

An Examination of Whether Hearing a Display of
Self-Compassion in Someone Else Impacts One's
Own Level of Self-Compassion

by

Kathryn Miller

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Authors Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Statement of Contributions

As the first author of this thesis I developed the research question, hypothesis and study design. I selected the measures to use in the study, and developed the initial iterations of the vignettes used in the experimental manipulation. I subsequently refined the vignettes with input from my supervisor Dr. Allison Kelly, and Dr. Paul Gilbert who, as an expert in self-compassion research, kindly agreed to review them and provide suggestions. I set up and managed the online study, and data collection, and subsequently collated and analyzed all of the data. I wrote first drafts of each part of the current thesis and again, revised them with input from Dr. Kelly.

To that end, Dr. Kelly played an important role in the development of both this study, and this document, helping me to hone the study design and vignettes, consulting on statistical analyses, providing tireless support, and productive feedback when reading the numerous drafts of this thesis.

Elizabeth Stephen, a research assistant, and Iulia Banica, an honors student also helped run the study and contributed valuable feedback on the study design and analyses.

Abstract

Self-compassion is the ability to be kind and understanding towards oneself in times of distress or failure (Neff, 2003a). Self-compassion in adulthood is linked to childhood experiences of care and compassion (Gilbert 2005), and is associated with a number of positive outcomes. Experimental studies show that self-compassion increases in response to explicit instruction (Leary et al., 2007); however, the implicit effect of one's current social interactions on self-compassion remains unknown. This study examined whether hearing someone talk self-compassionately about an academic failure would unconsciously increase the listener's self-compassion levels when recalling their own personal failure. Participants were 90 female undergraduates. In session 1, they completed the Rosenberg Self Esteem Scale (RSE; Rosenberg, 1965) and the Self-Compassion Scale (SCS) (Neff, 2003). In session 2, participants recalled a personal academic failure. They then listened to an audio clip of someone describing her academic failure in a self-compassionate, self-esteem preserving, or factual way. Participants subsequently completed measures of affect and state self-compassion vis-à-vis their failure. Results showed that controlling for trait self-compassion and self-esteem, there was a significant effect of condition on state self-compassion such that those in the self-compassion condition reported significantly higher state self-compassion compared to the other two conditions. There was also a main effect of condition on negative affect (NA). Contrasts revealed that controlling for pre-manipulation NA, those in the self-compassion condition had significantly lower NA after hearing the audio clip than those in the other two conditions. Findings are the first to indicate that exposure to another person's display of self-compassion has a significant effect on one's own self-compassion levels and affect. These findings also suggest that raising self-compassion may not require targeted individual interventions; rather, modeling self-compassionate behavior may be sufficient to quickly yield higher self-compassion in others. Additional implications and directions for future research are discussed.

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Table of Contents

Authors Declaration	ii
Statement of Contributions	iii
Abstract	iv
Acknowledgements	v
Table of Contents	vi
List of Figures	vii
Literature Review and General Introduction	1
Defining and introducing self-compassion	1
Harmful effects of self-criticism	2
Self-criticism and self-compassion according to Gilbert	3
Self-compassion in a non-clinical context	9
Interpersonal correlates of self-compassion	14
Possible causal mechanisms for self-compassion contagion	18
The Present Study	26
Self-compassion versus self-esteem	27
Self-compassion levels as varying and malleable.....	28
Self-compassion as contagious	29
Study objectives	30
Method	32
Overview of procedure	31
Participants	31
Measures	32
Procedure	36
Results	40
Manipulation check	39
Main analysis	40
Fear of self-compassion and self-criticism	41
Negative affect	41
Positive affect	42
Discussion	44
Implications and applications of the findings	43
Potential theoretical mechanisms.....	46
Limitations and future directions	47
Conclusions.....	49
References	51

List of Figures

<i>Figure 1:</i> Mean rating of how self-compassionate participants perceived the actress in the audio clip to be as a function of experimental condition.	64
<i>Figure 2:</i> Rating of how high in self-esteem participants' perceived the actress in the audio clip to be as a function of experimental condition.	65
<i>Figure 3:</i> Participants' mean estimated state self-compassion as a function of experimental condition.	66
<i>Figure 4:</i> Mean estimated post-clip negative affect, controlling for pre-clip levels, as a function of experimental condition.	67
<i>Figure 5:</i> Mean estimated post-clip positive affect, controlling for pre-clip levels as a function of experimental condition.	68

Literature Review and General Introduction

Defining and Introducing Self-Compassion

As humans we all experience failure and disappointment in life, whether it be a divorce, a failed test, an argument with a friend, or simply a stroke of bad luck. Self-compassion is the ability to be kind, compassionate and soothing towards oneself in such times of hardship (Neff, 2003). In essence, it is the ability to treat ourselves how we might treat a dear friend or loved one when they are struggling. Self-compassion is associated with a number of positive psychological outcomes, and research indicates that it has clinical utility in alleviating psychopathology (Gilbert & Proctor; 2006; Neff, 2004; Neff, Kirkpatrick & Rude 2007). There is nevertheless little to no research on the environmental and situational factors that might affect self-compassion. This review first examines the harmful effects of self-criticism and its role in the development of various psychopathologies. Self-compassion is then presented as both a protective factor and antidote for self-criticism. I outline various theoretical mechanisms underlying the ability to be self-compassionate and highlight the differences between self-compassion and self-esteem, noting the unique outcomes with which the former is associated. Finally, this review examines self-compassion from an interpersonal lens, and suggests that observing self-compassion in another individual might increase one's own level of self-compassion. I outline a number of potential mechanisms drawn from social psychology, neuropsychology, and evolutionary biopsychology that might contribute to this proposed self-compassion contagion. Finally, I present a manuscript that features results from a study investigating the effects of hearing a display of self-compassion on one's own level of self-compassion and affect.

Harmful Effects of Self-Criticism

Before outlining the tenants of self-compassion it is important to examine its antithesis, self-criticism. One of self-compassion's many proposed functions is to alleviate self-criticism (Gilbert, 2005), which both clinicians and researchers believe is particularly important, given the harmful correlates of being highly self-critical. Self-criticism is a personality trait characterized by harsh self-judgment and self-evaluation, excessively high standards for the self, and intense fear of failure and rejection (Blatt, 1995). There is a large body of literature indicating that self-criticism is associated with, and may be a vulnerability factor for developing, serious psychological disturbances. A number of studies have found that on average, those who are highly self-critical (i.e., "self-critics") experience a higher ratio of negative to positive affect within a given day (Mongrain & Zuroff, 1995; Zuroff, Stotland, Sweetman, Craig & Koestner, 1995). Such research complements the findings that self-critics tend to have more chronic mood disturbance (Santor & Patterson, 2004), are more likely to develop depression (Blatt & Zuroff, 1992), and furthermore, experience more severe depressive symptoms (Zuroff, Quinlan & Blatt, 1990). In addition, self-criticism mediates the relationship between childhood emotional abuse and both depressive symptoms and body dissatisfaction in individuals with binge eating disorder (Dunkley, Masheb, & Grilo, 2010). Individuals with bipolar II and cyclothymic disorder who are also high in self-criticism, experienced elevated symptoms when faced with positive and negative situational factors affecting their self-determination or self-criticism (Francis-Raniere, Alloy, & Abramson, 2006). Evidently self-criticism may play an important role in the development and exacerbation of a variety of serious psychological disorders, thus it is important to understand how self-criticism is thought to arise.

Blatt (1974) hypothesized that self-criticism stems from early childhood experiences of restrictive, critical, and overly controlling parents, leaving children unable to develop an autonomous and differentiated sense of self. Difficulties in creating and maintaining a distinct self-identity then lead to the intense fear of failure and rejection, excessive focus on goal attainment, and harsh self-judgment that characterize self-critics. Because self-criticism is typically a stable and deeply ingrained self-orientation, it is associated with poorer treatment outcomes for depressive symptoms, social functioning and overall clinical functioning in depressed individuals (Blatt, Quinlan, Pilkonis, and Shea 1995), and relapse is more likely to occur in highly self-critical depressed individuals (Teasdale & Cox, 2001; Zuroff & Blatt, 2002). As such, Blatt (1974) suggested that more prolonged therapeutic intervention is necessary to recalibrate self-critics towards a more forgiving and accepting view of themselves and their social world. Furthermore, Blatt stresses a strong therapeutic bond, through which the patient can assimilate the support and compassion of the therapist into their own self-attitudes. Indeed, reductions in self-criticism over the course of therapy is associated with better overall treatment outcomes (Hawley, Ho, Zuroff, & Blatt, 2006; Rector et al., 2000), thus understanding how to best alleviate self-criticism is critical to maximizing treatment outcomes in depression and other mental illness.

Self-Criticism and Self-Compassion According to Gilbert

Dr. Paul Gilbert has also written extensively on self-criticism as a transdiagnostic risk factor in psychopathology. He conceptualizes self-criticism as a dominant/submissive style of self-relating that arises from a social rank mentality (1989, 2005, 2007). Gilbert posits that humans have evolved different “social mentalities” or motivations to engage socially, all of which are driven by the fundamental need to feel safe and avoid threat, which should result in

greater chances of survival and gene transmission through reproduction. Different mentalities consist of specific coordinated neurological systems that work in concert to direct behaviors, emotions, attention, and cognitive processes to achieve the goals associated with that mentality. Such goals include seeking and providing care, climbing a social hierarchy, forming alliances and engaging in sexual conquest (Gilbert, 1989). Both compassion and self-compassion are thought to originate from the caregiving/care-seeking social mentality, which motivates individuals to respond with care and compassion to signs of distress, and conversely, to seek out and respond to signals of warmth and care. Self-criticism however, is thought to arise from a social rank mentality.

The social rank mentality motivates individuals to view the world as a social hierarchy, with those higher in the hierarchy exerting dominance and eliciting signals of submission and deference from those beneath them (Gilbert, 2000). This mentality recruits attentional and cognitive resources to sizing up and comparing potential rivals, resulting in hyperawareness to signals of social threat (Gilbert 2005). When an individual considers themselves dominant, lower ranked others are viewed as inferior, merely potential resources and tools to further one's ascension in the social ranks. Such a stance leaves little room for compassion in one's worldview, and may result in a critical and demanding orientation. Those who view themselves as low in the social hierarchy may see others as potentially threatening and exploitative, again, ensuring that one is too preoccupied with protecting themselves by avoiding, appeasing or submitting to dominant others to seek out or provide compassion. The type of mentality through which individuals tend to view the world is in part dependent on early childhood experiences of received care. Children who grow up in a critical, uncaring, competitive or otherwise threatening environments will likely view the world through a competitive/social rank mentality (Gilbert,

2000). These individuals are also much more likely to develop pathological levels of shame and self-criticism (Gilbert, 2006). Indeed, Thompson and Zuroff (1999) found that maternal coldness was related to higher self-criticism in the child, and other longitudinal research indicated that children whose parents reported extremely restrictive or rejecting parenting at age 5 were more self-critical at age 12 (Koestner, Zuroff, & Powers, 1991).

Gilbert (2000) argues that not only do we relate to others through various social mentalities, but we also relate to ourselves in these patterns. Self-criticism is a form of self-relating characterized by the same dominant/submissive pattern typical of a social rank mentality. A self-critical individual will act in both the dominant and submissive roles, demanding, attacking, and criticizing the self. A protective submissive response occurs in response to this internal attack, and negative feelings and reactions arise from this interchange, just as if one was subject to external bullying or attack. The emotions associated with the protective response are thought to originate from the threat affect regulation system.

Self-criticism and affect. Gilbert (2005) posits that self-criticism yields vulnerability to psychopathology, because the dominant/submissive pattern of self-relating stimulates the threat subcomponent of a neurologically-based affect regulation system. The affect regulation system is thought to have evolved in concert with the human attachment system and different subcomponents are activated when individuals invoke different social mentalities. The threat sub-system is modulated through serotonin transport, and is responsible for detection of threat, and seeking protection (Caspi & Moffitt, 2006). It is the system that gives rise to the fight or flight response and is responsible for generating types of negative affect intended to protect the self and minimize threat, including shame, anger, anxiety, and disgust, as well as behavioral responses (i.e., aggression, avoidance or submissiveness). When individuals constantly submit to

their own self-attacks, this threat system is chronically over-activated, and results in consistently high levels of negative affect and maladaptive behavior that are associated with the development and maintenance of depression or other psychopathology.

In fact, much of Gilbert's work has focused clinically on how developing a compassionate and caring self-orientation is critical in treating people with problematic shame and self-criticism. Gilbert noted clinically that such individuals often have a history of trauma, abuse, or lack of affection in their early life (Gilbert, 2009). These individuals also tend not to benefit from typical cognitive-based interventions, and despite being able to understand the maladaptive quality of their thought patterns and generate alternative thoughts, highly self-critical patients were unable to *feel* soothed by these alternate thoughts. Gilbert posited that this was due not only to an overactive threat system, but an inability to access a self-directed caregiving/seeking social mentality, and the associated feelings of safeness, soothing and peace to which this gives rise.

Self-compassion in a clinical context. In the same way that Gilbert conceptualized self-criticism as a social rank driven way of self-relating, he posited that self-compassion is a self-attitude arising from the caregiving/care seeking social mentality, such that when an individual perceives that they are suffering, they can extend themselves the warmth and care needed to alleviate their distress. The caregiving/seeking social mentality requires one to use emotions like empathy and concern and divert attentional and cognitive processes to discerning whether and how someone needs care (Gilbert, 2005). It also orients one to seeking, accepting and feeling soothed by the care and compassion offered by others. The accessibility of the caregiving/seeking social mentality is also fostered through early experiences of receiving care

and compassion from one's parents, caregivers, or peers, and stimulates the soothing subcomponent of the neurological affect regulation system (Gilbert, 2005).

