

Self-Compassion in an Interpersonal Context: The Effect of Belonging

Undergraduate Research Thesis

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by

Iris Liu

The Ohio State University

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Project Advisor: Professor Jennifer Crocker, Department of Psychology

Abstract

This experiment examined the relational benefits of self-compassion. Self-compassion emphasizes kindness and compassion toward oneself when one encounters difficulties or failures. Recent evidence has suggested that self-compassion has adaptive benefits for psychological functioning. However, self-compassion also has interpersonal benefits; for example, it associates positively with compassionate goals. Because most previous findings were correlational, the current study tested the causal link between repeated self-compassionate exercises and increased compassionate goals by asking participants to write letters to themselves imagining they were their own friends. I hypothesized that the self-compassion exercise would increase compassionate goals through increased belongingness. A longitudinal survey study recruited undergraduate students (N=147) and randomly assigned them to one, three, or five sessions of the self-compassion exercise. The results showed that more sessions of the self-compassion exercise increased belongingness without affecting self-compassion. The increased belongingness predicted participants' compassionate goals, forgiveness, self-esteem, and positive affect, and lowered participants' self-criticism, loneliness and negative affect in the moment. Thus, self-compassion indirectly predicted improved interpersonal and intrapersonal well-being by increasing belongingness. The results suggest that self-compassion exercises might be an effective tool to increase belongingness.

Introduction

Imagine a college freshman, Laura, who just got a “C” on her chemistry midterm. She felt very frustrated about her score. However, she did not judge herself as a terrible student and instead reminded herself that a lot of her classmates got a similarly poor score. She accepted her poor score and organized her thoughts: the introductory chemistry class was very difficult and she did not do well; it was appropriate to feel frustrated but this score did not suggest that she was not smart or should quit chemistry; she was not alone either in getting a bad score; but for the next exam, she would devote more time and effort to get a better score. This is an example of confronting personal difficulties with self-compassion. Instead of judging herself as incompetent, she provided herself with care and compassion to cope with her academic setback.

College students frequently face judgments from exams, projects, paper assignments, and presentations. From time to time, they can experience difficulties or failures. Avoiding making harsh judgments about themselves may enable them to persist in schoolwork. Realizing that their peers share similar difficulties enables them to feel connected with others and care for others’ well-being.

Self-Compassion

Self-compassion emphasizes kindness and compassion toward oneself without harsh judgment, especially when one encounters difficulties or failures. Neff (2003a) introduced this concept in the psychological literature, though it originates from Eastern Buddhism. Because it is a healthy view of evaluating oneself, research on self-compassion has gained broad attention over the last decade.

Neff (2003a) conceptualized self-compassion with three major components: self-kindness, common humanity, and mindfulness. Self-kindness involves providing oneself with caring during unpleasant periods instead of harsh criticism. Common humanity involves focusing on the shared experience of mistakes by all humans rather than feeling isolated. Mindfulness involves concentrating on a healthy balanced view of emotions: approaching emotions with openness and curiosity, and not exaggerating or suppressing negative emotions. With these three components in mind, Neff (2003b) created the Self-Compassion Scale and proposed that self-compassion is an alternative conceptualization of a healthy attitude towards oneself.

Consistent with Neff's assumption, recent research has shown that self-compassion promotes psychological well-being. Self-compassion is negatively correlated with rumination (i.e., repetitively and passively focusing on distress), public self-consciousness (i.e., awareness of oneself in the public eye), depression, and anxiety, and is positively correlated with optimism, positive affect (i.e., positive emotions), happiness, social connectedness, and life satisfaction (Neff, 2003b; Neff, Rude, & Kirkpatrick, 2007; Neff & Vonk, 2009). Meta-analyses found that self-compassion is negatively related to mental illness and positively associated with cognitive and psychological well-being ((MacBeth & Gumley, 2012; Zessin, Dickhäuser, & Garbade, 2015). Gilbert and Irons (2005) found that self-compassion makes people feel supported and secure through deactivating the threat system raised from insecure feelings and defensiveness, while activating the self-soothing system (i.e., oxytocin-opiate system). Therefore, research supports the idea that self-compassion benefits well-being.

In addition, Neff (2003a) argued that self-compassion is more psychologically adaptive than its counterpart, self-esteem. Self-esteem describes one's overall positive evaluation about the self (Rosenberg, 1965). Past literature has shown that people with high self-esteem have less

anxiety, more personal achievement, and better mental health compared to people with low self-esteem (Pyszczynski, Greenberg, Solomon, & Schimel, 2004). In general, people want to pursue high self-esteem (Crocker & Park, 2004). However, pursuing high self-esteem has its downsides: research demonstrated that high self-esteem is associated with aggressive behaviors in reaction to ego threats, such as reacting defensively to challenges to one's intelligence (Baumeister, Smart, & Boden, 1996). Moreover, pursuing high self-esteem can lead to distorted perceptions of the self; for instance, narcissism, an inflated perception of the self while neglecting others, is associated with high self-esteem (Twenge & Campbell, 2009). Boosting self-esteem can also hinder improvement when people dismiss negative feedback, engage in downward social comparison, and perceive themselves more positively than they actually are (Brickman & Bulman, 1977; Sedikides & Gregg, 2008). People therefore frequently feel they are in competition with others to gain positive evaluations to boost their self-esteem.

In contrast, self-compassion allows people to accept and learn from their failures without the negative aspects of pursuing high self-esteem. Although it is highly positively correlated with self-esteem, self-compassion does not possess the negative aspects of pursuing high self-esteem. For example, self-compassion is not associated with narcissism (Neff et al., 2007). In addition, self-compassion is negatively associated with ego defensive anger, and social comparison tendencies (Neff & Vonk, 2009). Self-compassion fosters connection rather than competition and helps people develop more stable, less contingent self-esteem (Neff, 2003b; Neff & Vonk, 2009). Thus, self-compassion represents a form of positive self-regard that is distinct from self-esteem.

Moreover, self-compassion buffers people from ego threats. Neff and colleagues (2007) proposed that self-compassion protects people against self-evaluative anxiety because it involves treating the self with kindness rather than judgment and recognizing that all humans are

imperfect. In their study, participants were asked to write a response to a dreaded interview question, “Please describe your greatest weakness,” at a mock-interview situation. Participants with high self-compassion reported significantly less anxiety after writing about their greatest weakness. This correlation still held significantly after controlling for self-esteem, indicating that self-compassion uniquely mitigates negative feelings from ego threat. Several studies conducted by Leary and colleagues (2007) also suggested a similar pattern. Participants with high self-compassion reported fewer negative and pessimistic thoughts after recalling a past event that was their fault (study 1); they also reported less negative affect when imagining embarrassing scenarios (study 2), such as failing important tests, forgetting their lines on stage, and losing a game for their sports team. Research evidence therefore suggested self-compassion protects people against ego defensive reactions.

