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Inducing Kindness to Cope with Social Stress: Comparing Self-Compassion with Cognitive Reappraisal

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INDUCING KINDNESS TO COPE WITH SOCIAL STRESS: COMPARING SELF-COMPASSION WITH COGNITIVE REAPPRAISAL

by

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Abstract

Self-compassion involves being accepting and caring toward oneself when dealing with failure and hardships. Inducing self-compassion has been shown to be helpful, particularly for individuals with high levels of social anxiety. However, few studies have compared a self-compassion intervention to another adaptive strategy. The primary aim of the present study was to examine the impact of a self-compassion induction for social stress compared to another beneficial strategy. Three studies were conducted to compare self-compassion and cognitive reappraisal as strategies for coping with past stressful social situations and current social stress. In Study 1, participants (N = 276) were asked to recall and describe a situation during the pandemic where they felt judged and then were randomly assigned to either a self-compassion, cognitive reappraisal or a control writing condition. Those who completed either the self-compassion or cognitive reappraisal condition reported significantly lower distress immediately after the induction, and higher levels of self-compassion and reappraisal compared to the control condition. Study 2 (N = 277) was similar to Study 1; however, participants were asked to recall any past stressful social situation where they felt judged by others. Those who completed the self-compassion induction reported significantly higher levels of self-compassion and reappraisal and significantly lower levels of state anxiety compared to those in the control condition. Finally, in Study 3, participants (N = 158) were randomly assigned to one of the three conditions prior to presenting a 3-minute speech via Zoom. Those who reported high levels of fear of self-compassion and high social anxiety benefited most from the reappraisal condition. These studies provide insight on the different benefits of engaging in self-compassion and cognitive reappraisal in diverse contexts and suggest overlap between these two constructs.

Keywords: Self-Compassion • Cognitive Reappraisal • Social Anxiety • Social Stress

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Inducing Kindness to Cope with Social Stress: Comparing Self-Compassion with Cognitive Reappraisal

Self-compassion involves being kind and non-judgmental toward oneself during times of hardship and failure and can help individuals cope with failures in adaptive ways (Gilbert, 2014). Self-compassion interventions have been shown to help individuals with social anxiety disorder (Arch et al., 2014). Individuals with high levels of social anxiety have reported benefiting most from a self-compassion induction compared to those low in social anxiety (Harwood & Kocovski, 2017). However, most research has focused on comparing self-compassion inductions to a control condition instead of comparing self-compassion to another beneficial strategy. The primary aim of the present research was to compare a self-compassion induction to a cognitive reappraisal exercise.

Self-Compassion

Self-compassion consists of three domains: self-kindness, common humanity and mindfulness (Neff, 2003). Self-kindness involves treating oneself kindly and with care during difficult times as opposed to being self-critical. Common humanity involves seeing one's personal failures or inadequacies as part of the human experience, instead of believing we are alone in our struggles and suffering. Lastly, mindfulness involves being aware of our emotions and not over-identifying with our negative feelings and emotions (Neff, 2003).

Self-compassion has been found to have a variety of benefits such as increasing life satisfaction (Neff, 2003; Neff et al., 2018), psychological health (Neff et al., 2007), constructive problem solving (Arslan, 2016), resilience and wellness, emotional regulation, self-determination and perceived competence (Neff, 2003). Self-compassion has also been found to protect against negative psychological wellbeing including self-judgment and rumination (Neff, 2003) and can

decrease perceived levels of stress in times of isolation (Lau et al., 2020; Schnepper et al., 2020). During difficult and challenging times, self-compassion has been found to be associated with more adaptive coping and greater self-improvement intentions (Breines & Chen, 2012). Altogether, self-compassion is seen as an adaptive coping method that has been found to be positively related to other adaptive coping strategies such as acceptance and positive reframing while being associated with fewer maladaptive avoidant coping strategies such as denial, mental and behavioural disengagement (Neff et al., 2005). Overall, being self-compassionate has been shown to have a variety of benefits such as increasing life satisfaction and promoting resilience and results in more adaptive coping methods during difficult times.