The soothing system is modulated through the action of oxytocin/endorphins and is responsive to signals of warmth and care directed to the self (Gilbert, 2005; Kosfeld, Heinrichs, Zak, Frisbacher, & Fehr, 2005). It is responsible for feelings of soothing, contentment, social safeness, peacefulness and well being. Thus Gilbert views self-compassion as self directed caregiving and care receiving. When one is suffering they extend themselves care and compassion (similar to the type a friend or family member might offer) that the soothing affect system detects, subsequently leading to soothed, safe and content feelings. Feeling safe and soothed also results in down-regulation of the threat system (Kirsch, Esslinger, Chen, et al., 2005), and indeed, in an empirical investigation, those who were able to more clearly imagine a soothing and reassuring image tended to have lower trait self-criticism and depression (Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006). However, Gilbert asserts that individuals who develop pathological levels of self-criticism and psychopathology are unable to access the soothing system and its emotional benefits due to their overactive threat system. In the same imagery study Gilbert et al. (2006) found that individuals who could more readily and vividly imagine extremely hostile and self-critical images were higher in self-criticism and furthermore had an inhibited ability to generate warm and compassionate images.

Fear of self-compassion. In addition to being unable to self-soothe, Gilbert noted clinically that self-critics are often fearful of or resistant to employing self-compassion, due to feeling unworthy of compassion, fearing that it will lead to a lowering of personal standards, or "simply never considering the worth of self-compassion" (Gilbert, McEwan, Matos, & Rivis, 2011 pp 243). Indeed, Gilbert developed a measure of Fear of Self-Compassion and empirically

confirmed that it was significantly correlated with self-criticism, self-coldness and depression (Gilbert et al., 2011). Given the protective properties associated with being able to generate self-compassion, and the negative outcomes associated with being unable to do so, helping to resolve any fears or doubts people have around being self-compassionate, and subsequently teaching them to extend themselves compassion may be a primary line of defense against the maladaptive outcomes related to self-criticism.

Self-compassion interventions. Following the logic that self-compassion may help self-critical people learn to self-soothe and feel less threatened, Gilbert and Irons (2005) developed Compassion Focused Therapy, (CFT). According to Gilbert, at least six skills are necessary to deploy self-compassion. *Care for well-being* involves the motivation to be caring with the goal of alleviating distress and “facilitating the flourishing and development of the target of the caring” (Gilbert, 2009a, pp. 202). *Sensitivity* involves recognizing the feelings and needs of the target of caring (Gilbert, 2009a, pp. 202). *Sympathy* “involves being emotionally moved by the feelings and distress of the target of their caring” (Gilbert, 2009a, pp. 203). *Distress tolerance* involves “being able to contain, stay with and tolerate complex high levels of emotion, rather than avoid, fearfully divert from, close down, contradict, invalidate or deny them” (Gilbert, 2009a, pp. 203). *Empathy*, which is distinguishable from sympathy, requires effort to “understand the meanings, functions and origins of another person’s inner world so that one can see it from their point of view” (Gilbert, 2009a, pp. 203). When applied to the self, empathy involves being able to “stand back from and understand our own thoughts and feelings.” The final component, *non-judgement*, is “not condemning, criticizing, shaming, or rejecting” regardless of the preferences that one may or may not hold (Gilbert, 2009a, pp. 203).

CFT aims to confer these skills through techniques that include using a compassionate therapeutic style, and teaching the client to generate compassionate imagery, compassionate self-talk, and to engage in behaviours that are self-compassionate. These interventions are designed to increase the client's experiences of compassion from others, and teach them to generate compassion for the self by activating the social safeness/soothing system. Interventions that include CFT have yielded encouraging results, including increased capacity for depressed individuals to self-soothe (Gilbert & Irons 2004), decreased feelings of shame, depression, anxiety, and feelings of inferiority in patients with severe and chronic self-criticism (Gilbert & Proctor, 2006), and reduce daily smoking more quickly in individuals who are low in readiness to change and high in self-criticism (Kelly, Zuroff, & Foa, 2010). These encouraging results support Gilbert's assertion that self-compassion may be the answer to alleviating self-criticism and associated negative outcomes, and holds great promise as an intervention tool within a clinical context.

Self-Compassion in a Non-Clinical Context

Although Gilbert focused his extensive work on the importance of self-compassion as an antidote to self-criticism and psychopathology, self-compassion is also relevant in non-clinical populations. Kristin Neff is another of the earliest proponents of the construct and based her conceptualization of self-compassion in Buddhist philosophy, personality, and social psychology (Neff, 2003). Neff defined self-compassion as a three-component construct. Each component is comprised of a positive and negative aspect. The first component is self-kindness versus self-judgment, or the ability to be warm, soothing and kind to the self rather than harsh and self-critical. The second component is common humanity versus isolation, which is the ability to put one's own suffering in the context of the larger human condition and recognize that all people

suffer and experience disappointment rather than feeling alone and alienated because of one's trials. The third component is mindfulness versus over-identification, which allows one to be objective and accepting of one's flaws or failures and any ensuing emotional reactions, rather than become overwhelmed by these negative feelings. Neff created the Self-Compassion Scale (2003) based on these three components, and thus far it is the most widely used quantitative measure of self-compassion.

While traditionally conceptualized as a trait measure, studies have shown that self-compassion can fluctuate within a person. Findings from a diary study (Stephen & Kelly, 2015) indicated that approximately 40 percent of the variance in participants' self-compassion levels occurred at the within-persons level, revealing that self-compassion levels do fluctuate on a daily basis. Daily fluctuations in levels of self-compassion were also related to fluctuations in body-image and eating behaviors such that on days when participants were more self-compassionate than their personal mean level, they had better body image and less disordered eating. These findings suggest that within person shifts in self-compassion may be tied to important psychosocial changes for that person.

A growing number of studies have shown that not only do self-compassion levels naturally change on a daily basis, but intentionally inducing a self-compassionate mindset can affect momentary levels of self-compassion, as demonstrated by Leary and colleagues (2007). Self-compassion inductions have typically used writing tasks in which participants are instructed to write in a manner that reflects the components of self-compassion, i.e., "write a paragraph describing how other people may be experiencing similar failures" to elicit feelings of common humanity (Leary et al., 2007). Another method involves encouraging participants to view their failure in a self-compassionate way through verbal prompts (i.e., "Everyone eats unhealthily

sometimes, and everyone in this study eats this stuff, so I don't think there is any reason to feel really bad about it") (Adams & Leary, 2007). When prompted to either think or write about their failure in this self-compassionate way, people's state levels of self-compassion regarding that failure reliably increase (Adams & Leary, 2007; Allen & Leary, 2013; Leary et al., 2007) Thus, although self-compassion is somewhat stable across individuals, it appears that it can fluctuate on a daily and momentary basis. However, what situational factors may cause this type of change, aside from explicit instruction, are largely unknown. The current study therefore attempts to address this gap in the literature.

Self-compassion and self-esteem. Neff's interest in self-compassion arose in part from the possibility that self-compassion may be a more adaptive positive self-attitude than self-esteem. Although the two constructs are moderately correlated, typically showing Pearson (r) correlations between .5 and .6 (Leary et al., 2007; Neff, 2003; Neff et al., 2008), there are downsides to high self-esteem that self-compassion does not have, such as higher narcissism and increased aggression towards those who pose a threat to one's self-esteem (Baumeister, Smart & Boden, 1996; Neff, 2003, 2011). Indeed, given the correlation between self-compassion and self-esteem, the current investigation would be remiss in not reviewing and subsequently, through careful experimental design, comparing the two constructs, in order to determine outcomes that are unique to self-compassion, and those that are an artifact of relating positively to the self.

Much research has compared self-compassion and self-esteem, given that both are fundamentally positive ways of relating to the self; however, as Neff posited, there are important features that distinguish the two constructs. Self-esteem is one's level of self-worth, or how much one likes or values themselves (Rosenberg, 1965). Inherent in the assignment of worth or value is the need for comparison to either objective or subjective markers. Thus self-esteem can often be

based on how one compares, performs, or otherwise measures up against external or internal standards (Crocker & Park, 2004). Unlike self-compassion, self-esteem is linked to higher narcissism (Neff, 2003). Threats to self-esteem are often met with maladaptive coping responses and higher defensiveness in an effort to protect one's self-esteem (Beaumeister, Smart & Boden, 1996; Bushman & Beaumeister, 1998; Leary et al., 2007). Self-compassion is not contingent on meeting any comparison standard, and in fact, may be most important when one fails or disappoints themselves in a domain of personal importance. Self-compassion has been linked to more acceptance-based coping strategies, and greater willingness to accept responsibility for failure than self-esteem (Leary et al., 2007, Neff, 2003, Neff, Hseih, & DeJitterat, 2005).

Outcomes associated with self-compassion. Self-compassion has been shown to uniquely contribute to a number of positive outcome variables when self-esteem is controlled for, such as happiness, equanimity (emotional stability in the face of problems or pressure), optimism, and positive body image (Neff & Vonk, 2009; Wasyliw, MacKinnon, & McLellan 2011). It is negatively associated with rumination, anger, and negative social comparison when controlling for self-esteem (Leary et al., 2007; Neff & Vonk, 2009). Moreover, while self-esteem has previously been correlated with lower negative affect and rumination, this relationship becomes non-significant when accounting for the effect of self-compassion (Barnard & Curry, 2011).

Leary et al. (2007) conducted a set of studies that elucidated the differing effects of self-compassion and self-esteem on reactions to a personal failure. They had participants recall and describe an event from their past that involved feelings of personal failure, humiliation, or rejection. Participants were then randomly assigned to a self-esteem induction, self-compassion induction, or control condition. In the self-compassion and self-esteem induction conditions,

participants were given three different prompts to write about their failure in either a self-compassionate or self-esteem enhancing way. In the writing control condition participants were instructed to “really let go” and explore their deeper emotions when writing about the failure. Participants then had to rate how they were feeling. Participants who had been induced to write about their failure in a self-compassionate way reported lower levels of negative affect than those in the other conditions, while simultaneously taking more personal responsibility for the event. Evidently inducing a self-compassionate mindset allows people to take responsibility for their failure without becoming overwhelmed by distress in a way that self-esteem does not. Other studies support Leary et al.’s findings regarding induced self-compassion and state negative affect, such that writing about a personal failure in a self-compassionate way attenuated state negative affect (Johnson & O’Brien, 2013).

Trait levels of self-compassion and self-esteem also differentially influence negative affect. Indeed, self-compassion has shown moderating effects on the relationship between self-esteem and negative affect in the face of neutral evaluatory feedback. Leary and colleagues (2007) found that those who were low in self-esteem but high in self-compassion were less upset by, and more accepting of, neutral feedback than those who were low in both self-esteem and self-compassion. Thus it seems that self-compassion may be particularly useful in attenuating feelings of distress and defensiveness when one is unable to rely on self-esteem to feel better.

Self-compassion has been correlated with positive affect (Leary et al., 2007; Neff, Rude & Kirkpatrick, 2007), however there are fewer experimental studies confirming this relationship at a state level. In Leary and colleagues’ set of studies participants were required to watch a video of themselves doing an embarrassing task. Participants who were higher in self-compassion reported more positive emotions (happy, relaxed), and less negative emotions (nervous,

embarrassed) upon watching the video. Adams and Leary (2007) conducted a study looking at the effects of self-compassion on rigid and restrained eaters who had “broken” their diets. They found that when participants were encouraged to think about their food consumption in a self-compassionate way (reminding them that everyone breaks their diet sometimes and not to be too hard on themselves) they reported greater positive affect, and no increase in negative affect or distress, while those who did not receive this prompt reported decreased positive affect, and increased negative affect. It appears that being self-compassionate may preserve positive feelings even in the face of a failure or setback.

Interpersonal Correlates of Self-Compassion

The ultimate goal of this review is to highlight the possibility that current socio-contextual factors may affect an individual’s level of self-compassion. Although there is little research addressing this idea specifically, research on what factors affect the development self-compassion may provide important clues. As a self-focused attribute, self-compassion has only recently been looked at through an interpersonal lens, however research indicates that self-compassion is closely associated with interpersonal processes. Research shows that children of cold or rejecting parents tend to become more self-critical, which would suggest a lack of self-compassion. Indeed Irons, Gilbert, Baldwin, Baccus, and Palmer (2006) tested this hypothesis and found that recalled parental warmth was positively related to the ability to self-reassure, while recollections of parental rejection was related to feelings of inadequacy and self-criticism. Self-reassurance is related to self-compassion as both allow for the safe and soothing feelings necessary to alleviate distress (Gilbert et al., 2006). Neff and McGehee (2010) also found that recalled maternal support was positively correlated with self-compassion, while recalled maternal criticism was negatively correlated with self-compassion. Furthermore, secure parental

attachment (trusting that one's parents will support and care for you, and feeling safe and secure in one's familial world; Bowlby, 1988) was associated with greater self-compassion. This finding further supports Gilbert's theory that feeling socially safe and soothed in ones' relationships is important in stimulating self-compassion and that early experiences of compassion and rejection from others can play a large role in our own self-concept and our propensity to be compassionate towards, or reject ourselves.

Not only do interpersonal processes, such as attachment style and past experiences of receiving care, relate to self-compassion levels, but self-compassion is predictive of positive interpersonal orientations. Research shows that adults who are highly self-compassionate are higher in perspective-taking abilities, are more forgiving, show more compassion for humanity, have greater empathy and altruistic/helping intentions, and have more goals to be compassionate in their relationships (Crocker & Canevello, 2008; Neff & Pommier, 2013; Welp & Brown, 2013). However, the association between compassion for others and self-compassion was not found when using an undergraduate sample (Neff & Pommier, 2013), suggesting that the link between self-compassion and these positive interpersonal qualities may vary across demographic groups. Other research suggests that being self-compassion allows people to experience better personal outcomes in the face of interpersonal conflict. Yarnell and Neff (2013) found that participants who were higher in self-compassion reported using more compromise-based conflict resolution, better balancing the needs of themselves and the other individual. They also found that self-compassion was related to less reported emotional turmoil in the face of conflict, greater feelings of authenticity and greater relational well being.