However, self-compassion helps people to soothe themselves without escaping from mistakes they made. Self-compassion is positively associated with personal initiatives (i.e., active involvement in making changes needed for a more productive and fulfilling life; Neff et al., 2007; Robitschek, 1998). Research has also indicated that people high in self-compassion take personal responsibility in negative experiences instead of attributing the outcome to others or the situation (Leary et al., 2007, study 5). Self-compassionate people can admit their personal responsibility without excessively indulging in negative emotions and are able to bring up problem-solving strategies. For example, students with high self-compassion experienced less fear of failure after getting a bad grade, and perceived themselves as competent; both decreased fear of failure and increased perceived competence in turn mediated self-compassionate students’ tendency to develop a mastery learning goal (i.e., focusing on comprehension of knowledge and enjoying learning) to further their learning opportunity (Neff, Hsieh, & Dejitterat, 2005).

Similarly, another study has found that self-compassion increases people's motivations to improve themselves. Breines and Chen (2010) found that self-compassion leads to an incremental mindset involving the belief that drawbacks can be improved through continuous efforts and this belief produces longer engagement in difficult tests. With self-compassion, people develop a strong motivation to improve themselves rather than stewing in their failures. In all, self-compassion appears to be a positive trait.

Self-Compassion in Interpersonal Contexts

Most previous research has suggested intrapersonal benefits of self-compassion; however, self-compassion also has interpersonal benefits. First, self-compassion fosters close and connected feelings with others. A sense of connection with others follows from a core feature of self-compassion, common humanity. Indeed, research found that common humanity positively predicted relational-interdependent self-construal, a self-view considering oneself within social connections and relationships with others, and social connectedness (Akin & Eroglu, 2013; Neff, 2003b). Self-compassionate people are less lonely (Akin, 2010). Second, self-compassion can improve social interactions. Self-compassion correlates positively with extroversion and agreeableness, indicating that self-compassionate people possess greater ability to get along well with others (Neff et al., 2007). Moreover, self-compassion facilitates social interaction through effective emotional coping: self-compassion is positively associated with emotional intelligence (i.e., the ability to reflect and manage emotions) and with the emotion-focused coping strategies of positive reinterpretation and acceptance, but is negatively associated with avoidance-oriented strategies of denial and mental disengagement (Neff, 2003b; Neff et al., 2005). Neff and Pommier (2012) also found self-compassion involves concerns for others; for

instance, self-compassion is positively correlated with forgiveness. Self-compassion therefore seems related to connectedness and good social interactions.

Additionally, self-compassion has some benefits in close relationships. Self-compassionate people report resolving conflicts with more compromise-based solutions in relationships with parents, friends, and romantic partners, suggesting an equal validation of both the self and partner's needs (Yarnel & Neff, 2013). They also reported greater authenticity and less emotional turmoil (i.e., emotional disturbance) when using compromise-based solutions. Neff and Beretvas (2013) found self-compassion associates with healthier romantic relationships: self-compassionate partners were perceived to be caring and supportive of the other instead of controlling or detached from the other; additionally, the dyadic self-compassion level (i.e., combined self-compassion scores at the couple level) is associated with greater relationship satisfaction.

Perhaps the most significant finding of self-compassion in relationships is the positive correlation between self-compassion and compassionate goals. Compassionate goals are an interpersonal intention to provide sincere and constructive support for close others (Crocker & Canevello, 2008). Compassionate goals help build supportive relationships: for example, people with higher compassionate goals feel trust and connected towards partners, and they are more responsive and supportive (Canevello & Crocker, 2010; Crocker and Canvello, 2008). Moreover, compassionate goals are linked with less anxiety and avoidance in relationships (Canevello, Granillo, & Crocker, 2013). Overall, compassionate goals foster relational well-being. Though a positive correlation between self-compassion and compassionate goals was established (Crocker & Canevello, 2008), the direction of this correlation is not clear. Having compassionate goals might evoke self-compassion to effectively balance the needs of the self and the other in

relationships; alternatively, having self-compassion might trigger compassionate goals to provide sincere care to close others. I was therefore curious to examine the causal direction of this relationship.

I hypothesized that self-compassion can cause people to develop more compassionate goals. Past literature on self-compassion and connectedness supports this prediction: self-compassion is associated with a sense of connectedness, interdependence, and facilitative social skills (Neff, 2003b; Akin & Eroglu, 2013; Neff et al., 2007). Since both self-compassion and compassionate goals are linked to connected feelings (Neff, 2003b; Crocker & Crocker, 2008), I further predicted that self-compassion leads to compassionate goals via increased belongingness. Because this prediction involves a causal link between the variables, experimental evidence to induce self-compassion is needed to establish this causality.

Induction of Self-Compassion

Conceptually, self-compassion can be either a trait or a state. Trait self-compassion is a stable individual difference, whereas state self-compassion varies over time and presumably can be experimentally induced. Past research has examined three main methods of inducing higher state self-compassion: meditation, prompted writing, and letter writing.

The mediation induction, Mindful Self-Compassion (MSC; Neff & Germer, 2013), was developed in the context of clinical psychology to increase people's state self-compassion through formal meditation practice over 8 weeks. However, this induction requires an intensive time engagement from participants, including 2.5-hour group meditation and 40-minute daily home meditation, making it impractical for the purposes of this research.

The prompted writing induction asks participants to recall a past negative event and write three passages designed to address the three components of self-compassion: self-kindness,

common humanity, and mindfulness (Leary et al., 2007, study 5). However, this induction only successfully induced perception of common humanity for those with low trait self-compassion, in which they perceived themselves as more similar to others. This manipulation does not induce all three components, suggesting a potential reliability concern. It is also rigid and does not allow people much flexibility to develop their own self-compassion practice.

The letter writing induction requires participants to write a compassionate letter to themselves regarding a personal weakness (Breines & Chen, 2012). In their experimental design, Breines and Chen (2012) induced state self-compassion or a state self-esteem induction to avoid the confound of general positive talk. Although this letter writing induction successfully induced higher state self-compassion, it only explored intrapersonal consequences, such as incremental beliefs about improvement. Testing the interpersonal benefit of self-compassion, however, requires a new induction to incorporate an interpersonal context. I proposed an interpersonal induction of state self-compassion to examine the causal effect of self-compassion on compassionate goals.

In this study, I adapted the letter writing induction from Breines and Chen (2012) but added a specific context of friendship. I chose this induction because it is more practical. This induction can be completed in short online study sessions and it is more reliable in increasing self-compassion as a whole. I asked participants to write letters to themselves as though they were a compassionate and understanding friend of themselves, regarding a distressing event they identified.