It has also been demonstrated that self-compassion can be induced through a variety of activities such as written inductions and trainings to promote wellbeing. These inductions and trainings have found to be beneficial in increasing self-compassion and promoting higher psychological wellbeing. Indeed, a self-compassion training has been found to buffer against physiological responses related to social stressors and social evaluations (Arch et al., 2016; Arch et al., 2014). More specifically, it was found that a self-compassion meditation decreased reported levels of stress when compared to placebo and no-training conditions, (Arch et al., 2014). It is clear that self-compassion is beneficial for overall positive psychological wellbeing and even those who report low levels of trait self-compassion can improve their psychological wellbeing by engaging in self-compassion inductions.

Social Anxiety

It is known that individuals with social anxiety disorder (SAD) have lower levels of trait self-compassion (Werner et al., 2012). Social anxiety disorder is a common and persistent anxiety disorder characterized by fear and avoidance of social situations and worry about

negative evaluations from others (Baxter et al., 2013; Beedso-Baum et al., 2012; Kessler et al., 2012). Individuals with SAD, compared to individuals without SAD, tend to be more self-critical and fear being judged by others in social situations (Clark & Wells, 1995; Rapee & Lim, 1992). In general, those who have SAD, compared to those who do not, experience fewer positive emotions, less meaning in life, and lower self-esteem (Kashdan & McKnight, 2013). Clark and Wells' (1995) cognitive model of social anxiety suggests that those with SAD develop problematic beliefs about themselves and their social world. This leads them to appraise social situations as dangerous and results in increased anxiety. They tend to focus on negative social information, are extremely self-conscious and have excessively high standards in social situations. These negative appraisals and anxiety may play a role in maintaining social anxiety for those with SAD (Clark & Wells, 1995).

Clark and Wells (1995) proposed three stages of distorted processing associated with SAD, which often serve as a maintaining factor for social anxiety symptoms. First, the anticipatory processing phase refers to the cognitive processing and fear associated with an upcoming social situation. According to the model, those with SAD are more likely to plan out and review the details of the upcoming social situation. However, for those with SAD, this anticipation stage is not typically beneficial. It does not prepare them for the upcoming social situation, as those with SAD are more likely to focus on past failure, imagine themselves doing poorly in the social situation and anticipate rejection. Indeed, anticipatory processing scores and social anxiety levels have been found to be correlated (Vassilopoulos, 2004). That is, those who report high levels of social anxiety also report high levels of anticipatory anxiety. Moreover, high and low socially anxious individuals show differences in how they process upcoming stressful social events, and these differences may play an important role in maintaining anticipatory

anxiety (Hinrichsen & Clark, 2003). That is, those with high levels of social anxiety perceive upcoming social situations much more negatively and threatening than do those with low levels of social anxiety. High socially anxious individuals spend more time and effort trying to predict their behaviour and other people's reactions which leads to negative, distorted, observer-perspective images about how they might appear and how others may respond (Vassilopoulos, 2004). Additionally, when anticipating giving a speech, high socially anxious individuals, compared to low socially anxious individuals, recalled less positive public self-referent words and tended to recall more negative public self-referent words (Mansell & Clark, 1999). Thus, when individuals with SAD enter the social situation, they are already filled with negative thoughts and expect to fail, and this may be why some individuals avoid the social situation altogether.

Next, is the in-situation processing phase which involves self-focused attention, safety behaviours, and negative thoughts and worries regarding the social situation. During social situations, individuals with SAD focus on monitoring and observing their behaviour (Clark & Wells 1995). They assume that they are being watched and judged by others and as a result become very self-critical and self-focused. Individuals with SAD believe that their self-perceptions are accurate representations of how others perceive them to be. Therefore, when they are feeling anxious, they believe that others can notice it even if they have displayed no physical signs. Additionally, individuals with SAD often engage in a variety of safety behaviours, such as planning what to say or saying very little, avoiding eye contact, trying to hide sweating or blushing, as they believe these behaviours will reduce their anxiety and fear associated with negative evaluations. Some safety behaviours are an attempt to avoid social interactions whereas others are used in order to create a good impression. Both avoidance and impression

management safety behaviours have been found to be positively associated with social anxiety symptoms and cognitions (Evans et al., 2021). Individuals with SAD believe that engaging in these safety behaviours will prevent their feared outcomes, which could mean avoiding social interactions altogether or over preparing for them. However, according to Salkovskis (1991) these behaviours are in fact problematic. First, engaging in these safety behaviours prevents individuals from actually experiencing the disconfirmation of their unrealistic beliefs or the consequences associated with them. Secondly, they can actually make the feared behaviours more likely to happen. Engaging in safety behaviours has been found to increase state anxiety (Gray et al., 2019) and negatively impact the quality of social interactions (Stangier et al., 2006).