Not only do people high in self-compassion experience less distress and use more effective conflict resolution strategies in the face of interpersonal stress, others also perceive

them as having more positive interpersonal skills and traits. Neff and Brevtas (2013) examined self-compassion in the context of romantic relationships and found that highly self-compassionate people were rated by their partners as more caring, emotionally connected, autonomy supporting, and less detached and controlling. Higher levels of self-compassion in Partner A was also related to higher ratings of relationship satisfaction in Partner B. Thus it appears that self-compassionate people may indeed have better relational outcomes.

In sum, it appears that interpersonal factors may have reciprocal associations with self-compassion: they account for variance in self-compassion, and self-compassion levels in turn account for variance in the quality and type of social interactions people have. Given the apparent link between various interpersonal processes and levels of self-compassion, it follows that certain types of social interactions and relationships might foster higher levels of self-compassion. As outlined below, I suggest that exposure to high levels of self-compassion in another person might increase one's own level of self-compassion.

Empirical support for interpersonal influences on intrapersonal variables. Although the idea of one person's self-compassion influencing another's has not been examined, there are a number of empirical studies that support the idea that levels of an intrapersonal variable in person A could influence levels of that same variable in person B. In one study, observing another person's self-criticism or self-approval following the performance of a task influenced the observer's own performance standards and subsequently their level of self-criticism and self-approval when performing the same task themselves (Marsten, 1965a). Body image, which is very much a personal construct, has been found to correlate between individuals in close relationships, such as mothers and daughters, married couples, and friendships (Badaly, 2013; Cooley, Toray, Wang & Valdez, 2006; Oh & Damhorst, 2009). Goldstein and Cialdini (2007)

proposed that we incorporate attributes we observe in that close individual into our own self-concepts. They examined these vicarious self-perception processes, and found that people tended to rate themselves as more altruistic, and behave more altruistically after observing someone to whom they had been made to feel similar behave altruistically. Other research suggests that this process of vicarious assimilation of intrapersonal attributes or behaviors can occur without live-action observation or feelings of similarity. Ackerman, Goldstein, Shapiro, and Bargh (2009) found that participants who read about someone exerting willpower showed increased self-control, sustained attention and motivation, performed better in a subsequent lexical generation task. Merely reading about a fictional individual exerting self-control was influential in increasing what researchers conceptualized as participants' cognitive self-control.

Similarity effects, whereby individuals with similar attitudes and beliefs tend to affiliate with each other, have been well documented over time; however, the possibility of an individual's self-compassion levels actually influencing another's has yet to be explored. In the same study looking at relationship outcomes and self-compassion, Neff and Brevetas (2013) found a correlation of self-compassion levels between romantic partners. As this was not a longitudinal study it is unknown whether this finding was a result of people with similar ways of self-relating being drawn to each other (a classic similarity effect), or whether partners' individual levels of self-compassion actually influenced each other over time. Despite the lack of research examining this idea of "self-compassion contagion," there is ample empirical evidence to suggest that intrapersonal variables can have interpersonal effects on those same variables in others.

The idea that self-compassion levels in one person may influence self-compassion levels in another makes sense on an intuitive level. One need only think of relationships we observe and

participate in in everyday life to see how this phenomenon might occur. If you are having a conversation with friends who start engaging in critical self-talk about their bodies or weight, you may find yourself suddenly becoming very critical or ashamed of your own weight or shape. Conversely, spending time with someone who preaches self-love and acceptance of their figure may make your own body flaws and insecurities seem less salient. Although the idea of this self-compassion transfer is novel, there is a large body of literature that suggests that people do not simply affiliate with people who are already similar to them, but learn new behaviors, standards, and self-attitudes from those they interact with. The following section reviews this literature, and simultaneously presents some of the better-established theories on the mechanisms that drive interpersonal influences on learning and behavior.

Possible Causal Mechanisms for Self-Compassion Contagion

Social learning theory. As the idea of self-compassion transference has not yet been examined, the causal mechanisms behind such a phenomenon can only be hypothesized. From a basic social learning theory standpoint, Bandura (1971) proposed that humans are prone to modeling those around them. According to Bandura's social learning theory the process of learning is a function of differential response reinforcement. Essentially the process of differential response reinforcement occurs when an individual encounters a novel situation and there are a number of ways in which they could respond. Bandura posited that people will initially try out a response, and the likelihood of them repeating that response in a similar situation and incorporating it into their repertoire of behavior depends on the punishing or reinforcing consequences of performing that behavior. For example, the probability of a child throwing temper tantrums to get something they want will depend on whether they are initially

reinforced for the behaviour by getting what they want, or whether they are punished with a time-out or reprimand instead.

Bandura also distinguished between direct learning by personally performing a behavior, and observational learning, where one observes someone else performing a behavior and then experiencing punishment or reinforcing consequences. The latter method is considered a much more efficient and safe way of learning than constantly using trial and error, and indeed appears to be the way that many vital social constructs are perpetuated. Language, religion, morals, education, and other cultural idiosyncrasies are mainly transmitted via observational learning (Cowan, Langer, Heavenrich, & Nathanson, 1969; Rosenthal & Whitebrook, 1970; Rosenthal, Zimmerman & Durning, 1970). Research indicates that people are also influenced by media representations of behavior, including learning new physical actions, and notably, emotional responses from filmed and televised models (Bandura, Grusec, & Menlove, 1966, Flanders, 1968, Lumsdaine, 1961), and that the learning process is the same regardless of the modality of transmission (verbal, pictorial, real-life action).

Bandura theorized that learning occurs through modeling via four subprocesses. The attentional sub processes is necessary, as one must attend to and process the elements of the target behavior. One must then retain the information they have just gathered regarding the components of the behavior in memory, which is typically done through verbal and/or imaginal consolidation. One must then use motor-based subprocesses to organize motor skills in reproducing the behavior. Lastly, motivational and reinforcement processes will determine whether the target behavior will actually be displayed or not. If one observes reinforcement following the performance of the target behavior, the observer will be motivated to apply the

newly learned behavior in their own life, and less likely to do so if they observe negative consequences following the behavior.

While social psychologists initially theorized that learning cannot occur without conscious awareness of the link between the behavior and the reinforcement (i.e., people will not reliably produce a response unless they consciously realize that that particular behavior is what is causing the positive consequences) (Dulany, 1962, 1968; Spielberger & De Nike, 1966,), subsequent studies have shown that learning does not always have to be consciously mediated. Studies in which the action-outcome relationship is not observable to the person performing the behavior, indicate that learning occurs, even when the reinforcement is occurring outside of awareness (Hefferline, Keenan & Harford, 1959; Hefferline & Keenan, 1963; Kennedy, 1970, 1971; Sasmor, 1966). There is a subset of research that shows that vicarious emotional learning occurs when strong emotions are observed in others. Bandura, Blanchard & Ritter (1969) found that both affective and behavioural fear reactions were most effectively reduced in those with snake phobia when modeling was used, rather than having the participant engage in deep relaxation followed by imagining a hierarchy of interactions with a snake. Craig and Weinstein (1965) measured the galvanic skin response (GSR) of participants and found that after watching an experimental confederate repeatedly receive electric shocks for “failing” a task there was an increase in GSR, indicating a vicarious effect on the observers’ emotional arousal. In fact studies show that when observers witnessed a confederate being repeatedly shocked following an auditory tone the observer eventually began to exhibit emotional responses to the tone alone even when it ceased to be paired with a shock (Berger, 1962). Thus the observers had learned to anticipate and react to the negative consequences of the tone. In sum, it appears that people learn

effectively from watching or receiving external reinforcement or negative consequences of behavior.

However, the idea of learning via negative and positive external consequences fails to explain why and how learning and continued performance of a behavior occurs in the absence of external consequences, or indeed in the face of negative external consequences. Self-reinforcement processes are when people evaluate their own actions, behaviors, and attitudes, and either provide themselves with reinforcement (self-encouragement, pride, self-respect) or punishment (self-criticism, self-contempt disappointment etc.). These self-reinforcement systems are thought to develop in a number of ways, some through external feedback. For example, a history of receiving praise after performing a certain behavior can lead to feelings of pride and personal valuing of that behavior, even when others are not around to witness the behavior. Systems of self-reinforcement can also be influenced via modeling. Studies show that children who observe an adult model lenient self-directed standards for achievement reward themselves more liberally and demonstrated higher self-approval for lower achievement than children who observe an adult demonstrate higher self-directed standards for achievement (Bandura & Kupers, 1964; Bandura & Whalen, 1966;). In an experimental design Marston (1965a) had participants watch a confederate perform a task for which the confederate then either rewarded themselves for their performance either lavishly, or sparingly. Participants who saw someone reward themselves for unexceptional performance matched this lenient performance standard for self-reward when subsequently performing the same task. Those who saw someone exact a very high standard of performance before rewarding themselves matched this threshold in their own self-reinforcement when performing the task. Thus it appears that the development of values, attitudes, and indeed self-concept can be influenced through modeling and interpersonal

processes, and that the deployment of a certain action, emotion or other behavior is controlled by self-reinforcement processes.

One can see how the research on observational learning and self-reinforcement, particularly the latter, may apply to the idea of self-compassion contagion. Being self-compassionate is correlated with a number of positive emotional and practical outcomes, including lower anxiety, distress and depression, and greater positive affect, better coping skills, higher motivation to achieve and better interpersonal outcomes. Given that people tend to adopt standards of self-evaluation from modeled displays (e.g., Bandura & Kupers; 1964; Bandura & Whelan, 1966; Marston, 1965a), it stands to reason that when individuals model self-compassionate self-evaluation, an observer would witness the positive reinforcing consequences of being self-compassionate, such as decreases in distress, anxiety and negative affect, and increases in positive affect and life satisfaction, and incorporate self-compassion into their own self-attitudes to reap the same benefits. The interpersonal benefits associated with being self-compassionate might also be visible and reinforcing. Seeing that those who are self-compassionate are viewed as more caring, supportive, and have higher relationship satisfaction (Neff & Berentzen, 2013) and are able to solve conflict more effectively (Yarnell & Neff, 2013) could also serve as strong vicarious reinforcement for engaging in self-compassion.

Another reason self-reinforcement might occur in interactions with self-compassionate individuals is that these individuals show that they value being self-compassionate. An observer or interaction partner may then come to see self-compassion as a valuable attribute and become self-motivated to practice self-compassion. Indeed self-compassionate people may subtly reinforce, or pull for self-compassionate behavior in those around them. Allen, Barton, and Stevenson (2015) had participants imagine themselves letting someone else down, and having

someone else let them down. They then had to rate how much they would want their transgressor to say either self-compassionate or self-critical statements in response to their transgression. They found that those higher in self-compassion express more self-compassionate statements following their own transgression. Interestingly, people who were higher in self-compassion also indicated that they would prefer their transgressor to be self-compassionate regarding their offence, rather than self-critical, whereas those low in self-compassion preferred a self-critical response from the individual who offended them. Evidently people who are self-compassionate desire to see others act self-compassionately as well. It follows from these results that self-compassionate people might encourage or reward self-compassionate behavior either explicitly (“You’ll feel better if you don’t beat yourself up about this; keep in mind, everyone makes mistakes”), through non-verbal facial expressions and body language, i.e., nodding or smiling encouragingly when someone displays self-compassion, or simply through being more engaged, attentive and warm when someone shows self-compassion.

It seems that self-compassionate people could elicit self-compassion from others through modeling the positive consequences of being self-compassionate, as well as demonstrating that it is a desirable attitude that one should strive for. Thus being around self-compassionate others could aid in establishing self-compassion as a self-reinforced process. When individuals demonstrate that self-compassion is a positive and desired attitude and consistently reinforce it in those around them, then those with whom they interact will also come to value it as a desirable way of self-relating and become motivated to be self-compassionate even in the absence of external reinforcement.

Simulation theory. Simulation theory offers another possible explanation for how self-compassion in one person may influence self-compassion levels in another. The theory postulates

that people observe the mental and physical states of others and create their own mental simulation of these states. This internal representation stimulates the observer's neural pathways as if they themselves were in that particular mental or physical state (Gallese, Eagle & Mignone, 2006). Evidence has shown that when people observe others performing actions, the neural pathways responsible for coordinating movement of that body part fire (Buccino et al., 2001; Fadiga, Fogassi, Pavesi, & Rizzolatti, 1995), and that this mental representation allows observers to infer the intention or goal of the action (Fogassi et al., 2005). It appears that this "mirroring" phenomena is multi-modal. Hearing an action sound, such as a peanut being cracked open can trigger the areas of the brain that would fire during such an action. Simply hearing a description of a hand or foot movement triggered activation in the respective motor areas of the left hemisphere (Buccino et al., 2005). It appears that processing language related to actions also activates parts of the motor cortex related to the particular action being described. Even displays of emotion are subject to this simulation process. Research shows that when witnessing a display of emotion, the sensorimotor system simulates the same bodily and mental processes as if one was actually experiencing the emotional state themselves. An fMRI study showed that when both experiencing and witnessing a display of disgust the same brain area, the anterior insula, was activated (Wicker et al., 2003). Researchers argue that this type of simulation has direct links to the formulation of imitation, understanding, and empathy for others (Iacoboni, 2009).

Simulation theory may also help explain the neurological processes that contextualize Gilbert's theorizing. Gilbert's (1989, 2000, 2005) theories contend that the ability to be self-compassionate and self-soothing arises from an evolved neurological system that co-ordinates our attention, cognition, emotions and behaviour to both provide and seek care. When one relates to themselves, or others relate to them from this care-oriented mentality, feelings of safeness,

soothing and contentment arise within the person. Simulation theory would suggest that witnessing someone behave self-compassionately activates the same neural pathways involved in the caregiving/seeking mentality that would be used if one were to act self-compassionately themselves. Simulating a caregiving/seeking mentality would require activating the requisite neural pathways of that mentality and would subsequently give rise to an internal state of self-compassion and the feelings of safeness and soothing associated with such a state. Thus it may be that self-compassion contagion is a very implicit automatic process borne of the human propensity to simulate both the external and internal states of others around them.