The Role of Belongingness

I also hypothesized an alternative that writing letters in the frame of friends increases belongingness directly instead of affecting self-compassion. In the past literature, researchers

have used a relational framing to manipulate belonging: for example, Gailliot and Baumeister (2007) asked participants to write a time when they felt accepted socially to induce belonging, and Lambert and colleagues (2013) asked participants to think of people with whom they felt they belonged to induce belonging. Although the current study differed from these belonging inductions, thinking about the concept of friends is similar to these belonging inductions. In addition, one belonging intervention among college freshman may have induced common humanity (Walton & Cohen, 2011). College freshmen read passages that attributed social adversity in school as a common aspect in the college-adjustment process, namely that this social adversity was shared with peers regardless of ethnic groups. This intervention increased students' belongingness by reminding participants of the shared suffering of others. Therefore, adding the interpersonal aspect to the self-compassion induction could lead people to directly feel belongingness instead of self-compassion.

Belongingness is considered a fundamental motivation in humans. People are motivated to build interpersonal interactions with others and cultivate enduring and stable relationships (Baumeister & Leary, 1995). Lack of belongingness has detrimental consequences: people experiencing social exclusion rather than social acceptance reported higher loneliness, more aggressive behaviors, lower self-esteem, more self-regulation failures, and less life satisfaction (Baumeister, Brewer, Tice, & Twenge, 2007; Gailliot & Baumeister, 2007; Mellor, Stokes, Firth, Hayashi, & Cummins, 2008). Belongingness is associated with happiness, and increased meaning in life, and increased self-esteem (Baumeister & Leary, 1995; Gailliot & Baumeister, 2007; Lambert et al., 2013).

Belongingness entails connected feelings with others. According to Baumeister and Leary (1995), people are motivated to have frequent affectively positive interactions with others.

People have a sense of belonging when they have a stable relationship with others, such as with friends, or romantic partners. However, feeling connected and belongingness can also foster relationships because people would like to contribute in relationships, for instance, providing care and support to close others (Baumeister & Leary, 1995). Therefore, I expected that a direct increase of belongingness from the letter writing induction could motivate people to develop compassionate goals. Specifically, belongingness would increase people's compassionate goals for friends. In replication with previous findings, I also expected belongingness to bring less loneliness, self-criticism, and negative affect, and more self-esteem, forgiveness, and positive affect. Overall, it is likely that belongingness would increase from letter writing and bring benefits to people's well-being.

The Current Study

The purpose of the current study was to examine the effects of experimentally induced self-compassion on belongingness and relational outcomes and replicate correlational findings of self-compassion. Specifically, I hypothesized that having people write to themselves as if they were a friend would induce state self-compassion and compassionate goals through belongingness.

Past literature has shown that self-compassion is positively correlated with forgiveness, self-esteem, and positive affect, whereas it is negatively associated with self-criticism, loneliness, and negative affect (Akin, 2010; Neff, 2003a; Neff & Pommier, 2012; Neff & Vonk, 2009; Neff et al., 2007). I expected to find the same patterns of these correlations again in the current study.

In terms of the letter writing induction, I asked participants to identify a past failure and then to write comforting letters to themselves imagining themselves as a compassionate and

understanding friend. The induction in this study was designed longitudinally. Since self-compassion requires kindness to understand negative events and failures, becoming more self-compassionate takes time and practice. To examine the effect of time and practice, I incorporated a dose-response design, with three conditions: one session, three sessions, and five sessions. Participants were asked to write a compassionate letter to themselves once a week, for either one week, three weeks, or five weeks depending on condition assignment. This design allows testing on linear effects of state self-compassion across different weeks.

I hypothesized (H1_a) that completing the letter writing induction each week increases state self-compassion. I expected the more weeks of letter writing, the more state self-compassion participants would develop. I also predicted (H1_b) that belongingness would mediate the effect of the self-compassion induction on compassionate goals towards friends. Because self-compassion is linked with connectedness (Neff, 2003b), inducing self-compassion can evoke belongingness, motivating people to be supportive in their relationships.

I also hypothesized (H2_a) that the letter writing induction would increase belongingness directly without affecting self-compassion. In other words, the more weeks of letter writing, the more belongingness participants would develop, without a corresponding change in self-compassion. I hypothesized (H2_b) that belongingness from letter writing would have downstream consequences related to well-being that brought more compassionate goals, self-esteem, forgiveness, and positive affect while brought less loneliness, self-criticism, and negative affect in the moment.

Method

Participants

Participants were 155 undergraduate students recruited at The Ohio State University, who enrolled in psychological studies for course credit. Three participants withdrew from the study and another 5 participants failed to complete the last survey. Of the remaining 147 participants (106 or 72.6% women; 40 or 27.4% men), 104 (68.4%) reported their race as White, 4 (6.6%) reported their race as African American or Black, 34 (22.4%) reported their race as Asian, 1 (0.7%) reported as Hispanic or Latino, and 3 (2%) reported as biracial. Participants' ages ranged from 18 years to 38 years, with a median age of 18.

Procedure & Materials

Participants were randomly assigned to one, three, or five sessions of the self-compassion exercise, followed by a survey after each session. They were provided with a unique 3-digit code and were asked to enter the code for every survey to protect their confidentiality. Every Monday participants were sent a Qualtrics link to the study at 9:00 am and were instructed to complete the survey in one sitting before midnight of that same day. The first session included a baseline measure of trait self-compassion and the last session of each condition included a manipulation check of state self-compassion (thus, participants in condition 1 had the baseline measure and the manipulation check together in their one-time survey). During their last session, participants reported their demographics, and were debriefed about the purpose of the study.

Self-Compassion Induction. Self-compassion was induced using a mandatory letter writing task, adapted from Breines and Chen (2012). Participants were asked to identify an event in the past week that distressed them. They were instructed to then imagine that they were a compassionate and understanding friend of themselves and were asked to write a letter to themselves addressing the distressing event.

Trait Self-Compassion. Trait self-compassion was a baseline measure at the beginning of the first session of each condition. Trait self-compassion was measured using the Self-Compassion Scale (TSC; Neff, 2003; see Appendix 1). This 25-item scale ($\alpha = .91$) measures self-compassion as a stable trait. Participants rated how much they agreed with each statement on a 5-point scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). According to Neff (2003), this scale consists of six intercorrelated factors: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification. Example items include “I’m kind to myself when I’m experiencing suffering” (self-kindness), “When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people” (common humanity), and “When something painful happens I try to take a balanced view of the situation” (mindfulness). A scale average of trait self-compassion was calculated for each participant and used in data analysis.