Lastly, the post-event processing phase refers to negative and repetitive thinking following a social situation and may serve as a maintaining factor in social anxiety (Blackie & Kocovski, 2018; Clark & Wells 1995; Rapee & Heimberg 1997). Post-event processing has been found to be associated with upward counterfactual thinking (Kocovski et al, 2005), greater levels of anticipatory anxiety for future social situations (Blackie & Kocovski, 2016) and negative self-judgments (Mellings & Alden, 2000). Individuals with SAD tend to ruminate and fixate on past social events and tend to engage in higher levels of post-event processing. Individuals with SAD immediately engage in post-event processing where they review the social situation in detail, become convinced that the social situation went negatively and become very self-critical. Even when the social situation went well, they have a more negative self-view compared to those low in social anxiety (Alden & Wallace, 1995). In fact, when asked to recall a past social event, socially anxious individuals reported that their thoughts about the event were recurrent, intrusive, interfered with their concentration and increased their state of anxiety and that they wished they could avoid the situation (Vassilopoulos, 2004). Indeed, high socially anxious individuals may

overestimate how anxious they appear and underestimate how well they come across (Mansell & Clark, 1999). Overall, SAD is associated with several maladaptive behaviours and thoughts related to social situations.

Self-Compassion and Social Anxiety

Trait self-compassion has been found to be associated with social anxiety severity such that the lower the baseline self-compassion, the higher the clinical symptoms of SAD (Makadi & Koszycki, 2020). It is plausible that those with SAD may benefit from a self-compassion induction due to their low levels of trait self-compassion. Self-compassion has been successfully induced in the lab through both meditation trainings and written inductions to help alleviate anxiety. It has been found that completing a self-compassion meditation was successful in inducing self-compassion to cope with social anxiety symptoms (Arch et al., 2014; Koszycki et al., 2016) More specifically, it was found that engaging in a self-compassion meditation before an anticipated social stressor, compared to placebo and no-training conditions, resulted in decreased reported levels of stress (Arch et al., 2014). Similar results were also found for mindfulness meditation trainings that had incorporated self-compassion and that involved a longer time commitment. For example, it was found that a 12-week mindfulness meditation training for individuals with SAD was effective in decreasing social anxiety symptoms and increasing self-compassion (Koszycki et al., 2016).

Self-compassion has also been induced through written exercises and has been found to play an important role in reducing negative emotions, increasing state self-compassion and decreasing anticipatory anxiety, post-event processing and overall social anxiety symptoms. Neff et al (2021) developed a self-compassion mindset induction that has been found to successfully increase state self-compassion compared to a control writing task. Other research has used

similar written inductions (Leary et al., 2007) in order to induce state self-compassion and decrease negative feelings and emotions including anxiety. It has been found that a written self-compassion induction, compared to a writing control and true control condition, led individuals to acknowledge their role in negative events but did not leave them feeling overwhelmed with negative emotions (Leary et al., 2007). Similarly, inducing self-compassion through writing has been found to effectively reduce anticipatory anxiety for those with high social anxiety compared to those low in social anxiety (Harwood & Kocovski, 2017). Furthermore, inducing self-compassion for those with high social anxiety has been found to reduce post-event processing and increase willingness to engage in future social situations compared to a rumination and a control condition (Blackie & Kocovski, 2018). Self-compassion may be a beneficial strategy to help buffer against the negative consequences of post-event processing as self-compassion has been found to correlate negatively with post-event processing (PEP; Blackie & Kocovski, 2018), repetitive negative thinking, including depressive rumination (Raes, 2010), and general rumination (Neff & Vonk, 2009). Additionally, it was found that higher trait self-compassion was associated with less PEP for both those with high and low social anxiety (Blackie & Kocovski, 2018) and was found to protect against negative affect when receiving less favourable feedback (Leary et al., 2007). Other studies investigating the impact of self-compassion following a social stressor have found similar results. For example, it was found that individuals with SAD, compared to individuals without SAD, reported greater increases in self-compassion and greater decreases in state anxiety after completing a self-compassion induction (Arch et al., 2018). Overall, a written self-compassion induction seems to be beneficial in aiding those with SAD to cope with distorted processing that is associated with social situations.