Summary

It appears that both empirical and theoretical research indirectly support the idea of self-compassion contagion. Theoretical literature suggests that people learn new attitudes, behaviors, and even new ways of self-relating through interpersonal means. Empirical research shows that intrapersonal variables can influence that same intrapersonal variable in other people. The current study will extend such research to self-compassion, and is the first investigation to directly test the hypothesis that self-compassion in one individual may influence self-compassion levels in another.

The Present Study

Although a relatively new concept in the field of psychology, self-compassion is a construct that has received much attention in recent years. Fundamentally, self-compassion is the ability to extend ourselves care and compassion in the face of personal failure or distress (Neff, 2003). Just as one might soothe and support a close friend who is struggling, self-compassion involves approaching oneself with this same warm and reassuring mindset in times of hardship.

One of the primary reasons self-compassion has garnered a great deal of research and clinical interest is its capacity to combat self-criticism. Self-criticism is a personality trait characterized by extremely high self-standards, negative self-judgment, and fear of rejection or failure (Blatt, 1995). Interestingly, individuals high in self-criticism report a high fear of self-compassion, meaning they are generally fearful of, or resistant to, treating themselves compassionately. Fear of self-compassion may result from beliefs that one is unworthy of self-compassion, that self-compassion may lead to a lowering of personal standards, or simply apprehension about the utility in being self-compassionate (Gilbert, et al., 2011). Self-criticism and fear of self-compassion have been consistently linked to a number of maladaptive outcomes including increased vulnerability to depression, alexithymia, anxiety and other forms of psychopathology (Blatt & Zuroff, 1992; Gilbert, 2006; Gilbert et al., 2012; Kelly, Carter, Zuroff, & Borairi, 2013).

Gilbert and colleagues posited that self-compassion is an optimal antidote to self-criticism because it addresses self-critical individuals' inability to self-soothe, a deficit known to maintain their vulnerability to psychopathology (Gilbert, 2005; Gilbert, et al., 2006). Indeed, individuals who are more able to generate warm/compassionate imagery tend to be lower in self-criticism and depressive symptoms (Gilbert et al., 2006). According to Gilbert (2005), self-compassion

involves a self-directed exchange of caregiving and care seeking, whereby one extends themselves care and compassion and subsequently accepts this care. This process leads to feelings of safeness, warmth, and reassurance, which serve to down regulate feelings of threat, which are chronically high in self-critical individuals (Kirsch et al., 2005; Gilbert, 2005). Clinical interventions designed to increase self-compassion and lower fear of self-compassion have shown promising results and point to self-compassion's utility in alleviating psychopathology associated with self-criticism (Gilbert et al., 2012; Gilbert & Irons, 2004; Gilbert & Proctor, 2006; Kelly, et al., 2010).

Self-Compassion versus Self-Esteem

Researchers have also become interested in self-compassion because it seems to be a form of positive self-relating that avoids the pitfalls of self-esteem. Dr. Kristin Neff's definition and measure of self-compassion have inspired much of the research on self-compassion from this social psychological perspective. Neff (2003) conceptualized self-compassion as involving three components, each comprised of a positive and negative aspect. Self-kindness versus self-judgment is the ability to treat oneself with warmth and kindness rather than negative judgment. Common humanity versus isolation is the ability to view one's suffering in the context of the human condition and feel a sense of kinship knowing that everyone struggles, rather than feeling alone and isolated in one's hardship. Finally, mindfulness versus over-identification is the ability to view one's distress in an accepting, objective way rather than being overcome by one's emotions (Neff, 2003).

Although self-compassion and self-esteem are both forms of positive self-regard and correlate moderately with one another, they are distinguishable constructs with important differences. Self-esteem refers to how much someone values themselves, and often relies on

comparisons against either internal or external standards (Crocker & Wolfe, 2001; Rosenberg, 1965). Self-compassion, by contrast, has no evaluative component; it refers to how much one cares for oneself and may be most useful when self-esteem fails. For example, Leary and colleagues (2007) found that self-compassion attenuated negative affect following ambivalent feedback especially if individuals had low self-esteem. Numerous studies also show that when controlling for self-esteem, self-compassion contributes unique variance to markers of psychological wellbeing previously attributed solely to self-esteem such as happiness, equanimity, and optimism (Barnard & Curry, 2011). Additionally, self-esteem is correlated with narcissism, higher defensiveness, and increased aggression in the face of ego threat (Baumeister et al., 1996; Leary et al., 2007; Neff, 2003a, 2005). Self-compassion is not correlated with narcissism or aggression, and indeed is associated with lower defensiveness and a greater ability to take personal responsibility for one's failures (Leary et al., 2007; Neff, 2003).

Self-compassion Levels as Varying and Malleable

While traditionally considered a personality-level variable, studies have shown that self-compassion can fluctuate within a person on a day to day basis, and that a self-compassionate mindset can be induced by explicit instruction (Adams & Leary, 2007; Brienes & Chen, 2012; Leary et al., 2007; Stephen & Kelly, 2015). Experimental studies have shown that inducing self-compassion leads to attenuated negative affect and preserves positive affect (Adams & Leary, 2007; Johnson & O'Brien, 2013; Leary et al., 2007). Furthermore, day-to-day changes in self-compassion have been linked to corresponding changes in body image and eating behaviour (Breines, Toole, & Chen, 2014; Stephen & Kelly, 2015). Thus self-compassion levels can vary within a given person, and these fluctuations may have meaningful consequences.

Although levels of self-compassion appear to be malleable, little is known about what current situational factors might affect levels of self-compassion. Theoretical and empirical research suggests that early childhood experiences of receiving compassion and care from others are associated with higher levels of self-compassion in adulthood (Gilbert, 2000; Koestner, et al., 1991; Thompson & Zuroff, 1999). It would therefore seem possible that present-day interpersonal processes and interactions may influence an individual's level of self-compassion. We suggest that one such interpersonal factor may be the level of self-compassion displayed by one's interaction partner.

Self-Compassion as Contagious?

There is ample empirical evidence that an *intrapersonal* variable in one person can have *interpersonal* effects on levels of that same variable in others. Correlational studies have shown that body image, an intrapersonal variable, correlates across romantic partners, friends, and mother/daughter dyads (Badaly, 2013; Kichler, & Crowther, 2009; Oh & Damhorst, 2009). Experimental studies have also found that this proposed interpersonal contagion can occur even in the absence of close personal connection and interaction. Ackerman, et al., (2009) found that participants who read about someone exerting willpower subsequently exerted more willpower in the form of cognitive control, attention and better performance in a lexical generation task. Another study found that individuals who observed someone reward themselves lavishly for a mediocre performance displayed lower standards for self-approval and self-reward when completing the same task themselves (Marsten, 1965). Thus it appears that the way individuals relate to themselves, the values, and standards they hold, and the way they behave may indeed be affected by those same attributes in others, suggesting that self-compassion, too, might be “contagious.”

Neff and Brevetas (2013) conducted a study whose findings are consistent with this idea of self-compassion contagion. In studying the relationship outcomes associated with being self-compassionate, they found a positive correlation between the self-compassion levels of romantic partners. Because this was not a longitudinal study, it was unclear whether this finding resulted from a similarity effect, whereby those who are already similar on certain traits will tend to seek each other out, or whether partners' levels of self-compassion grew more similar over time. Social Learning Theory could explain the latter possibility: observing the rewards one's partner derives from being self-compassionate (e.g., higher wellbeing, more adaptive coping with failure) might motivate the less self-compassionate partner to adopt a more self-compassionate disposition themselves. However, because Neff and Brevetas' study was not experimental, it is impossible to know whether exposure to high self-compassion in an interaction partner causes higher self-compassion in oneself. It is this limitation that the current study seeks to address.

Study Objectives

The present study sought to test the novel idea that self-compassion may be contagious across individuals. Given that self-compassion is malleable and may combat self-criticism and promote better mental and physical health (Terry & Leary, 2011), it would be useful to know whether features of one's present interpersonal context – namely, the self-compassion levels of others – influence one's level of self-compassion. As a first step toward exploring this idea, we examined whether hearing someone respond to a failure self-compassionately would increase the listener's level of self-compassion vis-a-vis a personal failure. We also examined whether the listener would experience less negative affect and more positive affect after hearing this self-compassionate display in another person. To ensure that any observed effects of hearing a self-compassionate display were unique to self-compassion and not a result of hearing someone

display positive self-regard, we included a comparison condition in which participants heard someone describe a failure in a self-esteem-enhancing way. We also included a control condition in which someone spoke about a failure neutrally and factually.

Our primary hypothesis was that after recalling a personal academic failure, hearing another person's self-compassionate account of their failure would yield 1a) higher state self-compassion in the listener and 1b) that the listener's trait level of fear of self-compassion and self-criticism would attenuate the contagion effect such that listeners who were higher in fear of self-compassion and higher in self-criticism would show lower state self-compassion after hearing a self-compassionate description of a failure. Our second hypothesis was that hearing another person's self-compassionate account of their failure would lead to lower negative affect in the listener compared to hearing a self-esteem-enhancing or neutral account. Our third hypothesis was that that hearing a self-compassionate or self-esteem-boosting description would yield higher positive affect than hearing a neutral description, given that both self-compassion and self-esteem are positive forms of self-relating.

Method

Overview of the Procedure

The current study was comprised of two online sessions completed one week apart. The first session consisted of self-report measures assessing trait variables that would subsequently serve as covariates or moderator variables in analyses. The second session was administered one week after the first and included the experimental manipulation. During the second session affect was measured before and after recalling a personal failure. Participants then listened to an audio clip of someone describing a personal academic failure in a self-compassionate, self-esteem enhancing, or neutral way. After listening to the audio clip, participants first filled out a measure of affect, then wrote a description of their own recalled academic failure, and finally completed measures of state self-compassion and state self-esteem.

Participants

Female undergraduate university students were recruited via an online research participant pool at a large Canadian university. They participated in study for one credit toward a psychology course. Feelings of similarity and identification have been shown to influence emotional contagion (Goldstein & Cialdini, 2007), therefore the study was restricted to female participants to control for effects of similarity or identification that the participant might feel for the individual in the audio clip (i.e., women may automatically feel more similar to a woman in the audio clip and vice versa for men). Research has also shown that women have lower levels of self-compassion than men (Yarnell et al., 2015), thus any increases in self-compassion that resulted from participation in this study may be more beneficial for women than men.

The initial recruited sample consisted of 210 participants, and of these 91 did not complete the second online session in which the experimental manipulation occurred. As the participants were not assigned to an experimental condition until the second session it can be assumed that attrition did not occur in response to their assigned condition. The final sample consisted of 119 female undergraduates with a mean age of 20.66 (SD=2.68). Ethnic composition was 55 Caucasian (46.2%), 48 Asian (40.3%), two Middle Eastern (1.7%), three Black (2.5%), two West Indian (1.7%), six who indicated “other” ethnic group (5%), and three (2.5%) who declined to identify their ethnicity.

Measures

Trait measures. The Self-Compassion Scale (SCS; Neff, 2003) is a 26-item scale designed to measure how compassionately people treat themselves in times of failure or distress. The scale consists of three components –self-kindness vs. self-judgment, common humanity vs. isolation, and mindfulness vs. over-identification. Items are thought to comprise six subscales, which reflect the positive and negative aspects of each component, and all items together are thought to form a hierarchical self-compassion factor (Neff, 2003). Items reflecting self-kindness vs. self judgment respectively include “When I am going through a hard time I try to give myself the caring and tenderness I need” and “When I fail at something important to me I become consumed by feelings of inadequacy”. Items reflecting common humanity vs. isolation respectively include “When I feel inadequate in some way I try to remind myself that feelings of inadequacy are shared by most people” and “When I fail at something that is important to me I tend to feel alone in my failure”. Items reflecting mindfulness vs. over-identification respectively include “ When I fail at something important to me I try and take a balanced view of the situation” and “When I’m feeling down I tend to obsess and fixate on everything that is wrong”.

Items are rated on a Likert scale from one to five. A total self-compassion score is obtained by taking the mean of the all items with the negative items reverse-coded. The SCS has good convergent and discriminant validity and correlates with measures of psychological well-being such as higher life satisfaction and lower depression and anxiety (Neff, 2003; Neff et al., 2007; Neff & Vonk, 2009). Cronbach's alpha was .94 in the current sample.

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is one of the most commonly used measures of how much one values or likes oneself. It is a 10-item Likert scale that measures dispositional self-esteem by rating items such as "On the whole I am satisfied with myself" or "At times I think I am no good at all" from one to five. The RSE demonstrates good internal reliability and validity (Rosenberg, 1965). Cronbach's alpha was .93 in the present sample.

Fear of self-compassion was measured using the Fear of Compassion for Self section of the three-section Fear of Compassion Scale (Gilbert, McEwan, Matos & Rivis, 2011). This section of the scale consists of 15 items and measures how fearful people are at expressing kindness and compassion toward themselves. Items are rated on a Likert scale from zero to four, with statements such as "I feel like I don't deserve to be kind and forgiving to myself" and "I fear that if I am more self-compassionate I will become a weak person". This scale was validated using students and therapists and typically has good internal consistency (Cronbach's between 0.86 and 0.92) (Gilbert et al., 2011). The Cronbach's in this sample was .95.

Trait self-criticism was measured using the Forms of Self-Criticism/Attacking and Self-Reassurance Scale (FSCRS; Gilbert, Clark, Hempel, Miles & Irons, 2004). This 22 item scale measures people's tendency to be self-critical and ability to self-reassure. Items are rated on a Likert scale from zero to four. There are two components that reflect self-criticism: Inadequate Self, which reflects feelings of personal insufficiency (i.e., 'I am easily disappointed with

myself”), and Hated Self, which reflects a desire to hurt or cause pain to the self (i.e., ‘I have become so angry with myself I want to hurt or injure myself”). The items from these two subscales are generally highly correlated, ($r=.65, p<.001$) in the current study, and thus were summed to generate a composite self-criticism score. The Cronbach’s alpha in the present sample for this score was .93.