State Self-Compassion. State self-compassion was measured as a manipulation check in the last session of each condition using an adapted short Self-Compassion Scale with state focus (SSC; Neff, 2003; see Appendix 2). This 17-item scale ($\alpha = .82$) measures state self-compassion, rather than trait. Participants rated how much they agreed with each statement on a 5-point scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Similar to the trait self-compassion measure, six intercorrelated factors are present in this measure. Example items include “I am trying to be loving toward myself when feeling emotional pain” (state self-kindness), “I am reminding myself that feelings of inadequacy are shared by most people”, and “I am trying to approach my feelings with curiosity and openness” (state mindfulness). A scale average of state self-compassion was calculated for each participant and used in data analysis. I also computed a subscale average of the Common Humanity aspect ($\alpha = .72$) of state self-compassion for use as

an alternative manipulation check (CH; Neff, 2003b; see Appendix 3). Example items include “I am reminding myself that there are lots of other people in the world feeling like I am”, and “I see difficulties as part of life that everyone goes through”. A scale average of state common humanity was calculated for each participant and used in data analysis.

Belongingness. State belongingness was measured using an adapted version of the General Belongingness Scale (GBS; Malone, Pillow, & Osman, 2012; see Appendix 4). Participants rated their agreement with 10 items ($\alpha = .93$) from 1 (“strongly disagree”) to 5 (“strongly agree”). Example items include “At the moment, I feel close bonds with family and friends” and “At the moment, I have a sense of belongingness”. A scale average of state belongingness was calculated for each participant and used in data analysis.

Compassionate Goals. State compassionate goals were measured using a short version of the Compassionate Goals Scale (CG; Canevello & Crocker, 2008; see Appendix 5). Eight items were slightly modified to measure state compassionate goals for friends ($\alpha = .94$). Each item began with the stem “How much do you want to or try to” with sample items including “be supportive of my friends” and “make a positive difference in my friends’ lives”. Participants rated the items from 1 (“very slightly or not at all”) to 5 (“extremely”). A scale average of state compassionate goals was calculated for each participant and used in data analysis.

Loneliness. State loneliness was measured using the UCLA Loneliness Scale (UCLA; Russell, Peplau, & Ferguson, 1978; see Appendix 6). Eighteen items were slightly modified to measure state loneliness ($\alpha = .95$). Participants rated how they felt about the statements at the present moment from 1 (“very slightly or not at all”) to 5 (“extremely”). Example items include “I feel a lack of companionship” and “I feel left out”. A scale average of state loneliness was calculated for each participant and used in data analysis.

Self-Criticism. State self-criticism was measured using the Self-Criticism Subscale from the Depressive Experiences Questionnaire (DEQ; Blatt, D’Afflitti, & Quinlan, 1976; see Appendix 7). Four items were slightly adjusted to measure state self-criticism ($\alpha = .81$). Participants rated how they felt at the present moment, from 1 (“very slightly or not at all”) to 5 (“extremely”). Example items include “I think I do not live up to my own standard or ideals” and “At the present moment I feel guilty”. A scale average of state self-criticism was calculated for each participant and used in data analysis.

Positive and Negative Affect. State positive affect (PA) and negative affect (NA) were measured using the PANAS (Watson, Clark, & Tellegen, 1998; Appendix 8). Nine positive emotions and 11 negative emotions were listed (α for positive affect = .93; α for negative affect = .90). Participants rated how they felt at the present moment from 1 (“very slightly or not at all”) to 5 (“extremely”). Example items include “I feel excited” (PA), or “I feel distressed” (NA). Scale averages of state positive affect and state negative affect were calculated for each participant and used in data analysis.

Forgiveness. State forgiveness was measured as an exploratory variable in the current study. The state forgiveness measure was adapted from Brown’s (2003) Tendency to Forgive Scale (TTF; see Appendix 9). The original scale has two subscales, measuring the tendency to forgive and attitudes toward forgiveness. Some adjustments on the Tendency to Forgive subscale were made to adapt the scale from its original trait focus to a state focus. Participants rated their agreement with the 9 statements ($\alpha = .80$) from 1 (“strongly disagree”) to 5 (“strongly agree”). Example items include “Right now I would forgive and forget”, and “Right now I would not dwell on a grudge”. A scale average of state forgiveness was calculated for each participant and used in data analysis.

Self-Esteem. State self-esteem was measured using a modified Rosenberg Self-Esteem Scale (1965) with a state focus (RSES; see Appendix 10). Participants rated their agreement with 4 items ($\alpha = .89$) from 1 (“strongly disagree”) to 5 (“strongly agree”). Example items include “Right now I feel I am no good at all” and “Right now I feel I am a failure” (reverse-scored). A scale average of state self-esteem was calculated for each participant and used in data analysis.

Results

Because the linear effect of self-compassion across the three conditions (1, 3, or 5 sessions of the self-compassion induction) was my main research interest, analyses were based on data from the final session of each condition. In other words, only the data from the third session in condition 2 and the fifth session in condition 3 were analyzed as well as the one session from condition 1.

Correlations

Table 1 presents the bivariate correlations, means, and standard deviations of all variables used in the study. The findings did replicate past research. State self-compassion was positively correlated with state forgiveness ($r = .39, p < .01$), state self-esteem ($r = .68, p < .01$), state belongingness ($r = .62, p < .01$), state compassionate goals ($r = .31, p < .01$) and state positive affect ($r = .41, p < .01$), and was negatively associated with state loneliness ($r = -.63, p < .01$), state self-criticism ($r = -.54, p < .01$), and state negative affect ($r = -.36, p < .01$).

State belongingness was also correlated with many variables. In addition to the positive correlation with state self-compassion ($r = .62, p < .01$), state belongingness was positively correlated with state forgiveness ($r = .43, p < .01$), state self-esteem ($r = .67, p < .01$), state compassionate goals ($r = .44, p < .01$), and state positive affect ($r = .50, p < .01$). State

belongingness was also negatively correlated with state loneliness ($r = -.83, p < .01$), state self-criticism ($r = -.55, p < .01$), and state negative affect ($r = -.36, p < .01$).

Manipulation Check

Based on H1a, I expected a successful manipulation of state self-compassion: participants who completed more sessions would report more state self-compassion in their final session. I expected a main effect of condition such that from condition 1 (i.e., the 1-session condition) to condition 3 (i.e., the 5-session condition), participants showed increased state self-compassion. A univariate analysis of variance (ANOVA) revealed that participants in condition 3 ($M = 3.41, SD = .61$) did not significantly differ from condition 1 ($M = 3.33, SD = .47$) or condition 2 ($M = 3.32, SD = .45, F(2, 144) = .51, p = .60$). This suggests that the state self-compassion induction failed. The comforting letters that participants were asked to write imagining they were their own friends did not change their state self-compassion.

