors as well as buffer the effects of stress on positive affect. Because the present studies were the first to examine how self-compassion affects stress, there were several methodological shortcomings and additional research should be conducted under more tightly-controlled laboratory conditions to further examine these studies' findings and the decreased vulnerability hypothesis as a whole. Nevertheless, the potential for self-compassion to affect confidence and positive affect has importance for a number of domains including adjustment to and coping with chronic illness and, more generally, enhancing quality of life during periods of stress, which warrants further study in this domain.

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TABLES

TABLE 1.1 Descriptive Statistics

Variable	<i>M</i>	<i>SD</i>	Min.	Max.
Initial measures				
Self-compassion ^a	3.18	.50	2.00	4.19
Self-esteem ^b	3.13	.47	2.00	3.90
Functional social support ^b	3.46	.40	2.50	4.00
Stress during the preceding week ^a	2.89	.68	1.70	4.00
Optimism ^a	3.44	.85	1.67	5.00
Daily measures				
How negative and/or stressful was this event ^c	3.89	1.40	1.00	6.00
How important is successful resolution ^c	4.22	2.10	1.00	7.00
Threat appraisal ^a	3.06	.79	1.75	5.00
Challenge appraisal ^a	3.28	.61	2.00	4.25
Centrality appraisal ^a	3.34	1.07	1.50	5.00
Coping using self-distraction ^b	2.50	.75	1.00	4.00
Coping using active coping ^b	2.79	.81	1.50	4.00
Coping using denial ^b	1.25	.44	1.00	2.50
Coping using substance use ^b	1.40	.74	1.00	3.50
Coping using use of emotional support ^b	2.60	.82	1.00	4.00
Coping using use of instrumental support ^b	2.56	.79	1.00	4.00
Coping using behavioral disengagement ^b	1.58	.69	1.00	3.00
Coping using venting ^b	2.21	.85	1.00	3.50
Coping using positive reframing ^b	2.50	.80	1.00	4.00
Coping using planning ^b	2.92	.81	1.00	4.00
Coping using humor ^b	2.08	1.02	1.00	4.00
Coping using acceptance ^b	3.00	.69	1.50	4.00
Coping using religion ^b	1.46	.73	1.00	4.00
Coping using self-blame ^b	2.40	.99	1.00	4.00
Coping using emotional processing ^b	2.88	.57	1.75	4.00
Coping using emotional expression ^b	2.86	.77	1.25	4.00
Daily stress	3.07	.61	2.25	4.00

^a Scale of 1-5; ^b Scale of 1-4; ^c Scale of 1-7

TABLE 1.2 Zero-Order Correlations Among Study Variables

Variable	1	2	3	4	5	6
1. Self-compassion		.416*	.205	.623**	-.527**	-.283
2. Self-esteem			.401*	.552**	-.499**	-.108
3. Functional social support				.416*	-.388*	.186
4. Optimism					-.642**	-.212
5. Stress during preceding week						.077
6. Threat appraisal						
7. Challenge appraisal						
8. Centrality appraisal						
9. Daily stress						
10. Self-distraction						
11. Active coping						
12. Denial						
13. Substance use						
14. Using emotional support						
15. Using instrumental support						
16. Behavioral disengagement						
17. Venting						
18. Positive reframing						
19. Planning						
20. Humor						
21. Acceptance						
22. Religion						
23. Self-blame						
24. Emotional processing						
25. Emotional Expression						
26. How negative/ stressful this event was						
27. Importance of resolution						

Note. For each correlation, $N = 30$

* $p < .05$, ** $p < .01$

Variable	7	8	9	10	11	12
1. Self-compassion	-.077	-.402*	.229	-.267	.022	-.082
2. Self-esteem	.235	-.294	.466*	-.299	.405*	-.294
3. Functional social support	.011	.037	.331	-.451*	.411*	-.432*
4. Optimism	.284	-.447*	.192	-.343	.232	-.122
5. Stress during preceding week	.169	.321	-.451*	.386	-.182	.280
6. Threat appraisal	-.173	.708**	-.273	.198	.204	.089
7. Challenge appraisal		-.102	-.008	.088	.304	.195
8. Centrality appraisal			-.189	.336	.344	.096
9. Daily stress				-.413*	.111	-.393
10. Self-distraction					-.222	.267
11. Active coping						-.005
12. Denial						
13. Substance use						
14. Using emotional support						
15. Using instrumental support						
16. Behavioral disengagement						
17. Venting						
18. Positive reframing						
19. Planning						
20. Humor						
21. Acceptance						
22. Religion						
23. Self-blame						
24. Emotional processing						
25. Emotional Expression						
26. How negative/ stressful this event was						
27. Importance of resolution						