State measures. The Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) comprises two 10 item scales that measured state positive affect (PA) and negative affect (NA) respectively. Items are rated on a Likert scale from one to four. The PANAS was administered at the beginning of the second online session to assess participants’ baseline state affect. It was then administered again after participants recalled an academic failure. These first two administrations were part of a manipulation check to assess whether people were actually becoming distressed by the recollection of their failures. Finally, the PANAS was administered immediately after listening to the audio clips to see if the listening to the different audio clips produced differences in PA or NA. In the current sample, at baseline, Cronbach’s alpha for PA and NA were both .91 and the positive and negative scales were uncorrelated ($r=.04, p=.69$).

State self-compassion was measured post-manipulation using an adapted version of the SCS modified by Breines and Chen (2013). They modified the 26-item SCS to assess state self-compassion regarding a specific failure, and shortened the scale to 16 items, as many of the original items designed to measure trait self-compassion did not apply to recalling a specific failure. Participants were instructed to respond to the items based on their current reaction to a recalled personal failure i.e., “I am trying to take a balanced view of the situation” and “I am trying to be kind and reassuring to myself”. Cronbach’s alpha was .91.

State self-esteem was measured post-manipulation by administering a state version of the RSE that instructed participants to respond according to their feelings in the current moment, rather than how they generally feel about themselves. Cronbach's alpha was .93.

Manipulation check measures. In order to assess whether the self-compassion and self-esteem vignettes were accurately conveying their respective constructs the short form of the Self-Compassion Scale (SCS-SF; Raes, Pommier, Neff & Van-Gucht, 2011) and the RSE scales were reworded to instruct participants to rate the person in the audio clip on self-compassion and self-esteem. Items included “When something upsets them they try and keep their emotions in balance” and “They wish they could have more respect for themselves”. These measures were administered as a manipulation check at the very end of the study after participants had listened to the audio clip, written about their failure, and completed self-report measures of their own affect, state self-compassion and state self-esteem.

Two single-item measures were also included to ensure the validity of the results. Participant engagement was measured by asking participants to rate from 0 to 100 how engaged they were while completing the study and rating on a scale from one to four how much attention they paid to the audio clip.

Procedure

In order to test our hypothesis that self-compassion would be contagious, we felt it would be important for participants to be unaware of the main study objective. As such, partial disclosure was required. The description posted on the online research participation pool and the information consent letter stated that this study was investigating “how university students cope with academic failure.”

Participants completed two online sessions one week apart. The first session was accessed through a link to a Qualtrics survey via the online participant pool. Participants completed this online session by filling out trait measures of self-compassion, self-esteem, fear of self-compassion, and self-criticism. At the end of that session they were informed that in one week they would be emailed the link to access the second session. They were given 48 hours in which to complete this portion of the study once they had received the link.

The second online session started by measuring baseline affect. Participants were then instructed to bring to mind a recent academic failure or negative academic experience. In order to encourage participants to thoroughly visualize their failure, they were given one minute to recall this memory, and were unable to move on to the next page of the study until the full minute had elapsed. After the minute of recall, affect was measured again. Following the recall was the experimental manipulation in which participants were randomly assigned to listen to an audio clip of a female voice describing a personal academic failure she had recently experienced in either a self-compassionate way, a self-esteem preserving way, or a factual and objective way. Prior to hearing the clip participants were told that they would soon be writing about their own academic failure and that the purpose of the clip was to demonstrate the amount of detail to include in their own description.

Experimental manipulation. The three potential audio clips followed the same structure, each starting with a report of how the individual studied hard for an upcoming test, felt well prepared, and then at the test, completely blanked, panicked and ended up barely passing. The clip then went on to describe how the individual felt afterwards. Participants who were assigned to the self-compassion condition heard someone describe a self-compassionate reaction in a warm and soothing tone of voice, i.e.,

“I said to myself, ‘you know what? I see that you are hurting and I am sorry this experience was upsetting for you. I understand that you are disappointed – that’s so natural after an experience like this. Try to give yourself permission to feel upset. This *just* happened so of course you are going to feel upset. These are feelings that will pass with time, and that most people would experience after a setback.”

Participants in the self-esteem preserving condition heard a reaction that was meant to help boost the actor’s own self-worth using an energizing and lively tone, i.e.,

“I realized there was no cause for disappointment given that I still managed to score as good or better than over half the class. Everyone else found it hard too, so clearly I deserve to be here at university just as much or more than any other students in that class. I know I’m still a worthwhile person. I have lots of good qualities-I am smart, hard working, and doing well in all my other courses, in fact I am at the top of my class in two of my other ones!”

Participants in the control condition heard a reaction that was factual and objective, without any reflective component, and with a neutral tone of voice, i.e.,

“The essay questions were a little better because I could write whatever I wanted, but I was so worked up at this point I wasn’t even sure if what I was writing made any sense. At the end of the exam the prof collected our papers and I left as quickly as I could. I ended up barely scraping by, passing, but not by much.”

After participants listened to their assigned audio clip, they self-reported on their current affect once again. They were then instructed to bring back to mind the negative academic event they had previously recalled, and to provide a written description of the event including details of what happened, their reaction at the time, and how they feel about it currently upon reflection.

State self-compassion and state self-esteem were then measured and the manipulation check was administered. Participants were then provided a debriefing form, explaining the true purpose of the study, which condition they were in, and why partial disclosure was necessary.

Results

All analyses were conducted in IBM SPSS Statistics 22. Analyses were conducted using mixed factorial analyses of variance or analyses of covariance. The main independent variable was condition (hearing a self-compassionate audio clip (SC), hearing a self-esteem preserving audio clip (SE) and a control condition). The main dependent variables were state self-compassion, state self-esteem, positive affect (PA), and negative affect (NA).

Means and standard deviations were calculated for each independent and dependent variable. When assessing skewness and kurtosis and outliers in the sample results indicated that the variables were normally distributed. Pearson correlations were conducted to examine the intercorrelations among state and trait self-compassion and self-esteem. Trait self-esteem and trait self-compassion were moderately correlated ($r = .74, p < .001$) which is consistent with previous research, as both are positive ways of relating to the self. State self-compassion correlated with trait self-compassion ($r = .55, p < .001$) and state self-esteem was correlated with trait self-esteem ($r = .79, p < .01$). As a result, we controlled for trait self-compassion and self-esteem when examining the effects of condition on state self-compassion and state self-esteem.

Manipulation Check

Pre and post-recall affect. The experimental manipulation was contingent on participants recalling a distressing personal academic experience, and they were instructed to recall the experience in as vivid detail as possible. In order to verify that the recall portion of the manipulation worked, a repeated measures ANOVA was conducted to examine changes in PA and NA from pre to post recall. Analyses revealed that the manipulation appeared to sufficiently engage the participants' emotions. NA increased significantly across conditions from pre to post

recall ($F(1, 88) = 5.2, p = .025, \eta^2_p = .001$) and PA trended towards a significant decrease across conditions from pre to post recall ($F(1,87) = 3.7, p = .058, \eta^2_p = .041$).

Perception of actor's self-compassion and self-esteem. In order to assess whether the different conditions accurately characterized the distinction between self-compassion and self-esteem, ANOVAs were conducted to assess whether participants' perception of the actors self-compassion and self-esteem differed according to condition. As depicted in Figure 1, results revealed that there was a significant main effect of condition on participants' perceptions of the actor's self-compassion ($F(2, 109) = 26.99, p < .001, \eta^2_p = .33$) and self-esteem ($F(2, 108) = 22.59, p < .001, \eta^2_p = .30$). Contrasts revealed that participants in the SC condition rated the actor as significantly more self-compassionate than the average of the SE and control conditions ($p < .001, 95\% \text{ CI}[6.82-12.34.15]$). Similarly, as seen in Figure 2, contrasts revealed that those in the SE condition rated the actor as having higher self-esteem than the average of the other two conditions ($p < .001, 95\% \text{ CI}[5.19-10.75]$). These results suggest that the SE and SC conditions were conveying distinguishable constructs.

Engagement and attention. The average rating of engagement in the survey was 70 out of 100 ($SD = 22.88$). Results indicated that there was no differences in participant engagement across conditions, $F(2, 114) = 1.19, p = .31$. The mean rating of attention paid during the audio clip was 3.4 out of 4 ($SD = .72$), suggesting that participants were reasonably engaged and motivated to complete the survey and attended closely to the audio clip. There were no differences in attention paid across conditions $F(2, 115) = .91, p = .41$.

Main Analysis – Condition effect on state self-compassion

In order to assess whether hearing an actor describe a failure self-compassionately would yield higher state self-compassion in participants than hearing an actor describe a failure an a

self-esteem-enhancing or objective/neutral way, a mixed factorial ANCOVA was conducted. Results supported hypothesis 1a: controlling for trait self-compassion and self-esteem, there was a main effect of condition on state self-compassion, $F(2, 85) = 4.69, p = .01, \eta^2 = .10$. As shown in Figure 3, contrasts revealed that those in the SC condition had significantly higher state self-compassion after hearing the audio clip than the average of the SE and control conditions ($p = .016, 95\% \text{ CI}[1.50, 13.91]$). Additional contrasts revealed that participants in the SE condition did not differ in levels of state self-compassion from those in the control condition ($p = .067$), while those in the SC condition did ($p = .003$).

Fear of Self-Compassion and Self-Criticism as Moderators of the Condition Effect

The hypothesis that Fear of Self-Compassion would moderate the self-compassion contagion effect was not supported. A mixed ANOVA revealed that fear of self-compassion did not moderate the effect of condition on state self-compassion, ($F(1, 83) = 1.41, p = .24, \eta^2_p = .017$). Similarly, trait self-criticism also failed to moderate the effect of condition on state self-compassion, ($F(1, 78) = .77, p = .38, \eta^2_p = .01$). These findings reveal that the effect of condition on state self-compassion was equally strong across levels of trait self-criticism and fear of self-compassion

Exploratory Analysis of Condition Effect on State Self-Esteem

An additional exploratory analysis was conducted to determine if participants in the SE condition would similarly experience greater post-clip state self-esteem than those in the SC and control conditions. A mixed factorial ANCOVA revealed that there was no effect of condition on state self-esteem, $F(2, 95) = 1.654, p = .20$.

Negative Affect

A mixed ANCOVA revealed support for hypothesis 1b that hearing an actress talk self-compassionately would yield lower NA than hearing a self-esteem boosting or factual and objective actress. Controlling for pre-clip NA, there was a significant effect of condition on post-clip negative affect, $F(2, 105) = 4.54, p = .013, \eta^2_p = .08$. As shown in Figure 4, contrasts revealed that those in the SC condition had significantly lower negative affect than the average of the SE and control conditions ($p = .008, 95\% \text{ CI}[-.631, -.096]$). Further contrasts revealed that while post-clip NA in the SC condition was significantly different from post-clip NA in the control condition ($p = .003$), the SE and control conditions did not differ from one another ($p = .21$).

Positive Affect

Results supported hypothesis 2 that both the SE and SC conditions would have higher PA than controls. As shown in Figure 5, a mixed ANCOVA revealed a main effect of condition on post-clip PA ($F(2, 101) = 11.79, p < .001, \eta^2_p = .19$) when controlling for pre-clip PA. Contrasts showed that the control condition had significantly lower PA than the average of the SC and SE conditions ($p < .001, 95\% \text{ CI}[-.65, -.25]$), but that there were no significant differences between the SE and SC conditions ($p = .09$). These findings suggest that hearing someone talk in a generally positive way about themselves is associated with higher PA than hearing someone speak neutrally, however this effect is not unique to self-compassion or self-esteem.

Discussion

The current study was the first to test the novel idea that self-compassion might be contagious. Specifically, we investigated the differing impact of hearing another person respond to an academic failure in a self-compassionate, self-esteem enhancing, or factual and objective manner. Results supported hypothesis 1a, that self-compassion would be contagious. Participants who heard someone display self-compassion subsequently reported more self-compassion when recalling their own personal failure than participants in the other two conditions. Results failed to find support for hypothesis 1b, that fear of self-compassion and trait self-criticism would moderate these condition effects. Results supported our second hypothesis. That is, after recalling a personal failure, participants who heard another person describe a failure self-compassionately reported lower negative affect than participants who heard a self-esteem enhancing or neutral account. We also found support for our third hypothesis; participants who heard self-esteem enhancing and self-compassionate accounts of failure had subsequently higher positive affect than who heard a neutral account.

Because self-compassion and self-esteem are moderately correlated, we included a manipulation check to ensure that the audio clips of a self-compassionate and self-esteem enhancing account of personal failure did in fact capture the distinctions between the two constructs. Results suggested that they did, as participants in the self-compassion condition rated their actor as more self-compassionate than did participants in the self-esteem and neutral clips. Furthermore, participants in the self-esteem condition rated their actor as higher in self-esteem than did participants in the other two conditions. Thus, the audio clips were successfully conveying distinguishable constructs and participants did not simply hear them as positive self-talk. It is therefore all the more exciting that those who heard a display of self-compassion

subsequently showed higher state self-compassion. This finding is the first to suggest that displays of self-compassion by one person may indeed yield higher levels of self-compassion in another person. In other words, self-compassion appears to be “contagious.”

Implications and Applications of the Findings

Given that this is the first study to suggest that one person’s display of self-compassion may influence self-compassion levels in others, there are a number of new and exciting implications. On a theoretical level, this study adds to the empirical literature in social psychology suggesting that intrapersonal variables can have interpersonal effects, and indeed may affect that same variable in others. However, our finding that self-compassion was “contagious” but self-esteem was not suggests that observers do not assimilate all types of intrapersonal processes they observe. It will be important for future research to determine what makes some intrapersonal variables like self-compassion more influential at an interpersonal level than others. Perhaps only intrapersonal variables that also promote awareness and consideration of others are more amenable to the contagion effect. For example, it may be that features of the self-compassion display that emphasized common humanity better allowed listeners to detect and assimilate the self-compassionate mindset of the actor. Self-esteem has no such dimension, and indeed maintaining high self-esteem often necessitates distancing oneself from, or derogating others (Crocker, Thompsen, McGraw, & Ingerman, 1987; Tesser, 2000). Furthermore, Park & Crocker (2003) found that the pursuit of self-esteem negatively impacted relatedness as it resulted in less attention to the feelings and needs of others.