Common humanity as a component of self-compassion was tested as an alternative manipulation check. Common humanity raises people's awareness that pain and suffering are shared by all humans, which is a key component linking self-compassion with belongingness. Thus I tested whether this letter writing induction increased participants' state common humanity. However, there was still no difference among condition 1 ($M = 3.35, SD = .56$), condition 2 ($M = 3.34, SD = .61$), and condition 3 ($M = 3.43, SD = .80, F(2, 144) = .28, p = .76$). This again suggests that the state self-compassion manipulation did not function as H1a suggested.

Table 1. Correlations												
<i>Correlations, Means, and Standard Deviations of All Study Variables</i>												
<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>Mean</i>	<i>SD</i>
1. TSC		.65**	.43**	.001	-.41**	-.50**	.32**	-.19*	.15	.47**	3.00	.58
2. SSC	.65**		.62**	.31**	-.63**	-.54**	.41**	-.36**	.39**	.68**	3.35	.51
3. GBS	.43**	.62**		.44**	-.83**	-.55**	.50**	-.36**	.43**	.67**	3.65	.73
4. CG	.005	.31**	.44**		-.45**	-.17*	.27**	-.19*	.49**	.32**	4.13	.77
5. UCLA	-.41**	-.63**	-.83**	-.45**		.62**	-.43**	.49**	-.41**	-.67	2.16	.77
6. DEQ	-.50**	-.54**	-.55**	-.17**	.62**		-.35**	.54**	-.23**	-.70**	2.55	.95
7. PA	.32**	.41**	.50**	.27**	-.43**	-.35**		.10	.34**	.52**	2.89	.91
8. NA	-.19**	-.36**	-.36**	-.19*	.49**	.54**	.10		-.24**	-.40**	2.08	.82
9. TTF	.15	.39**	.43**	.49**	-.41**	-.23**	.34**	-.24**		.36**	3.45	.61
10. RSES	.47*	.68**	.67**	.32**	-.67**	-.70**	.52**	-.40**	.36**		3.76	.80

Note. TSC: Trait Self-Compassion Scale. SSC: State Self-Compassion Scale. GBS: General Belongingness Scale. CG: Compassionate Goals Scale. UCLA: Loneliness Scale. DEQ: Self-Criticism Subscale from the Depressive Experience Questionnaire. PA: Positive Affect Scale. NA: Negative Affect Scale. TTF: Tendency to Forgive Scale. RSES: Rosenberg Self Esteem Scale. **p < .01; *p < .05; +p < .10

I then tested H2_a whether the letter writing induction directly affected participants' state belongingness. A main effect of condition was found for state belongingness, $F(2, 144) = 3.71, p = .03$ (see Table 2). A post hoc Turkey test showed that condition 3 ($M = 3.87, SD = .78$) significantly differed from condition 1 ($M = 3.48, SD = .66; p = .02$); condition 2 ($M = 3.62, SD = .72$) was not significantly differently from condition 1 ($p = .57$), or condition 3 ($p = .20$). Participants in condition 3 reported more state belongingness than those in condition 1. Although condition 2 was not significantly differed from condition 1 or condition 3, Figure 1 shows an upward trending on state belongingness. Thus, the more letters participants wrote to themselves as a friend, the more belonging they felt in the moment. This indicates the self-compassion induction successfully increased state belongingness, supporting H2_a.

Table 2. Between-Subjects Effects					
<i>Dependent Variable: state belongingness</i>					
<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig</i>
Corrected Model	3.82 ^a	2	1.91	3.71	.03
Intercept	1961.40	1	1961.40	3807.99	.000
Condition	3.82	2	1.91	3.71	.03
Error	74.17	144	.52		
Total	2036.76	147			
Corrected Total	77.99	146			

Note. a. R Squared = .05 (Adjusted R Squared = .04)

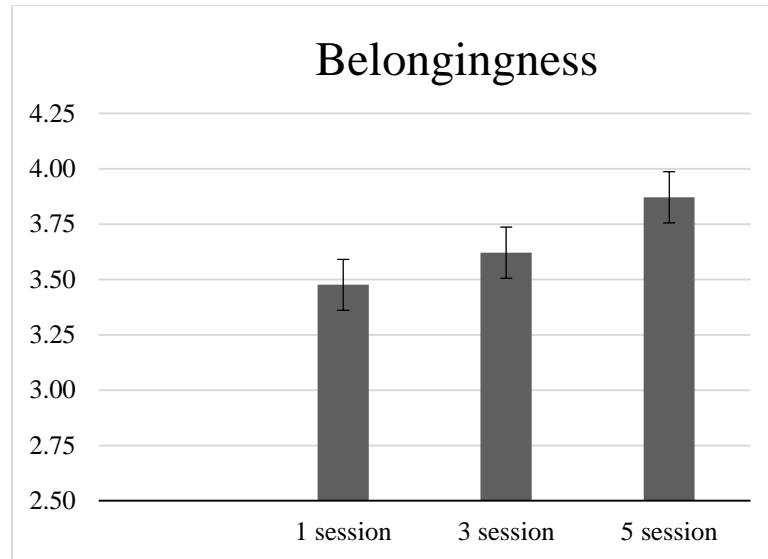


Figure 1. The main effect of condition on state belongingness in the final session.

Interaction Analysis

I also investigated whether trait self-compassion interacted with condition to produce an increase in state self-compassion. I speculated that people with high trait self-compassion would develop less self-compassion compared to those with low trait self-compassion in the beginning. A two-way ANOVA with condition, traits self-compassion, and their interaction term predicting state self-compassion revealed no significant interaction ($p = .253$). Trait self-compassion did not moderate the effect of the self-compassion induction on state self-compassion.

Condition Effects

I also ran ANOVAs on the other dependent variables to check whether they were affected by the letter writing exercise, including state compassionate goals, state forgiveness, state self-esteem, state loneliness, state self-criticism, state positive affect, and state negative affect. However, none of these variables showed a main effect of condition (all $ps > .12$).

As an alternative analysis investigating whether the letter writing task affected the dependent variables, I ran a factor analysis and created a composite variable. Because the dependent variables were correlated with each other (see Table 1), I suspected there may be a latent variable underneath them. Therefore, creating a composite variable could help detect any effect. The Pattern Matrix (Table 3) showed the factor analysis generated a three-factor solution. Since composite factor 1 included most of the variables, it was analyzed further. A reliability analysis suggested composite factor 1 was a coherent variable to analyze ($\alpha = .97$). However, an ANOVA showed that condition did not affect composite factor 1 significantly, $F(2, 144) = 1.20$, $p = .30$. Overall, the condition effects were not shown among most dependent variables.