Note. For each correlation, $N = 30$

* $p < .05$, ** $p < .01$

Variable	13	14	15	16	17	18
1. Self-compassion	-.239	-.021	-.325	-.126	-.103	.193
2. Self-esteem	-.216	.077	.024	-.321	-.178	.215
3. Functional social support	-.223	.273	.259	-.239	-.239	-.149
4. Optimism	-.395	.157	-.071	-.125	-.242	.289
5. Stress during preceding week	.312	-.138	-.131	.108	.137	.003
6. Threat appraisal	.297	.273	.299	-.087	.329	-.231
7. Challenge appraisal	-.210	.241	.113	-.101	-.202	.494*
8. Centrality appraisal	.308	.295	.469*	.040	.444*	-.142
9. Daily stress	-.367	.042	.209	-.031	-.321	-.080
10. Self-distraction	.534**	.246	.075	.115	.406*	.421*
11. Active coping	-.215	.326	.282	-.120	.147	.173
12. Denial	-.207	.011	-.091	.389	.314	-.060
13. Substance use		.315	.145	.044	.227	.169
14. Using emotional support			.703**	.202	.058	.293
15. Using instrumental support				.228	.032	-.026
16. Behavioral disengagement					.062	-.175
17. Venting						.333
18. Positive reframing						
19. Planning						
20. Humor						
21. Acceptance						
22. Religion						
23. Self-blame						
24. Emotional processing						
25. Emotional Expression						
26. How negative/ stressful this event was						
27. Importance of resolution						

Note. For each correlation, $N = 30$

* $p < .05$, ** $p < .01$

Variable	19	20	21	22	23	24
1. Self-compassion	-.163	-.313	.071	.177	-.521**	.137
2. Self-esteem	.049	-.429*	.100	.296	-.423*	.024
3. Functional social support	-.119	-.485*	.113	.149	-.292	.101
4. Optimism	-.207	-.547**	-.012	.223	-.360	.172
5. Stress during preceding week	.272	.275	-.109	.010	.463*	-.292
6. Threat appraisal	-.084	-.053	.301	-.275	.446*	.241
7. Challenge appraisal	.173	-.319	-.201	.362	.106	-.048
8. Centrality appraisal	.439*	.122	.219	-.143	.497*	.159
9. Daily stress	-.016	-.191	.265	.017	-.510**	-.070
10. Self-distraction	.176	.362	-.135	.033	.580**	-.016
11. Active coping	.133	-.411*	.184	.130	-.138	.126
12. Denial	.103	.116	-.225	.251	.360	.207
13. Substance use	.095	.379	.210	-.146	.429*	.131
14. Using emotional support	-.020	-.179	.135	-.191	.248	.319
15. Using instrumental support	.304	.096	.234	-.233	.309	.261
16. Behavioral disengagement	-.085	.374	-.233	.169	.140	.041
17. Venting	.284	.397*	.146	-.177	.607**	.491*
18. Positive reframing	.068	-.014	.003	.004	.133	.101
19. Planning		.167	-.004	.131	.360	.108
20. Humor			.138	-.083	.442*	.085
21. Acceptance				-.473*	.148	.172
22. Religion					-.235	-.185
23. Self-blame						.376
24. Emotional processing						
25. Emotional Expression						
26. How negative/ stressful this event was						
27. Importance of resolution						

Note. For each correlation, $N = 30$

* $p < .05$, ** $p < .01$

Variable	25	26	27
1. Self-compassion	-.182	-.332	-.267
2. Self-esteem	.245	.125	-.236
3. Functional social support	.502*	-.103	-.301
4. Optimism	.212	-.194	-.230
5. Stress during preceding week	-.384	.202	.351
6. Threat appraisal	.404*	.463*	.140
7. Challenge appraisal	-.055	.486*	.031
8. Centrality appraisal	.019	.365	.158
9. Daily stress	.129	-.202	-.348
10. Self-distraction	-.105	.379	.451*
11. Active coping	.163	.209	-.201
12. Denial	-.044	.247	.006
13. Substance use	-.006	.229	.349
14. Using emotional support	.220	.320	.163
15. Using instrumental support	.386	.257	-.039
16. Behavioral disengagement	.063	-.182	-.270
17. Venting	.037	.076	.267
18. Positive reframing	-.199	.184	.364
19. Planning	-.268	.080	-.065
20. Humor	-.064	-.058	.037
21. Acceptance	.195	-.143	-.233
22. Religion	-.010	.192	-.190
23. Self-blame	.173	.322	.317
24. Emotional processing	.418*	.154	.114
25. Emotional Expression		.227	-.107
26. How negative/ stressful this event was			.444*
27. Importance of resolution			