The finding that self-compassion was contagious whereas self-esteem was not is consistent with Neff and Vonk’s (2009) speculation that self-esteem may be harder to raise than self-compassion, as it may necessitate rigid and unrealistic worldviews in order to preserve a

high sense of self-worth in the face of failure. Indeed, trait and state self-esteem shared a lot more variance (62.4%) in the present study than did trait and state self-compassion (30.2%). To that end, research has shown that interventions designed to raise self-esteem have largely been unsuccessful (Baumeister, Campbell, Krueger, & Vohs, 2003; Swann 1996), while self-compassion interventions have yielded promising results (Albertson, Neff, & Dill-Shackleford, 2013; Smeets, Neff, Alberts & Peters, 2014). Thus, these results also suggest that practically, boosting self-compassion through social programming may be easier and more effective relative to boosting self-esteem.

The finding that hearing self-compassion led to lower NA in the listener than hearing self-esteem enhancement is consistent with findings by Leary et al. (2007) showing that being primed to cultivate self-compassion leads to lower NA following recollection of a failure than self-esteem. However, the current findings are novel in that they additionally suggest that the effect of self-compassion on NA applies even when merely observing a self-compassionate display in someone else. The current study would therefore suggest that interacting with someone showing high self-compassion may be more beneficial for a low mood than being around someone displaying high self-esteem. However, both the self-esteem and self-compassion conditions yielded higher positive affect than the control condition, thus it appears that being around someone who relates positively to themselves in general is valuable for one's own PA.

Present findings may have additional practical applications. Self-compassion is associated with a number of positive psychosocial outcomes in student and community samples, including greater happiness, life satisfaction, better coping skills, greater intrinsic motivation, and better interpersonal relationships (Brienes & Chen, 2012; Neff & Brevtas, 2013; Neff et al., 2005; Neff & Vonk, 2009). Our findings suggest that in a student population, targeted individual self-

compassion interventions may not be needed to raise self-compassion levels; rather, encouraging individuals responsible for social programming (i.e., teachers, counselors and social workers) to model self-compassion may be enough to quickly increase self-compassion and improve affect in a large number of individuals at once. Indeed, it will be important for future research to test self-compassion contagion in a group context.

Clinical implications and applications of the findings. The idea that another person's self-compassion may be contagious and result in lower personal levels of NA holds important clinical implications. Gilbert presented self-compassion as a potential antidote to self-criticism, and indeed clinical interventions designed to “teach” self-compassion have shown promise in combatting self-criticism, depressive symptoms, and various other forms of psychopathology (Gilbert & Irons, 2004; Gilbert & Proctor, 2006; Kelly, Zuroff & Shapira, 2009; Kelly & Carter, 2014). The finding that merely witnessing self-compassion in another can positively impact on one's own self-compassion and affect suggests that in addition to explicitly teaching self-compassion, it may be important for pathologically self-critical people to surround themselves with self-compassionate others. The finding also suggests that there may be utility in conducting self-compassion interventions in a dyadic or group format rather than an individual one, as there may be a super-additive effect of creating a self-compassionate interpersonal context.

One might think that more self-critical people might be resistant to this self-compassion contagion given their typically high fear of self-compassion; however the current study found that neither self-criticism nor fear of self-compassion moderated the contagion effect. This study was nevertheless conducted in a non-clinical sample. Testing the contagion effect in a sample of people with pathological self-criticism will be an important next step in the current line of research.

Potential Theoretical Mechanisms

Although currently speculative, there are a number of possible ways through which our observed self-compassion contagion effect may have occurred. According to social learning theory (Bandura, 1971), one learns and incorporates new behaviours, standards, and values into their own repertoire through either directly experiencing reinforcing or punishing consequences of enacting that behavior or attitude, or observing someone else receive punishment or reinforcement for enacting it. If reinforcement follows the behaviour, one will be motivated to either start or continue to act in that way (Bandura, 1971). Results from this study and Leary et al. (2007) suggest that an observer may notice that a person who displays self-compassion also exhibits lower NA, and this observed affect may serve as vicarious reinforcement and motivation to employ self-compassion in one's own self-relating. Our findings additionally suggest that an observer may also experience lower NA themselves from simply observing a self-compassionate display, thus perhaps it is not only self-compassion that is contagious, but the benefits associated with being self-compassionate. Future research should explore this idea, perhaps by examining whether self-compassion contagion happens only when observing positive consequences of self-compassion (i.e., someone feeling better after treating themselves self-compassionately) and not when observing negative consequences (i.e., someone being belittled for displaying self-compassion).

Another possible explanation of the self-compassion contagion effect stems from simulation theory, which postulates that humans possess the neurological capacity to internally simulate the observed behaviors, emotions, and mindsets of others (Gallese et al., 2006). For example, when an observer sees an expression of disgust on someone else, the same area of her brain activates as if she was personally feeling disgust (Wicker et al., 2003). Thus when one

observes self-compassion in someone else, simulation theory suggests the observer may automatically create an internal reproduction of a self-compassionate mindset and activate the neurological systems associated with self-compassion, thereby facilitating self-compassion.

Limitations and Future Directions

There were a number of limitations in this study that should be addressed in future research. First, this was a very brief experimental manipulation. Employing a more naturalistic observational study design will be important to test the duration and ecological validity of the self-compassion contagion effect. It will also be important to determine how lasting the self-compassion contagion effect is, and whether individuals sustain higher levels of self-compassion when surrounded by self-compassionate others on a more continual basis. One could examine this effect using a longitudinal dyadic study design, tracking the self-compassion levels of newly paired dyads, such as college roommates, or new romantic couples.

This was a homogeneous sample of undergraduate females. Research has shown gender and age differences in self-compassion (Neff & Vonk, 2009; Yarnell, et al., 2015) thus it will be important to test the self-compassion contagion effect in males and both younger and older populations to ensure generalizability. The present study also relied solely on self-report measures to assess the outcome variables (self-compassion, self-esteem and affect), thus future research would benefit from incorporating behavioural measures of self-compassion (i.e., coding self-compassionate speech or written descriptions) in addition to self-report measures. The current study seeks to overcome this last limitation, as the written descriptions of a personal academic failure that participants completed are currently being coded to assess whether those who heard a self-compassionate account of failure subsequently wrote about their own failure more self-compassionately.

The current study also focused on the domain of academic failure when inducing self-compassion, and thus inducing the self-compassion contagion effect in other domains will be important to further establish the scope of the effect. It may also be that this effect only occurs when people witness self-compassion regarding a failure in the same domain as their own salient failure. It could also be that for an especially distressing failure, merely observing self-compassion in another would not be enough to raise one's own self-compassion. For instance, those with anorexia nervosa or restrictive eating may find weight gain, or a perceived diet transgression, as much more distressing than a student would find failing a test. Thus it would be important to test whether the contagion effect holds in the face of personally sensitive topics. Relatedly, it may be that the contagion effect is stronger when the display of self-compassion comes from someone who is struggling with the same issues as the observer. For example, perhaps if someone is struggling with an eating disorder, seeing a self-compassionate display from another individual who is also struggling with disordered eating will be more impactful than a display of self-compassion from someone with positive body image. Evidently there is rich material for future research on the contextual variables that may moderate the self-compassion contagion effect.

Conclusions

This was the first study to find that self-compassion may be contagious. Our findings are also the first to highlight the influence of one's current interpersonal context on one's levels of self-compassion. Results suggest that modeling self-compassionate behavior may be an effective way to encourage self-compassion in others, and that surrounding oneself with self-compassionate others may be an effective way to increase one's own level of self-compassion.

References

- Ackerman, J. M., Goldstein, N. J., Shapiro, J. R., & Bargh, J. A. (2009). You wear me out: The vicarious depletion of self-control. *Psychological Science*, *20*(3), 326–332.
doi:10.1111/j.1467-9280.2009.02290.x
- Adams, C. E., & Leary, M. R. (2007). Promoting self-compassionate attitudes toward eating among restrictive and guilty eaters. *Journal of Social and Clinical Psychology*, *26*, 1120-1144.
- Albertson, E. R., Neff, K. D., & Dill-Shackleford, K. E. (2014). Self-Compassion and Body Dissatisfaction in Women: A Randomized Controlled Trial of a Brief Meditation Intervention. *Mindfulness*, 1-11.
- Allen, A. B., Barton, J., & Stevenson, O. (2015). Presenting a self-compassionate image after an interpersonal transgression. *Self and Identity*, *14*(1), 33-50.
- Allen, A., & Leary, M. R. (2013). A self-compassionate response to aging. *The Gerontologist*, *54*(2), 190-200. doi:10.1093/geront/gns204
- Badaly, D. (2013). Peer similarity and influence for weight related outcomes in adolescence: a meta-analytic review. *Clinical Psychology Review*, *33*(8), 1218-1236.
- Bandura, A. (1971). Social learning theory. New York: General Learning Press. Reprinted in, J. T. Spence, R. C. Carson, & J. W. Thibaut [Eds.], *Behavioral approaches to therapy*. Morristown, NJ: General Learning Press.
- Bandura, A., Blanchard, E. B., & Ritter, B. (1969). Relative efficacy of desensitization and modeling approaches for inducing behavioral, affective, and attitudinal changes. *Journal of Personality and Social Psychology*, *13*(3), 173.

- Bandura, A., Grusec, J. E., & Menlove, F. L. (1966). Observational learning as a function of symbolization and incentive set. *Child Development*, 499-506.
- Bandura, A., & Kupers, C. J. (1964). Transmission of patterns of self-reinforcement through modeling. *The Journal of Abnormal and Social Psychology*, 69(1), 1-9.
- Bandura, A., & Whalen, C. K. (1966). The influence of antecedent reinforcement and divergent modeling cues on patterns of self-reward. *Journal of Personality and Social Psychology*, 3(4), 373-382.
- Barnard, L. & Curry, J. (2011). Self-compassion: Conceptualizations, correlates, and interventions. *Review of General Psychology*, 15(4), 289-303
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4(1), 1-44.
- Baumeister, R.F., Smart, L., & Boden, J.M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review*, 103, 5–33.
- Berger, S. M. (1962). Conditioning through vicarious instigation. *Psychological review*, 69(5), 450-466.
- Blatt, S.J. (1974). Levels of object representation in anaclitic and introjective depression. *Psychoanalytic Study of the Child*, 29, 107-157.
- Blatt, S. J. (1995). Representational structures in psychopathology. In D. Cicchetti & S. Toth (Eds.). *Rochester symposium on developmental psychopathology. Emotional cognition and representation* (Vol. 6). Rochester: University of Rochester Press.

- Blatt, S. J., Quinlan, D. M., Pilkonis, P. A., & Shea, M. T. (1995). Impact of perfectionism and need for approval on the brief treatment of depression: the National Institute of Mental Health Treatment of Depression Collaborative Research Program revisited. *Journal of Consulting and Clinical Psychology, 63*, 125-132.
- Blatt, S. J., & Zuroff, D. C. (1992). Interpersonal relatedness and self-definition: Two prototypes for depression. *Clinical Psychology Review, 12*, 527-562
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Breines, J. G. & Chen, S. (2012). Self-compassion increases self-improvement motivation. *Personality and Social Psychology Bulletin, 38*(9), 1133-1143 DOI: 10.1177/0146167212445599
- Breines, J. G., & Chen, S. (2013). Activating the inner caregiver: The role of support-giving schemas in increasing state self-compassion. *Journal of Experimental Social Psychology, 49*(1), 58-64.
- Breines, J., Toole, A., Tu, C., & Chen, S. (2014). Self-compassion, body image, and self reported disordered eating. *Self and Identity, 13*(4), 432-448.
- Buccino, G., Binkofski, F., Fink, G.R., Fadiga, L., Fogassi, L., Gallese, V., Seitz, R.J., Zilles, K., Rizzolatti, G., & Freund, H.-J. (2001). Action observation activates premotor and parietal areas in a somatotopic manner: An fMRI study. *European Journal of Neuroscience, 13*, 400–404.
- Bushman, B., & Baumeister, R. (1998). Threatened egotism, narcissism, self-esteem and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology, 75*, 219-229.

- Caspi, A., Moffitt, T. (2006). Gene environment interaction in psychiatry: Joining forces with neuroscience. *Nature Reviews Neuroscience*, 7, 583-590, doi:10.1038/nrn1925
- Cooley, E., Toray, T., Wang, M.C., & Valdez, N.N. (2006). Maternal effects on daughters' eating pathology and body image. *Eating Behaviours*, 9, 52-61.
- Cowan, P. A., Longer, J., Heavenrich, J., & Nathanson, M. (1969). Social learning and Piaget's cognitive theory of moral development. *Journal of Personality and Social Psychology*, 11(3), 261.
- Craig, K. D., & Weinstein, M. S. (1965). Conditioning vicarious affective arousal. *Psychological Reports*, 17(3), 955-963.
- Crocker, J., & Canevello, A. (2008). Creating and undermining social in communal relationships: The role of compassionate and self-image goals. *Journal of Personality and Social Psychology*, 95, 555-575.
- Crocker, J., & Park, L.E. (2004) The costly pursuit of self-esteem. *Psychological Bulletin*, 130 (3), 392-414.
- Crocker, J., Thompson, L., McGraw, K., & Ingerman, C. (1987). Downward comparison, prejudice, and evaluation of others: Effects of self-esteem and threat. *Journal of Personality and Social Psychology*, 52, 907-916.
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self worth. *Psychological Review*, 108, 593-623.
- Dulany, D. E. (1962). The place of hypotheses and intentions: an analysis of verbal control in verbal conditioning. *Journal of Personality*, 30(3), 102-129.