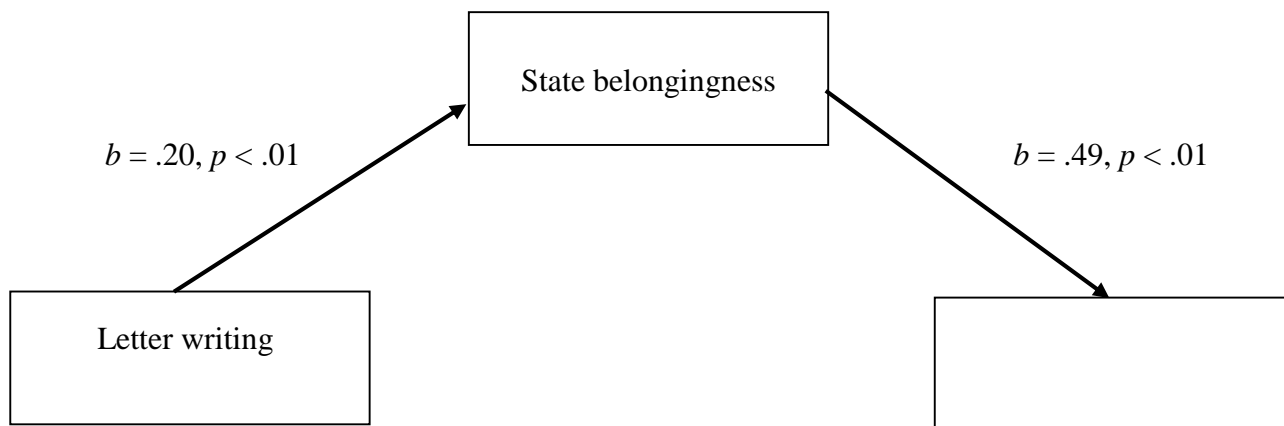
Table 3. Pattern Matrix			
<i>Principal Axis Factoring, Promax Rotation with Kaiser Normalization</i>			
<i>Variables</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>
RSES	.90	-.08	-.03
DEQ	-.83	.28	.27
PA	.73	.08	.48
SSC	.67	.09	-.06
GBS	.65	.27	-.03
UCLA	-.61	-.26	.19
CG	-.10	.78	-.05
TTF	.06	.61	-.04
NA	-.07	-.09	.87

Note. RSES: Rosenberg Self Esteem Scale. DEQ: Self-Criticism Subscale from Depressive Experience Questionnaire. PA: Positive Affect Scale. SSC: State Self-Compassion Scale. GBS: General Belongingness Scale. UCLA: Loneliness Scale. CG: Compassionate goals. TTF: Tendency to Forgive Scale. NA: Negative Affect Scale.

Mediation Models

To test H2_b, whether belongingness from the self-compassion induction has beneficial downstream consequences on the other dependent variables, mediation analyses were conducted through PROCESS (Hayes, 2012), using bootstrapping methods of 5,000 samples (Preacher & Hayes, 2008). Although the independent variable, condition, was a categorical variable, the characteristics of condition in this study had continuous characteristics: from condition 1 to condition 3, the number of survey sessions increased from one to five times. Therefore, condition was eligible for PROCESS mediation testing in which condition would be treated as a continuous variable. I expected state belongingness would mediate the links between condition (i.e., letter writing induction sessions) and state compassionate goals. I also expected state belongingness would mediate the links between condition and state self-criticism, state loneliness, state negative affect, state forgiveness, state self-esteem, and state positive affect.

As I predicted, condition did have indirect effect on state compassionate goals through state belongingness. The indirect effect of condition on compassionate goals ($b = .10$, $\text{BootSE} = .04$, 95% $\text{BootCI} [.03, .18]$) was significant (i.e., the 95% confidence intervals did not include 0). Therefore, the more letters participants wrote to themselves in a friend's perspective, the more they felt belonging in the moment, which in turn led to more compassionate goals towards their friends.



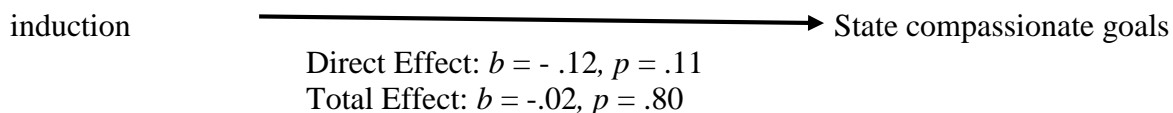


Figure 2. State compassionate goals as a consequence of letter writing and state belongingness.

Condition had indirect effects on the other dependent variables as well (see Table 4). The indirect effect of condition on state forgiveness ($b = .07$, BootSE = .03, 95% BootCI [.02, .14]), state self-esteem ($b = .15$, BootSE = .06, 95% BootCI [.04, .28]), state positive affect ($b = .13$, BootSE = .06, 95% BootCI [.04, .26]), state self-criticism ($b = -.14$, BootSE = .06, 95% BootCI [-.26, -.04]), state loneliness ($b = -.17$, BootSE = .06, 95% BootCI [-.30, -.05]), and state negative affect ($b = -.08$, BootSE = .04, 95% BootCI [-.17, -.02]) were all significant (i.e., the 95% confidence intervals did not include 0). The self-compassion induction indirectly improved these outcomes by increasing belongingness.

Table 5. Mediation Models								
<i>Indirect Effects of Condition on Dependent Variables via Belongingness</i>								
DV	<i>Indirect Effect</i>				<i>Direct Effect</i>		<i>Total Effect</i>	
	<i>b</i>	<i>p</i>	BootSE	95%BootCI	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>
TTF	.07		.03	[.02, .14]	-.02	.78	.06	.37
GBS→TTF	.37	< .01						
RSES	.15		.06	[.04, .28]	-.19	< .01	-.04	.61
GBS→RSES	.78	< .01						
PA	.13		.06	[.04, .26]	-.20	.02	-.06	.50
GBS→PA	.67	< .01						
DEQ	-.14		.06	[-.26, -.04]	.05	.51	-.09	.36

GBS→DEQ	-.73	< .01						
UCLA	-.17		.06	[-.30, -.05]	.08	.10	-.10	.21
GBS→UCLA	-.89	< .01						
NA	-.08		.04	[-.17, -.02]	.002	.98	-.08	.36
GBS→NA	-.40	< .01						

Note. GBS: General Belongingness Scale. TTF: Tendency to Forgive Scale. RSES: Rosenberg Self Esteem Scale. PA: Positive Affect Scale. DEQ: Self-Criticism Subscale from Depressive Experience Questionnaire. UCLA: Loneliness Scale. NA: Negative Affect Scale.

In sum, although the self-compassion induction did not directly affect most of the dependent measures, it did indirectly affect all of them through state belongingness.