Note. For each correlation, $N = 30$

* $p < .05$, ** $p < .01$

TABLE 1.3 Hierarchical Regression Predicting Day One Stress

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.20	.20			
Self-esteem			.17	.14	.11
Functional social support			.37	.29	.21
Stress during the past week			-.27	-.31	-.21
Optimism			-.18	-.25	-.16
Step 2: Self-compassion	.00	.00			
Self-compassion			.03	.03	.02

Note. $N = 26$. ^a Semipartial correlation for the final model.

TABLE 1.4 Semipartial correlations between self-compassion and coping behaviors controlling for self-esteem, functional social support, and optimism

Variable	r_{sp}	df	p
Self-distraction	-.18	21	.43
Active coping	-.18	21	.40
Denial	-.11	21	.63
Substance use	-.06	21	.80
Use of emotional support	-.09	21	.68
Use of instrumental support	-.25	21	.26
Behavioral disengagement	-.07	21	.76
Venting	.09	21	.69
Positive reframing	-.04	21	.84
Planning	-.07	21	.75
Humor	-.02	21	.94
Acceptance	.09	21	.69
Religion	-.00	21	.99
Self-blame	-.44	21	.03
Emotional processing	.07	21	.74
Emotional expression	-.30	21	.16

Note. $N = 26$.

TABLE 1.5 Hierarchical Regression Predicting Confidence in Ability to Handle Personal Problems

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.50*	.50*			
Self-esteem			.68*	.49	.38
Functional social support			.17	.07	.06
Stress during the past week			-.33	-.36	-.29
Optimism			-.38 ^b	-.47	-.30
Step 2: Self-compassion	.57*	.07 ^b			
Self-compassion			.48 ^b	.37	.26

Note. $N = 26$. ^a Semipartial correlation for the final model.

^b $p < .10$, * $p < .05$

TABLE 2.1 Descriptive Statistics for Initial, Daily, and Outcome Measures

Variable	<i>M</i>	<i>SD</i>	Min.	Max.
Initial measures				
Self-compassion ^a	2.69	.57	1.62	3.80
Self-esteem ^b	2.79	.59	1.70	3.60
Functional social support ^b	3.21	.64	2.00	4.00
Stress during the preceding week ^a	2.96	.53	2.10	4.00
Optimism ^a	3.36	.94	1.67	4.67
Baseline positive affect ^a	2.64	.77	1.10	4.00
Baseline negative affect ^a	2.44	.72	1.10	3.89
Daily measures				
How negative and/or stressful was this event ^c	3.40	1.30	1.00	5.00
How important is successful resolution ^c	4.27	1.87	1.00	7.00
Threat appraisal ^a	2.85	.78	1.50	4.25
Challenge appraisal ^a	3.15	.83	1.50	4.75
Centrality appraisal ^a	2.97	1.10	1.00	4.75
Coping using self-distraction ^b	2.30	.82	1.00	3.50
Coping using active coping ^b	2.67	.62	2.00	4.00
Coping using denial ^b	1.27	.56	1.00	3.00
Coping using substance use ^b	1.33	.62	1.00	3.00
Coping using use of emotional support ^b	2.10	.91	1.00	4.00
Coping using use of instrumental support ^b	2.23	1.05	1.00	4.00
Coping using behavioral disengagement ^b	1.37	.68	1.00	3.50
Coping using venting ^b	1.93	.62	1.00	3.50
Coping using positive reframing ^b	2.33	.65	1.50	3.50
Coping using planning ^b	2.67	.77	2.00	4.00
Coping using humor ^b	1.90	.76	1.00	3.00
Coping using acceptance ^b	2.57	.70	1.00	4.00
Coping using religion ^b	1.33	.52	1.00	2.50
Coping using self-blame ^b	1.97	.81	1.00	4.00
Coping using emotional processing ^b	2.40	.59	1.25	3.00
Coping using emotional expression ^b	2.18	.54	1.25	3.50
Daily stress	3.02	.52	2.00	4.00
Outcome measures				
Positive affect	2.77	.77	1.30	4.50
Negative affect	2.24	.72	1.00	3.60
Stress	2.38	.96	.00	3.60