- Dulany, D.E. (1968). Awareness, rules, and propositional control: A confrontation with S-R behavior theory. In T. Dixon, & D. Horton, (Eds.) *Verbal Behavior and Behavior Theory*, New York: Prentice Hall.
- Dunkley, D.M. Masheb, R.M., & Grilo, C.M. (2010). Childhood maltreatment, depressive symptoms, and body dissatisfaction in patients with binge eating disorder: The mediating role of self-criticism. *International Journal of Eating Disorders*, 43, 274-281.
- Fadiga, L., Fogassi, L., Pavesi, G., & Rizzolatti, G. (1995). Motor facilitation during action observation: A magnetic stimulation study. *Journal of Neurophysiology* 73, 2608–2611.
- Flanders, J. P. (1968). A review of research on imitative behavior. *Psychological Bulletin*, 69(5), 316.
- Fogassi, L., Ferrari, P.F., Gesierich, B., Rozzi, S., Chersi, F., & Rizzolatti, G. (2005). Parietal lobe: From action organization to intention understanding. *Science* 302, 662–667.
- Francis-Raniere, E.L., Alloy, L.B., & Abramson, L.Y. (2006). Depressive personality styles and bipolar spectrum disorders: prospective tests of the event congruency hypothesis. *Bipolar Disorders*, 8, 382–399.
- Gallese, V., Eagle, M. N., & Migone, P. (2007). Intentional attunement: Mirror neurons and the neural underpinnings of interpersonal relations. *Journal of the American Psychoanalytic Association*, 55(1), 131-175.
- Gilbert, P. (1989). *Human Nature and Suffering*. Lawrence Erlbaum Associates: Hove.
- Gilbert, P. (2000). Social mentalities: Internal ‘social’ conflicts and the role of inner warmth and compassion in cognitive therapy. In P. Gilbert & K.G. Bailey (eds.), *Genes on the Couch: Explorations in Evolutionary Psychotherapy*, pp. 118-150. Hove: Brenner-Routledge.

- Gilbert, P. (Ed.). (2005). *Compassion: Conceptualisations, Research, and Use in Psychotherapy*. London: Routledge.
- Gilbert, P. (2007). *Psychotherapy and Counselling for Depression, 3rd Edition*. London: SAGE Publications.
- Gilbert, P. (2009a). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment, 15*, 199-208.
- Gilbert, P., Baldwin, M., Irons, C., Baccus, J. R., & Palmer M. (2006). Self-Criticism and self-warmth: An imagery study exploring their relation to depression. *Journal of Cognitive Psychotherapy: An International Quarterly, 20*(2), 183-200.
- Gilbert, P., Clarke, M., Hempel, S., Miles, J. N. V., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology, 43*(1), 31-50.
- Gilbert, P., & Irons, C. (2004) A pilot exploration of the use of compassionate images in a group of self-critical people. *Memory, 12*, 507-516.
- Gilbert, P., & Irons, C. (2005). Focused therapies for shame and self-attacking, using cognitive, behavioural, emotional, imagery and compassionate mind training. In, P. Gilbert (ed.) *Compassion: Conceptualisations, Research and Use in Psychotherapy*, pp. 263-325. London: Brunner-Routledge.
- Gilbert, P., McEwan, K. K., Gibbons, L. L., Chotai, S. S., Duarte, J. J., & Matos, M. M.(2012). Fears of compassion and happiness in relation to alexithymia, mindfulness, and self-criticism. *Psychology And Psychotherapy: Theory, Research And Practice, 85*(4), 374-390. doi:10.1111/j.2044-8341.2011.02046.x

- Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy, 13*, 353-379
- Goldstein, N. J. & Cialdini R.B. (2007). The spyglass self: A model of vicarious self-perception. *Journal of Personality and Social Psychology, 92*(3), 402–17.
- Hawley, L., Ho, M.R., Zuroff, D.C., & Blatt, S.J. (2006). The relationship of perfectionism, depression, and therapeutic alliance during treatment for depression: Latent difference score analysis. *Journal of Consulting and Clinical Psychology, 74*, 930-942.
- Hefferline, R. F., & Keenan, B. (1963). Amplitude-induction gradient of a small-scale (covert) operant. *Journal of the Experimental Analysis of Behavior, 6*(3), 307-315.
- Hefferline, R. F., Keenan, B., & Harford, R. A. (1959). Escape and avoidance conditioning in human subjects without their observation of the response. *Science, 130*(3385), 1338-1339.
- Irons, C., Gilbert, P., Baldwin, M. W., Baccus, J., & Palmer, M. (2006). Parental recall, attachment relating and self-attacking/self-reassurance: Their relationship with depression. *British Journal of Clinical Psychology, 12*, 297-308.
- Iacoboni, M. (2009). Imitation, empathy, and mirror neurons. *Annual Review of Psychology, 60*, 653-670.
- Johnson, E. A., & O'Brien, K. A. (2013). Self-compassion soothes the savage ego-threat system: Effects on negative affect, shame, rumination, and depressive symptoms. *Journal of Social and Clinical Psychology, 32*(9), 939-963.

- Kelly, A.C., & Carter, J.C. (2014). Self-compassion training for binge eating disorder: A pilot randomized controlled trial. *Psychology & Psychotherapy: Theory, Research, and Practice*. DOI: 10.1111/papt.12044
- Kelly, A.C., Carter, J.C., Zuroff, D.C., & Borairi, S. (2013). Self-compassion and fear of self-compassion interact to predict response to eating disorders treatment: A preliminary investigation. *Psychotherapy Research*, 23, 252 DOI: 10.1080/10503307.2012.717310
- Kelly, A.C., Zuroff, D.C., Foa, C.L., & Gilbert, P. (2010). Who benefits from training in self-compassionate self-regulation? A study of smoking reduction. *Journal of Social and Clinical Psychology*, 29(7), 727-755.
- Kelly, A. C., Zuroff, D. C., & Shapira, L. B. (2009). Soothing oneself and resisting self-attacks: The treatment of two intrapersonal deficits in depression vulnerability. *Cognitive Therapy and Research*, 33(3), 301-313
- Kennedy, T. D. (1970). Verbal conditioning without awareness: The use of programmed reinforcement and recurring assessment of awareness. *Journal of Experimental Psychology*, 84(3), 487.
- Kennedy, T. D. (1971). Reinforcement frequency, task characteristics, and interval of awareness assessment as factors in verbal conditioning without awareness. *Journal of Experimental Psychology*, 88(1), 103.
- Kichler J.C, Crowther J.H. (2009). Young girls' eating attitudes and body image dissatisfaction. *Journal of Early Adolescence*, 29, 212–232.
- Kirsch, P., Esslinger, C., Chen, Q. et al., (2005). Oxytocin modulates neural circuitry for social cognition and fear in humans. *The Journal of Neuroscience*, 25, 11489-11493.

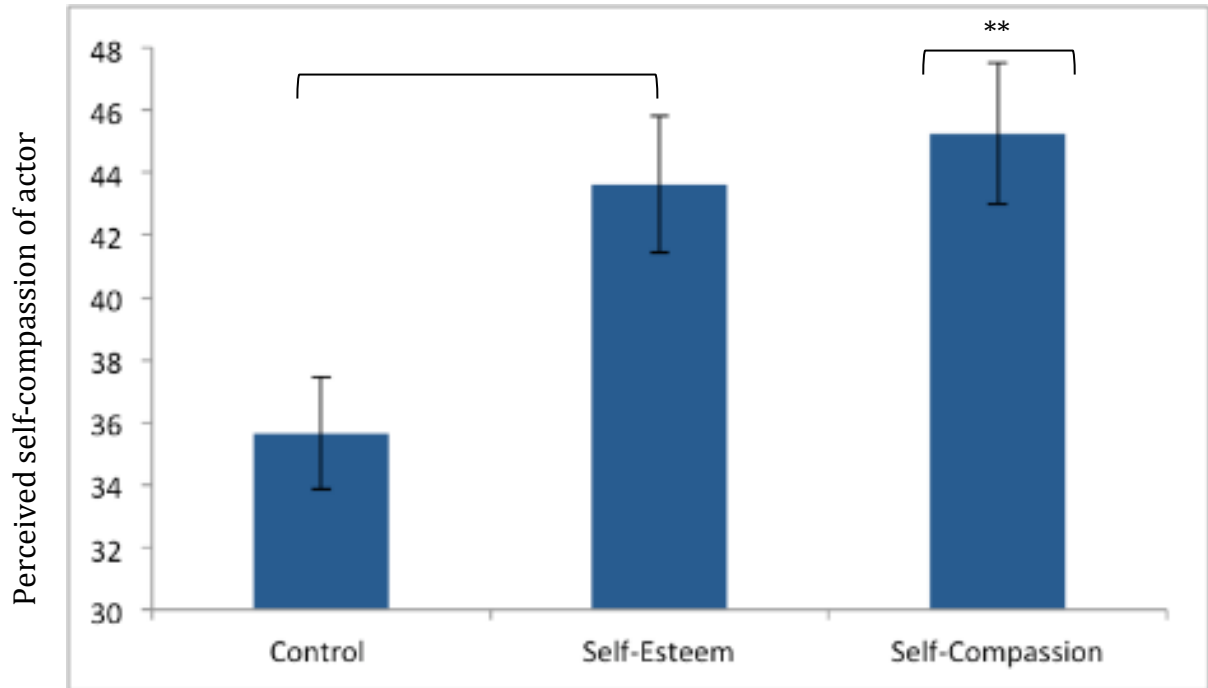
- Koestner, R., Zuroff, D.C., & Powers, T.A. (1991). Family origins of adolescent self-criticism and its continuity into adulthood. *Journal of Abnormal Psychology, 100*, 191-197.
- Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*, 887-904.
- Lumsdaine, A. A. (Ed.). (1961). *Student response in programmed instruction*(Vol. 943). National Academies.
- Marsten, A.R. (1965). Imitation, self-reinforcement, and reinforcement of another person. *Journal of Personality and Social Psychology. 2*, 255-261.
- Mongrain, M., & Zuroff, D. C. (1995). Motivational and affective correlates of dependency and self-criticism. *Personality & Individual Differences, 18*, 347-354.
- Neff, K. D. (2003a). Development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223-250.
- Neff, K. D. (2004). Self-compassion and psychological well-being. *Constructivism in the Human Sciences, 9*, 27-37.
- Neff, K. D. (2008). Self-compassion: Moving beyond the pitfalls of a separate self-concept. In J. Bauer & H. A. Wayment (Eds.) *Transcending Self-Interest: Psychological Explorations of the Quiet Ego* (95-105). Washington DC, APA Books.
- Neff, K. D. (2011). Self-compassion, self-esteem, and well-being. *Social and Personality Compass, 5*, 1-12.

- Neff, K. D., Beretvas, S. N. (2013). The role of self-compassion in romantic relationships. *Self and Identity*, 12(1), 78-98.
- Neff, K. D., Hseih, Y., & Dejithirat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, 4, 263-287.
- Neff, K. D., Kirkpatrick, K. & Rude, S. S. (2007). Self-compassion and its link to adaptive psychological functioning. *Journal of Research in Personality*, 41, 139-154.
- Neff, K. D. & McGeehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity*, 9, 225-240.
- Neff, K. D., Pommier, E. (2013). The relationship between self-compassion and other-focused concern among college undergraduates, community adults, and practicing meditators. *Self and Identity*, 12(2),160-176.
- Neff, K. D. & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality*, 77, 23-50.
- Oh, K. , Damhorst, M.L. (2009). Coorientation of body image among older married couples. *Body Image* 6(1) 43-7. doi: 10.1016/j.bodyim.2008.09.005.
- Park, L., & Crocker, J. (2005). Interpersonal consequences of seeking self-esteem. *Personality and Social Psychology Bulletin*, 31(11) , 1587-1598. DOI:10.1177/0146167205277206
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology & Psychotherapy*. 18, 250-255

- Rector, N. A., Bagby, R. M., Segal, Z. V., Joffe, R. T., & Levitt, A. (2000). Self-criticism and dependency in depressed patients treated with cognitive therapy or pharmacotherapy. *Cognitive Therapy and Research, 24*, 571-584.
- Rosenberg, M. (1965) *Society and the Adolescent Self-Image*. Princeton, N.J.: Princeton University Press.
- Rosenthal, T., & Whitebrook, J.(1970). Incentives versus instructions in transmitting grammatical parameters with experimenter as model. *Behaviour, Research and Therapy, 8*, 189-196
- Rosenthal, T., Zimmerman, B., & Durning, K.(1970). Observationally induced changes in children's interrogative classes. *Journal of Personality and Social Psychology, 16*, 681-688
- Santor, D.A., & Patterson, R.L. (2004). Frequency and duration of mood fluctuations: effects of dependency, self-criticism, and negative events. *Personality and Individual Differences, 37*, 1667-1680.
- Sasmor, R. M. (1966). Operant conditioning of a small-scale muscle response. *Journal of the Experimental Analysis of Behavior, 9*(1), 69-85.
- Smeets, E., Neff, K., Alberts, H., & Peters, M. (2014). Meeting suffering with kindness: Effects of a brief self-compassion intervention for female college students. *Journal of Clinical Psychology, 70*(9), 794-807.
- Spielberger, C. D., & DeNike, L. D. (1966). Descriptive behaviorism versus cognitive theory in verbal operant conditioning. *Psychological Review, 73*(4), 306.