Discussion

The purpose of this experiment was to expand empirical understanding of experimentally inducing self-compassion on belongingness and relational outcomes. In this study, I replicated the correlational findings of self-compassion in the literature. I also investigated whether trait self-compassion interacted with condition to produce an increase in state self-compassion. Most importantly, I tested the effects of a new self-compassion induction on compassionate goals and other outcomes through belongingness. I expected that the letter writing induction would increase people's state self-compassion, which would create belongingness in the moment and help people to develop more state compassionate goals toward their friends. On the other hand, I also tested whether the letter writing induction would directly increase people's state belongingness without affecting self-compassion, which could have downstream consequences for improving well-being.

Correlational findings replicated previous research. State self-compassion was correlated positively with forgiveness, self-esteem, self-criticism, and positive affect in the moment, and negatively correlated with self-criticism, loneliness, and negative affect in the moment.

However, the data did not support H1_a. I did not find a main effect of condition on state self-compassion ($p = .60$). The letter writing induction, asking participants to write comforting letters to themselves imagining they were their own friends, did not seem to increase self-compassion. This finding contradicts that of Breines and Chen (2012), who found a main effect of condition (i.e., self-compassion induction vs. self-esteem induction vs. control) on their dependent variable, incremental beliefs. However, the induction in the current study differed from Breines and Chen's, as I did not include any control condition. My data suggested that dosages of the letter writings did not change self-compassion, but it is difficult to say whether the induction did not change self-compassion at all (vs. control) or whether it is just the case that multiple letter writing sessions have no greater impact than a single letter writing session. However, it is hard to draw the conclusion that letter writing did no change people's state self-compassion. On the other hand, I also added a "friend" context to the letter writing induction. Adding this context to letter writing might diminish the manipulation effect. It could be that induction of self-compassion through letter writing is only effective in the intrapersonal perspective: adding interpersonal details may switch people's attention from solely the self (self-compassion) to the self in an interpersonal context (belonging). This could explain why I found conditional differences on belongingness but not state self-compassion.

However, repeatedly writing compassionate letters to the self as a friend raised participants' belongingness, which supported H2_a. Even though the letter writing induction did not increase participants' state self-compassion across conditions, it significantly increased their

state belongingness across conditions ($p = .03$). This result suggested that the letter writing in a friend's perspective might have experimentally manipulated belongingness without affecting self-compassion. Past literature found belongingness can be evoked by merely recalling a warm memory with others (Gailliot & Baumeister, 2007; Lambert et al., 2013). However, this finding suggested that the sense of belonging can also be increased through writing letters to the self as though they were their own friends. Writing as if they were a friend could remind them of their friends in the moment and generate interconnected feelings with their friends. It is possible that this writing in a friend's perspective worked in a similar way as the warm memory recall induction in the literature.

Trait self-compassion did not moderate the effect of the self-compassion induction, suggesting that having a high self-compassion from beginning would not lower people's capacity to develop more self-compassion. However, since the main effect of condition was not found in the data, this conclusion should be considered with caution.

However this study supported H2_b that belongingness from the letter writing manipulation had beneficial downstream consequences. Condition had indirect effects on all dependent measures via belongingness. Of particular interest, the indirect effect of condition on compassionate goals via state belongingness was significant, suggesting that boosting belongingness via the manipulation boosts people's compassionate goals. Writing letters could remind participants of their friends and generate warm and close feelings in them, which could motivate them to provide sincere support to their friends. This result suggested a potential way to increase compassionate goals through writing while triggering the concept of friends to boost belongingness. Since compassionate goals are important to relational well-being as they foster responsive and secure relationships (Canevello & Crocker, 2010; Canevello, Granillo, &

Crocker, 2013), this finding contributed to empirical understanding of constructing high-quality relationships.

The letter writing induction also indirectly predicted state forgiveness, state self-esteem, state positive affect, state self-criticism, state loneliness, and state negative affect through belongingness. These analyses suggested that belongingness is important to well-being: possessing belongingness in the moment predicts positive emotions and positive feelings toward oneself, while lowering negative emotions and negative feelings toward oneself and others. These results are consistent with previous findings on belongingness and support the link between belongingness and individual well-being. However, these conclusion should be interpreted with some caution. The induction did not have significant direct or total effects on these outcomes, so it is unclear whether the letter writing induction would be an effective way to improve these outcomes.

Limitations

The current study has a few limitations. First, it was conducted exclusively online, which means I could not control the environment when participants completed the surveys. Participants could experience distractions during the survey, especially when the letter writing required them to be compassionate toward their setbacks. The online study also allowed participants to complete the surveys at different times, any time from early morning to midnight in a given day. It is hard to know whether completing surveys at different times affected how participants reported their feelings. Second, I did not include a social desirability measure in the survey, and thus do not know whether participants provided responses from their true feelings or stemming from social norms. Third, a measure of whether participants had recalled their friendships could

have been inserted to strengthen the argument that letter writing reminded participants of their friends in the moment, and thus increased belonging.

Implications for Future Research

This study provides many avenues for future research. For example, the current study did not answer my original question about the causality of the relationship between self-compassion and compassionate goals. However, this is still an important question to answer. Some previous evidence suggested people with high self-compassion feel more satisfied in their relationships, but the mechanism behind this effect was unclear (Neff & Beretvas, 2013). Although this study was unable to demonstrate this causal link due to the unexpected failure of the manipulation to induce higher self-compassion, the expected causal effect on compassionate goals remains plausible. Because self-compassion involves being aware of the shared imperfection of all humans, self-compassion is likely to motivate people to nurture others and encourage others to develop and grow. This understanding and caring perspective can potentially promote people to provide care and support to others while downplaying harsh judgment and criticism. Thus, future research should continue to explore my original questions of whether self-compassion causally leads to more compassionate goals toward others.

This study also calls for more empirical evidence to examine the power of this letter writing induction. Other future research can continue to examine the applicability of this letter writing exercise increasing belongingness. Belongingness is an essential trait that people have to bond with others and maintain their own health and cognitive functioning (Baumeister & Leary, 1995). However, belongingness is also a state feeling that can be raised by recalling the past (Lambert et al., 2013). These findings extended the literature of belonging and suggested a new way of raising belongingness, by asking people to write letters to oneself while imagining

themselves as a friend. It also leads to another research question for future research, whether this induction would actually work better than the recall induction for people who are lonely. It is possible that imagining self as a friend could provide lonely people an opportunity to make up for their lack of friends with an idealized friend with warmth and compassion. Future research can also examine whether this letter writing induction can work as a daily intervention to help people obtain connected feelings, build more high-quality relationships, and experience increased well-being.