Although both meditation and written methods of inducing self-compassion seem to be beneficial, it has been found that a written exercise is more beneficial at increasing state self-compassion among those with high social anxiety than either an interview or a meditation (Siegel & Kocovski, 2020). In this study, participants were asked to recall a social judgment situation and then were randomly assigned to one of three induction conditions or a control condition. In the writing induction, participants were asked to write in a self-compassionate manner regarding the social judgment situation they had brought to mind. In the meditation condition, participants listened to a 10-minute guided meditation that guided them to think in a self-compassionate manner regarding their social situation. In the interview condition, participants were asked the same questions as in the writing condition but instead of writing their responses, they were asked to verbally respond to them. In the control condition they were asked to wait 5 minutes. Overall, the authors found that individuals were the most distracted in the meditation condition and they suggested that individuals with elevated social anxiety may have feared social judgment during the interview condition, making that format less effective than the written exercise (Siegel & Kocovski, 2020). These results demonstrate that it is possible to aid those who have high levels of social anxiety by having them engage in a self-compassion written induction. However, all of these studies have focused on comparing a self-compassion induction to a control condition, as opposed to another beneficial strategy.

Cognitive Reappraisal

Individuals who fear self-compassion may refrain from engaging in self-compassion but may find alternative strategies, such as cognitive reappraisal, beneficial to help them cope with past and upcoming social stressors. Cognitive reappraisal is seen as an adaptive emotion regulation strategy (McRae et al., 2012). Cognitive reappraisal involves reinterpreting a stressful

or emotional situation by challenging one's thoughts and thinking about the situation in a different way (Gross & John, 2003). Instead of suppressing thoughts and emotions, one tries to reinterpret the situation and challenge the negative thoughts regarding it. Overall, the goal of cognitive reappraisal exercises is to arrive at a more balanced view, which helps minimize the negative impact stressors might have on psychological wellbeing. There are numerous benefits associated with engaging in cognitive reappraisal. Individuals who engage in cognitive reappraisal often report increased interpersonal functioning and wellbeing (Gross & John, 2003), increased positive and decrease negative affect when experiencing daily stressors (Troy et al., 2019), and has been found to improve outcomes with respect to posttraumatic growth (Prati & Pietrantoni, 2009). These benefits are especially profound for those who engage more frequently in cognitive reappraisal.

Indeed, there is a positive relationship between reappraisal ability, reappraisal frequency and well-being, such that those who engage in reappraisal more often, report higher levels of wellbeing (McRae et al., 2012). The frequency with which one uses reappraisal relates to greater levels of positive psychological well-being and to lower levels of trait negative affect (Gross & Jon, 2003; Nezlek & Kuppens, 2008). Moreover, when facing high levels of stress, those with higher levels of cognitive reappraisal abilities exhibited fewer depressive symptoms (Troy et al., 2010). Moreover, it has been suggested that experiencing stressful situations helps further develop one's reappraisal skills (Crane et al., 2019; Seery & Quinton,2016). In particular, exposure to stress has been found to be related positively to cognitive reappraisal ability (Zeier et al., 2021). This suggests that reappraisal can serve as a beneficial strategy to cope with daily stressful situations. Most importantly, this suggests that those who experience stress more frequently might have more opportunity to practice and develop the ability to successfully

engage in cognitive reappraisal strategies (Zeier et al., 2021). Overall, these studies suggest that those who experience more stressful events, may find engaging in cognitive reappraisal easier. Altogether, individuals who experience more stress in their daily lives may have the ability to practice reappraisal more often and as a result, may become better at implementing and engaging in reappraisal.

Cognitive Reappraisal and Social Anxiety

For individuals with SAD, engaging in cognitive reappraisal may be beneficial to cope with social stress. In fact, reappraisal is one of the main elements that make up cognitive behavioural therapies (CBT), which are considered to be a highly effective treatment option for individuals with SAD (Heimberg, 2002; Mayo-Wilson et al., 2014). Cognitive behavioural models for social anxiety suggest that individuals fear upcoming social events due to their inaccurate beliefs regarding danger and biased belief that the outcome will be negative (Rapee & Heimberg, 1997). Cognitive reappraisal techniques help individuals with SAD challenge these inaccurate beliefs regarding social situations (Heimberg, 2002).