^a Scale of 1-5; ^b Scale of 1-4; ^c Scale of 1-7

TABLE 2.2 Zero-Order Correlations Among Study Variables

Variable	1	2	3	4	5	6
1. Self-compassion		.837**	.323	.590	-.644**	-.351
2. Self-esteem			.578*	.741**	-.435	-.072
3. Functional social support				.691*	.051	-.038
4. Optimism					-.059	.041
5. Stress during preceding week						.566*
6. Threat appraisal						
7. Challenge appraisal						
8. Centrality appraisal						
9. Daily stress						
10. Baseline pos. affect						
11. Baseline neg. affect						
12. Outcome pos. affect						
13. Outcome neg. affect						
14. Stress at end of week						
15. Self-distraction						
16. Active coping						
17. Denial						
18. Substance use						
19. Using emotional support						
20. Using instrumental support						
21. Behavioral disengagement						
22. Venting						
23. Positive reframing						
24. Planning						
25. Humor						
26. Acceptance						
27. Religion						
28. Self-blame						
29. Emotional processing						
30. Emotional expression						
31. How negative/stressful this event was						
32. Importance of resolution						

Note. For each correlation, $N = 16$

* $p < .05$, ** $p < .01$

Variable	7	8	9	10	11	12
1. Self-compassion	-.578*	-.414	.358	.371	-.691**	.400
2. Self-esteem	-.489	-.218	.232	.360	-.579*	.200
3. Functional social support	-.098	-.440	-.331	.425	.065	.428
4. Optimism	-.338	-.145	-.214	.616*	-.504	.545
5. Stress during preceding week	.281	.313	-.547*	.101	.589*	.130
6. Threat appraisal	.419	.785**	-.536*	.069	.371	-.064
7. Challenge appraisal		.546*	-.440	-.033	.565*	-.090
8. Centrality appraisal			-.234	-.196	.173	-.381
9. Daily stress				-.248	-.409	-.231
10. Baseline pos. affect					.076	.800**
11. Baseline neg. affect						.011
12. Outcome pos. affect						
13. Outcome neg. affect						
14. Stress at end of week						
15. Self-distraction						
16. Active coping						
17. Denial						
18. Substance use						
19. Using emotional support						
20. Using instrumental support						
21. Behavioral disengagement						
22. Venting						
23. Positive reframing						
24. Planning						
25. Humor						
26. Acceptance						
27. Religion						
28. Self-blame						
29. Emotional processing						
30. Emotional expression						
31. How negative/stressful this event was						
32. Importance of resolution						

Note. For each correlation, $N = 16$

* $p < .05$, ** $p < .01$

Variable	13	14	15	16	17	18
1. Self-compassion	-.176	.076	.167	-.218	-.351	-.280
2. Self-esteem	-.066	-.034	.168	-.532*	-.412	-.306
3. Functional social support	.482	.082	.324	-.469	.095	.164
4. Optimism	.101	.249	-.026	-.486	-.405	-.208
5. Stress during preceding week	.812**	.440	.084	.074	.396	.190
6. Threat appraisal	.392	.502	.144	-.440	.438	.257
7. Challenge appraisal	.005	.031	.192	.157	.483	.210
8. Centrality appraisal	-.090	.043	-.086	-.107	.172	.094
9. Daily stress	-.524	-.676*	-.201	.213	-.685**	-.573*
10. Baseline pos. affect	.247	.149	.242	.090	.048	-.186
11. Baseline neg. affect	.498	-.062	.208	.179	.703**	.441
12. Outcome pos. affect	.327	.339	.347	.120	-.010	-.080
13. Outcome neg. affect		.901**	.556	-.309	.459	.516
14. Stress at end of week			.555	-.358	.526	.498
15. Self-distraction				-.318	.240	.212
16. Active coping					.017	-.250
17. Denial						.651**
18. Substance use						
19. Using emotional support						
20. Using instrumental support						
21. Behavioral disengagement						
22. Venting						
23. Positive reframing						
24. Planning						
25. Humor						
26. Acceptance						
27. Religion						
28. Self-blame						
29. Emotional processing						
30. Emotional expression						
31. How negative/stressful this event was						
32. Importance of resolution						