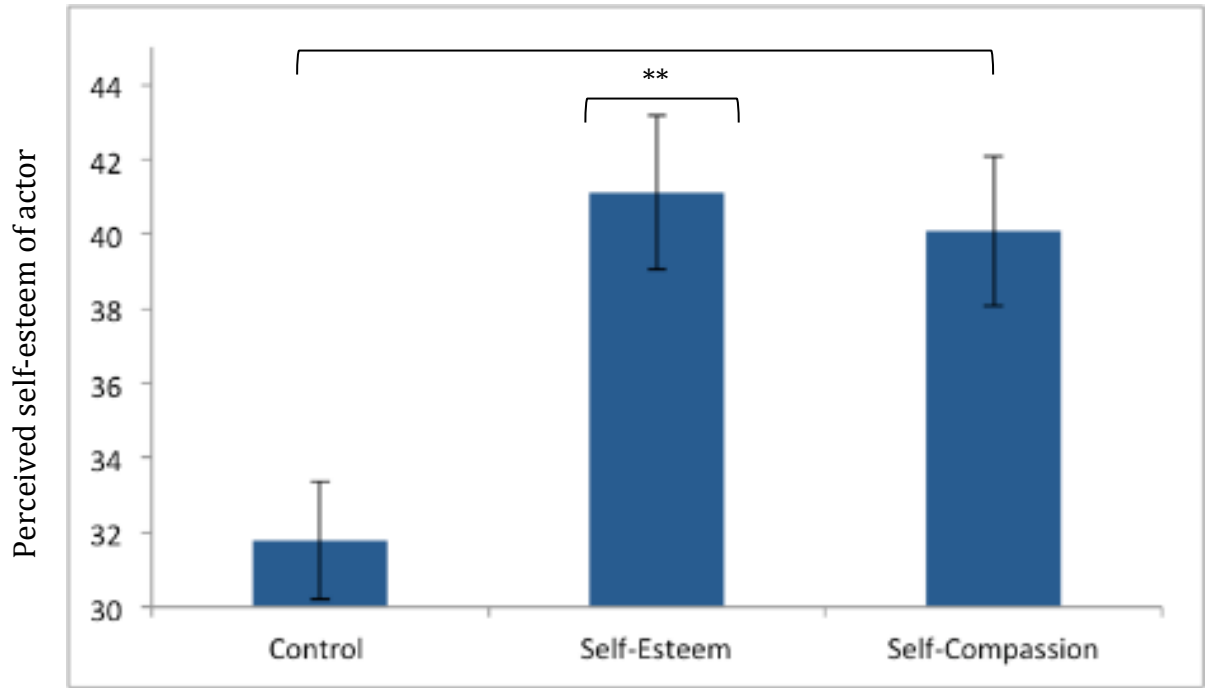
- Stephen, E., & Kelly, A.C. (June 2015). A daily diary study of self-compassion, body image, and eating behaviour. Poster presented at CPA Convention, Ottawa, Canada.
- Swann, W. B. (1996). *Self-Traps: The Elusive Quest for Higher Self-Esteem*. New York: Freeman.
- Teasdale, J. D., & Cox, S. G. (2001). Dysphoria: self-devaluative and affective components in recovered depressed patients and never depressed controls. *Psychological Medicine*, *31*, 1311–1316.
- Terry, M. L., & Leary, M. R. (2011). Self-compassion, self-regulation, and health. *Self and Identity*, *10*(3), 352-362.
- Tesser, A. (2000). On the confluence of self-esteem maintenance mechanisms. *Personality and Social Psychology Review*, *4*, 290 –299.
- Thompson, R., & Zuroff, D. C. (1999). Development of self-criticism in adolescent girls: Roles of maternal dissatisfaction, maternal coldness and insecure attachment. *Journal of Youth and Adolescence*, *28*, 197–210.
- Wasylikiw, L., MacKinnon, A. L., & MacLellan, A. M. (2012). Exploring the link between self-compassion and body image in university women. *Body Image*, *9*(2), 236-245.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063-1070.
- Welp, L. R., & Brown, C. M. (2014). Self-compassion, empathy, and helping intentions. *The Journal of Positive Psychology*, *9*(1), 54-65.

- Yarnell, L. M., Neff, K. D. (2013). Self-compassion, interpersonal conflict resolutions, and well-being. *Self and Identity*. 2(2) 146-159.
- Yarnell, L. M., Stafford, R. E., Neff, K. D., Reilly, E. D., Knox, M. C. & Mullarkey, M. (2015). Meta-analysis of gender differences in self-compassion. *Self and Identity*. 14(5), 499-520.
DOI:10.1080/15298868.2015.1029966
- Zuroff, D., Quinlan, D. M., & Blatt, S. J. (1990). Psychometric properties of the Depressive Experiences Questionnaire. *Journal of Personality Assessment*, 55, 65–72.
- Zuroff, D. C., Stotland, S., Sweetman, E., Craig, J.A., & Koestner, R. (1995). Dependency, self-criticism, and social interactions. *British Journal of Clinical Psychology*, 34, 543–553.



Experimental Condition

Figure 1. Mean rating of how self-compassionate participants perceived the actress in the audio clip to be as a function of experimental condition. Participants in the self-compassion condition perceived the actress as more self-compassionate than the average of the control and self-esteem conditions.



Experimental Condition

Figure 2. Rating of how high in self-esteem participants' perceived the actress in the audio clip to be as a function of experimental condition. Participants in the self-esteem condition perceived the actress as having higher self-esteem than the average of the control and self-compassion conditions.

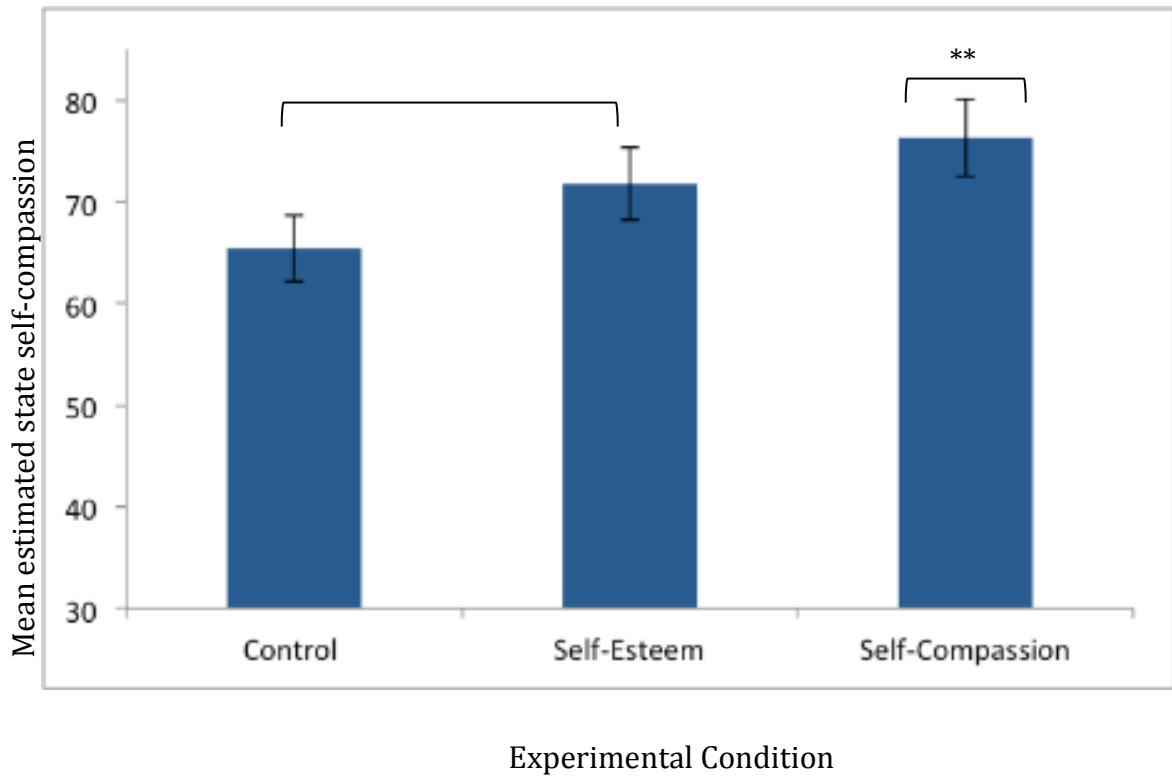


Figure 3. Participants' mean estimated state self-compassion as a function of experimental condition. Those in the self-compassion condition had significantly higher state self-compassion than the average of the self-esteem and control conditions.

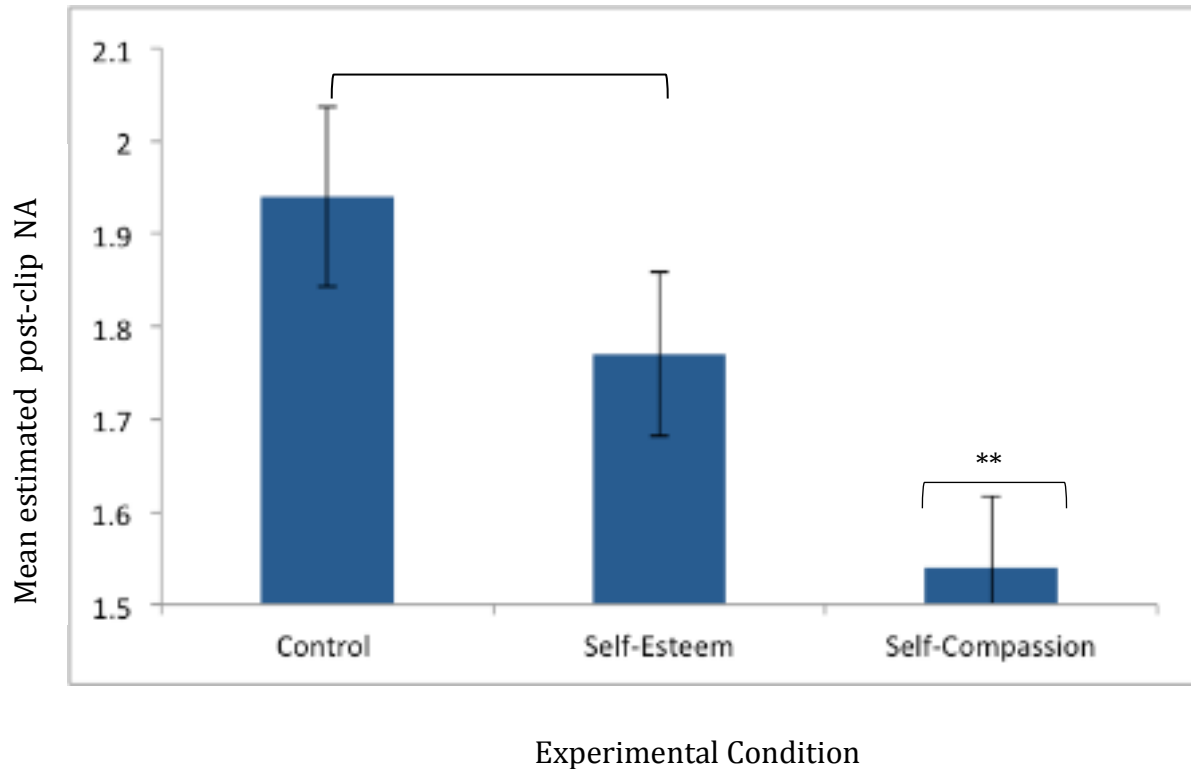
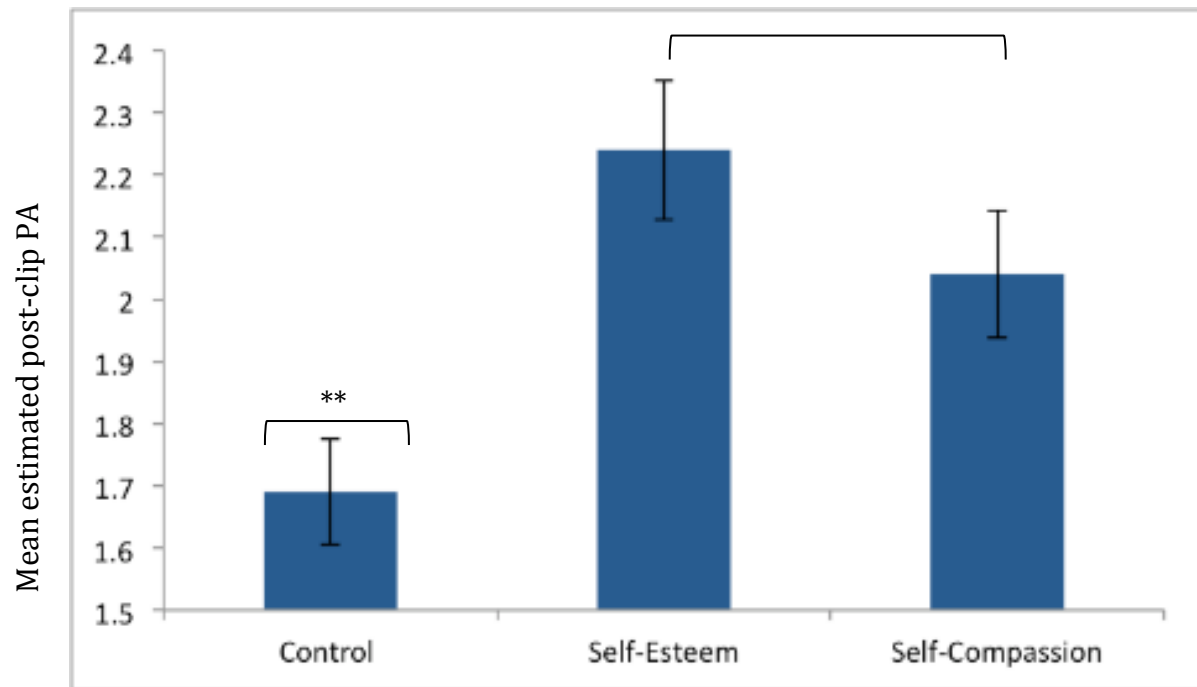


Figure 4. Mean estimated post-clip negative affect, controlling for pre-clip levels, as a function of experimental condition. Participants in the self-compassion condition had significantly lower negative affect than the average of those in the self-esteem and control conditions.



Experimental condition

Figure 5. Mean estimated post-clip positive affect, controlling for pre-clip levels as a function of experimental condition. Participants in the SC and SE conditions had significantly higher positive affect than those in the control condition.