It has been found that individuals with SAD report benefiting from engaging in cognitive reappraisal. Cognitive reappraisal strategies have been found to be beneficial for coping with symptoms associated with social anxiety. Indeed, engaging in reappraisal appears to be a promising way to help with anxiety disorders (Giuliani & Gross, 2009). More specifically, reappraisal has been found to decrease social anxiety in anxiety provoking situations (Hayes-Skelton & Lee, 2020). Thus, cognitive reappraisal strategies can be beneficial for coping with social anxiety. Additionally, cognitive reappraisal strategies can be beneficial to help decrease maladaptive thought patterns which are typically associated with social anxiety, such as post-event processing, and improve affect (Shikatani et al., 2014). Cognitive reappraisal minimized

the effect of post-event processing on social anxiety in participants who had experienced relatively fewer negative life events between assessments but was not the case for those who had experienced relatively more negative life events (Maeda, 2018). These results suggest that engaging in cognitive reappraisal may be most beneficial when dealing with a few stressors, as opposed to multiple, due to its cognitive demand from challenging one's thoughts. Altogether, there seems to certainly be similarities between the benefits of a cognitive reappraisal exercise and a self-compassion induction.

Self-Compassion and Cognitive Reappraisal

As mentioned previously, both have aided with decreasing symptoms associated with social anxiety and increased wellbeing. However, it was found that an 8-week self-compassion training program increased immediate reappraisal and increased the use of cognitive reappraisal in the future (Roca et al., 2020; Diedrich et al. 2016). Thus, the underlying mechanisms may overlap. That is, self-compassion inductions seem to have the ability to activate reappraisal. Although self-compassion and cognitive reappraisal strategies were developed following different theoretical frameworks and contain distinct components, they do share some similarity in their benefits.

Indeed, both of these strategies seem to help increase and promote more positive psychological wellbeing and have been found to be beneficial for individuals with social anxiety. Although both types of inductions promote similar benefits and aid individuals with social anxiety, very few studies to our knowledge have compared the two. Indeed, a self-compassion induction has not been compared with a cognitive reappraisal exercise in a single session. However, there are two studies that have compared these strategies over a 2-week timeframe. Although one study found that a self-compassion induction was more beneficial in decreasing

social anxiety compared to the cognitive reappraisal exercise, the other study found that both strategies were equally effective in decreasing social anxiety symptoms (Cândea & Szentágotai-Tătar, 2018; Stevenson et al., 2019).

In the first study, participants were asked three times a week to describe a negative situation that happened within the past two days and then reconsider the situations based on the instructions that were provided in a written and video format. When comparing the two techniques, over a 2-week period, both self-compassion and cognitive reappraisal trainings significantly reduced shame proneness and irrational beliefs (Cândea & Szentágotai-Tătar, 2018). However, social anxiety symptoms decreased only after completing the self-compassion training compared to the cognitive reappraisal training (Cândea & Szentágotai-Tătar, 2018). Indeed, both strategies seem to be beneficial for helping cope with factors related to social anxiety, but it seems that the self-compassion training was the most beneficial for decreasing social anxiety over a two-week period. This does suggest that these two types of strategies can lead to similar outcomes. That is, although they both have been found to help decrease symptoms related to social anxiety (i.e., shame-proneness, irrational beliefs), only the self-compassion condition showed a significant decrease in social anxiety compared to the cognitive reappraisal and wait-list control conditions.

In the second study, participants were asked to complete daily intervention exercises where they were asked to think of a recent social situation that elicited social anxiety and to follow the prompts that were emailed to them. It was found that both self-compassion and cognitive reappraisal strategies were equally beneficial over a two-week period in reducing social anxiety among those who reported high levels of social anxiety (Stevenson et al., 2019). Moreover, these results persisted both at one week and five weeks follow ups (Stevenson et al.,

2019). The results demonstrate that participants reported overall improvements in social anxiety, self-criticism, fear of self-compassion, post-event processing and anticipatory anxiety after completing either intervention. There was, however, no significant differences between the two conditions at any of the five time points over the 14-day period. The lack of differences over the two-week period and follow ups may be due to the fact that both these strategies are considered to be beneficial. It has been suggested that the over-use of maladaptive strategies and the under-use of adaptive strategies may play a role in the maintenance of anxiety disorders (Campbell-Sills & Barlow, 2007). Seeing as both self-compassion and cognitive reappraisal strategies are seen as adaptive strategies, both may be beneficial strategies for coping with social anxiety. As such, this may be why implementing either strategy over the course of two weeks may be beneficial at targeting symptoms associated with SAD.