Note. For each correlation, $N = 16$

* $p < .05$, ** $p < .01$

Variable	19	20	21	22	23	24
1. Self-compassion	-.050	-.031	-.419	-.597*	.186	.085
2. Self-esteem	.157	.158	-.392	-.695**	.057	-.033
3. Functional social support	.410	.414	.056	-.129	.282	.042
4. Optimism	-.279	-.172	-.436	-.441	-.210	-.317
5. Stress during preceding week	.087	.046	.384	.451	-.282	-.160
6. Threat appraisal	.118	-.004	.553*	.305	-.228	-.293
7. Challenge appraisal	.229	.163	.572*	.575*	.367	.377
8. Centrality appraisal	-.281	-.407	.296	.159	-.192	-.058
9. Daily stress	-.196	-.259	-.712**	-.518*	-.124	.148
10. Baseline pos. affect	.160	.182	-.030	-.013	.264	.207
11. Baseline neg. affect	.441	.428	.628*	.837**	.203	.183
12. Outcome pos. affect	.145	.212	-.040	.160	.107	-.016
13. Outcome neg. affect	.661*	.616*	.298	.416	-.146	-.195
14. Stress at end of week	-.686*	-.716**	.402	.284	.093	.004
15. Self-distraction	.562*	.290	.274	.217	.169	.141
16. Active coping	-.153	.000	-.116	.170	.299	.575*
17. Denial	.393	.551*	.910**	.767**	.475	.219
18. Substance use	.087	.214	.549*	.433	.149	-.125
19. Using emotional support		.988**	.380	.463	.083	.035
20. Using instrumental support			.386	.551*	.307	.171
21. Behavioral disengagement				.707**	.401	.116
22. Venting					.237	.099
23. Positive reframing						.849**
24. Planning						
25. Humor						
26. Acceptance						
27. Religion						
28. Self-blame						
29. Emotional processing						
30. Emotional expression						
31. How negative/stressful this event was						
32. Importance of resolution						

Note. For each correlation, $N = 16$

* $p < .05$, ** $p < .01$

Variable	25	26	27	28	29	30
1. Self-compassion	.125	.371	.006	-.424	.022	-.020
2. Self-esteem	-.111	.168	-.050	-.562*	-.277	-.144
3. Functional social support	.302	-.085	.246	-.063	.017	.072
4. Optimism	-.011	-.281	.170	-.731*	-.280	-.185
5. Stress during preceding week	-.293	-.372	-.187	.197	-.035	.280
6. Threat appraisal	-.280	-.318	-.173	.103	-.400	-.109
7. Challenge appraisal	.281	-.233	.309	.433	-.104	-.096
8. Centrality appraisal	-.389	-.322	-.092	-.102	-.554*	-.445
9. Daily stress	-.266	.240	-.185	-.441	.064	.068
10. Baseline pos. affect	.383	.114	.101	-.127	.215	.322
11. Baseline neg. affect	.294	-.119	.144	.675**	.363	.398
12. Outcome pos. affect	.337	.083	.127	-.139	.375	.485
13. Outcome neg. affect	.044	-.203	.206	.229	.217	.500
14. Stress at end of week	.079	-.112	.146	.181	.047	.256
15. Self-distraction	.281	-.254	.000	.338	-.137	.372
16. Active coping	.152	.260	.037	.119	.418	.116
17. Denial	.442	.132	.162	.802**	.302	.122
18. Substance use	.456	-.137	.516*	.523*	.147	-.197
19. Using emotional support	.117	-.065	-.051	.501	.288	.723**
20. Using instrumental support	.373	-.019	.063	.496	.454	.545*
21. Behavioral disengagement	.289	.096	-.017	.815**	.123	.073
22. Venting	.324	.011	.128	.701**	.419	.412
23. Positive reframing	.655**	.498	.335	.431	.353	-.060
24. Planning	.396	.340	.206	.209	.197	-.057
25. Humor		.147	.628*	.515*	.475	.092
26. Acceptance			.081	.160	.664**	.248
27. Religion				.070	.348	-.137
28. Self-blame					.385	.301
29. Emotional processing						.611*
30. Emotional expression						
31. How negative/stressful this event was						
32. Importance of resolution						