Conclusions

In sum, the current study tested out a new letter writing method of inducing self-compassion by adding an interpersonal context. Although this manipulation did not successfully induce higher self-compassion, it introduced a new way to increase people's belonging in the moment, by writing letters while imagining the self as one's friend. This study also suggested some downstream consequences from belongingness that can lead to well-being. These findings were important because they raised the possibility to increase compassionate goals through belongingness and establish applicable interventions to increase people's well-being through letter writing exercises in a friend's perspective.

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Appendix 1. Trait Self-Compassion Scale (TSC)

1. I try to be understanding and patient towards those aspects of my personality I don't like.
2. When I see aspects of myself that I don't like, I get down on myself. (R)

3. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
4. When I fail at something that's important to me I tend to feel alone in my failure. (R)
5. When something upsets me I try to keep my emotions in balance.
6. When something upsets me I get carried away with my feelings. (R)
7. I'm kind to myself when I'm experiencing suffering.
8. When times are really difficult, I tend to be tough on myself. (R)
9. I try to see my failings as part of the human condition.
10. When I think about my inadequacies it tends to make me feel separate and cut off from the rest of the world. (R)
11. When I'm feeling down I try to approach my feelings with curiosity and openness.
12. When I'm feeling down I tend to obsess and fixate on everything that's wrong. (R)
13. When I'm going through a very hard time, I give myself the caring and tenderness I need.
14. I can be a bit cold-hearted towards myself when I'm experiencing suffering. (R)
15. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
16. When I'm feeling down I tend to feel like most other people are probably happier than I am. (R)
17. When something painful happens I try to take a balanced view of the situation.
18. When something painful happens I tend to blow the incident out of proportion. (R)
19. I'm tolerant of my own flaws and inadequacies.
20. I'm disapproving and judgmental about my own flaws and inadequacies. (R)

21. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
22. When I'm really struggling I tend to feel like other people must be having an easier time of it. (R)
23. When I fail at something important to me I try to keep things in perspective.
24. When I fail at something important to me I become consumed by feelings of inadequacy. (R)
25. I try to be loving towards myself when I'm feeling emotional pain.

Appendix 2. State Self-Compassion Scale

1. I want to be understanding and patient towards those aspects of my personality I don't like.

2. I am tough on myself. (R)
3. I want to be tolerant of my own flaws and inadequacies.
4. I am trying to be loving towards myself when feeling emotional pain.
5. I'm disapproving and judgmental about my own flaws and inadequacies. (R)
6. I am reminding myself that feelings of inadequacy are shared by most people.
7. I am reminding myself that there are lots of other people in the world feeling like I am.
8. I see difficulties as part of life that everyone goes through.
9. I feel alone in my past failures. (R)
10. Thinking about my inadequacies now makes me feel more separate and cut off from the rest of the world. (R)
11. I feel like most other people are probably happier than I am. (R)
12. I am trying to keep my emotions in balance.
13. I am trying to take a balanced view of the situation.
14. I am trying to approach my feelings with curiosity and openness.
15. I am obsessing and fixating on everything that's wrong. (R)
16. I am probably blowing the incident I wrote about out of proportion. (R)
17. I am consumed by feelings of inadequacy. (R)

Appendix 3. State Common Humanity

1. I am reminding myself that feelings of inadequacy are shared by most people.

2. I am reminding myself that there are lots of other people in the world feeling like I am.
3. I see difficulties as part of life that everyone goes through.
4. I feel alone in my past failures. (R)
5. Thinking about my inadequacies now makes me feel more separate and cut off from the rest of the world. (R)
6. I feel like most other people are probably happier than I am. (R)

Appendix 4. General Belongingness Scale

1. At the moment, I feel included with other people.

2. At the moment, I feel like an outsider. (R)
3. At the moment, I feel close bonds with family and friends.
4. At the moment, I feel as if people don't like me. (R)
5. At the moment, I feel I am accepted by others.
6. At the moment, I feel isolated from the rest of the world. (R)
7. At the moment, I have a sense of belonging.
8. At the moment, I feel like a stranger to other people. (R)
9. At the moment, I feel I have a place at the table with others.
10. At the moment, I feel connected with others.

Appendix 5. Compassionate Goals Scale

How much do you want to:

1. Have compassion for my friends' mistakes and weaknesses.
2. Be supportive of my friends.
3. Be constructive in my comments to my friends.
4. Avoid being selfish or self-centered.
5. Avoid neglecting my relationships with my friends.
6. Avoid doing anything that would be harmful to my friends.
7. Be aware of the impact my behavior might have on my friends' feelings.
8. Make a positive difference in my friends' lives.

Appendix 6. UCLA Loneliness Scale

1. I feel “in tune” with the people around me. (R)

2. I feel a lack of companionship.
3. I feel there is no one I can turn to.
4. I feel alone.
5. I feel part of a group of friends. (R)
6. I feel I have a lot in common with the people around me. (R)
7. I feel I am no longer close to anyone.
8. I feel that my interests and ideas are not shared by those around me.
9. I feel left out.
10. I feel my relationships with others are not meaningful.
11. I feel no one really knows me well.
12. I feel isolated from others.
13. I can find companionship when I want it. (R)
14. I feel there are people who really understand me. (R)
15. If you are paying attention, please choose "A little". (Attention Check)
16. I feel people are around me but not with me.
17. I feel there are people I can talk to. (R)
18. I feel there are people I can turn to. (R)

Appendix 7. Depressive Experience Questionnaire – Self-Criticism Subscale

1. I think there is a considerable difference between how I am now and how I would like to be.

2. At the present moment I feel guilty.
3. At the present moment I feel I have disappointed others.
4. I think I do not live up to my own standard or ideals.

Appendix 8. Positive Affect and Negative Affect Scales

PA

NA

I feel interested.	I feel irritable.
I feel excited.	I feel distressed.
I feel active.	I feel ashamed.
I feel strong.	I feel upset.
I feel enthusiastic.	I feel nervous.
I feel proud.	I feel guilty.
I feel inspired.	I feel scared.
I feel determined.	I feel jittery.
I feel attentive.	I feel hostile.
	I feel afraid.
	I feel alert right.

1. Right now I feel inclined to forgive those who hurt me.
2. Right now I feel less angry towards those who hurt me.
3. Right now I would forgive and forget.
4. Right now I would not dwell on a grudge
5. Right now I feel others can be forgiven.
6. Right now I would stay mad at those who hurt me. (R)
7. Right now I think people should let go the wrongs they have suffered.
8. Right now I would not forget how others hurt me. (R)
9. Right now I want to embrace forgiveness.

Appendix 10. Rosenberg Self Esteem Scale

1. Right now I feel I am a person of worth.

2. Right now I feel I am a failure. (R)
3. Right now I feel I am no good at all. (R)
4. Right now I feel satisfied with myself.