Note. For each correlation, $N = 16$

* $p < .05$, ** $p < .01$

Variable	31	32
1. Self-compassion	-.508	-.539*
2. Self-esteem	-.124	-.340
3. Functional social support	.217	-.113
4. Optimism	.399	.073
5. Stress during preceding week	.435	.547*
6. Threat appraisal	.429	.428
7. Challenge appraisal	.372	.676**
8. Centrality appraisal	.356	.530*
9. Daily stress	-.459	-.243
10. Baseline pos. affect	.106	.080
11. Baseline neg. affect	.188	.301
12. Outcome pos. affect	-.051	.237
13. Outcome neg. affect	-.090	.131
14. Stress at end of week	.013	.061
15. Self-distraction	-.356	.037
16. Active coping	-.178	.175
17. Denial	-.010	-.038
18. Substance use	-.089	-.206
19. Using emotional support	-.087	.205
20. Using instrumental support	-.010	-.064
21. Behavioral disengagement	.148	.145
22. Venting	.079	.200
23. Positive reframing	-.170	-.168
24. Planning	-.214	.041
25. Humor	-.210	-.256
26. Acceptance	-.383	-.367
27. Religion	-.053	.012
28. Self-blame	-.156	-.064
29. Emotional processing	-.341	-.234
30. Emotional expression	-.266	.072
31. How negative/stressful this event was		.541*
32. Importance of resolution		

Note. For each correlation, $N = 16$

* $p < .05$, ** $p < .01$

TABLE 2.3 Hierarchical Regression Predicting Day One Stress

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.58	.58			
Self-esteem			.37	.65	.16
Functional social support			-.39	.47	-.24
Stress during the past week			-.31	.45	-.20
Optimism			-.18	.35	-.15
Step 2: Self-compassion	.59	.00			
Self-compassion			.13	.64	.06

Note. $N = 16$. ^a Semipartial correlation for the final model.

TABLE 2.4 Semipartial correlations between self-compassion and coping behaviors controlling for self-esteem, functional social support, and optimism

Variable	r_{sp}
Self-distraction	.15
Active coping	.87**
Denial	.05
Substance use	.19
Use of emotional support	-.16
Use of instrumental support	-.03
Behavioral disengagement	-.15
Venting	-.14
Positive reframing	.54
Planning	.56
Humor	.72*
Acceptance	.49
Religion	.52
Self-blame	.30
Emotional processing	.64 ^a
Emotional expression	.17

Note. $df = 6$. ^a $p < .10$, * $p < .05$, ** $p < .01$

TABLE 2.5 Hierarchical Regression Predicting Confidence in Ability to Handle Personal Problems

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.60	.60			
Self-esteem			-.27	-.19	-.08
Functional social support			-.32	-.25	-.14
Stress during the past week			-.59	-.40	-.27
Optimism			-.17	.20	.10
Step 2: Self-compassion	.66	.06			
Self-compassion			.74	.52	.23

Note. $N = 16$. ^a Semipartial correlation for the final model.

TABLE 2.6 Hierarchical Regression Predicting Positive Affect

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.82 ^b	.82			
Self-esteem			-1.60*	-1.12	-.47
Functional social support			-.40	-.30	-.15
Stress during the past week			.60	-.40	.26
Optimism			.63 ^b	.73	.36
Baseline positive affect			.55 ^b	.61	.38
Step 2: Self-compassion	.92*	.11 ^b			
Self-compassion			1.22 ^b	.86	.33

Note. $N = 16$. ^a Semipartial correlation for the final model.

^b $p < .10$, * $p < .05$, ** $p < .01$

TABLE 2.7 Hierarchical Regression Predicting Negative Affect

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.69	.69			
Self-esteem			-.65	-.44	-.16
Functional social support			.18	.14	.07
Stress during the past week			1.46 ^b	.95	.52
Optimism			.02	.02	.01
Baseline negative affect			.09	.08	.03
Step 2: Self-compassion	.79	.10			
Self-compassion			1.02	1.36	.31

Note. $N = 16$. ^a Semipartial correlation for the final model.

^b $p < .10$

TABLE 2.8 Hierarchical Regression Predicting Stress During Study Period

Predictor	R^2	ΔR^2	b	β	r_{sp}^a
Step 1: Control variables	.70 ^b	.70			
Self-esteem			-.18	-.16	-.07
Functional social support			.34	.34	.19
Stress during the past week			1.01*	.87	.59
Optimism			-.13	-.19	-.10
Step 2: Self-compassion					
Self-compassion	.79 ^b	.09	.71	.64	.29

Note. $N = 16$. ^a Semipartial correlation for the final model.

^b $p < .10$, * $p < .05$