Overall, both of these studies illustrate the benefits of 2-week interventions on social anxiety symptoms. However, no studies to our knowledge, have looked at the short-term administration of a self-compassion induction compared to a cognitive reappraisal exercise to aid with social anxiety associated with social judgment situations. It has been demonstrated that brief online interventions are sufficient to alter individuals beliefs and to increase reported intentions to engage in self-compassion, however this has focused solely on short term and not long-lasting effects (Chwyl et al., 2021). This may be especially beneficial for those with high levels of social anxiety as these online approaches are more accessible and can target those who have been socially isolated for long periods, which is especially relevant given the current ongoing global pandemic.

Present Research

The current research explores the impact that a self-compassion induction has on wellbeing compared to a cognitive reappraisal and control condition in the context of social stress. Self-compassion involves treating oneself kindly in face of perceived failure, and it has been found to be beneficial for those with social anxiety, whereas cognitive reappraisal involves reinterpreting a stressful situation and involves actively trying to think about the situation more positively. Both strategies have been found to be beneficial for those with high levels of social anxiety. As such, the main goal of the current research was to compare a self-compassion induction to another adaptive strategy to determine which coping mechanism may be beneficial in different situations and for different people. It is important to evaluate how these two techniques may differ, when they might be most optimal to implement and who may benefit most from them in order to better understand when they should be used.

Three studies were conducted to investigate the impact the written inductions had on levels of self-compassion, reappraisal, distress and state anxiety. Study 1 compared the effects of one of the three writing inductions, self-compassion, cognitive reappraisal and control, on levels of distress, anxiety, self-compassion and reappraisal when dealing with a COVID-19 specific social stressor. Study 2 was similar to Study 1, except participants could recall any social stressor instead of social stressor specific to COVID-19. For Study 3, participants were asked to recall a speech where they felt judged by others, complete one of the three written inductions and then were asked to deliver a speech virtually.

The goal of the present research was to determine how a self-compassion induction may differ from a cognitive reappraisal exercise in regard to levels of distress, social anxiety, self-compassion and reappraisal. Additionally, the present research aimed to further explore the

impact social anxiety may play on the effectiveness of these interventions. Although these intervention strategies have been found to be beneficial for those with social anxiety, past research has focused predominately on studying them separately. Consequently, it is important to compare these two strategies in order to better understand their underlying mechanisms and in which instances they may be the most beneficial to implement for those with elevated levels of social anxiety. The main hypotheses for all three studies were that the self-compassion and reappraisal conditions would both be beneficial at decreasing distress but that those who completed the self-compassion induction would report higher self-compassion whereas those who completed cognitive reappraisal exercise would increase reappraisal levels. In Study 3, we expected that those who completed the self-compassion induction prior to an upcoming speech task would report lower post-event processing, lower anticipatory anxiety and a greater willingness to engage in future social situations compared to the control condition. Additionally, we expected that those with high levels of self-reported social anxiety would benefit the most from the self-compassion induction whereas those with high levels of fear of self-compassion may benefit most from the cognitive reappraisal exercise.

Study 1

The purpose of this study was to investigate the impact of a self-compassion induction on social stress related to the COVID-19 pandemic in comparison to a cognitive reappraisal condition and control condition.

Pandemic Stress and Social Anxiety

The global pandemic has altered not only how we socialize with others but also how often we socialize with others. The rise of video conferencing, such as Zoom, have increased social isolation in the sense that we no longer need to be in person to communicate and socialize.

Additionally, we can do so in the comfort of our own homes. Although this might seem ideal for those with high levels of social anxiety, it is concerning that the lack of socialization and increase in isolation may impair our social skills and maintain social anxiety symptoms for those with SAD (Arad et al., 2021). These types of restrictions may pose additional barriers for those with high levels of social anxiety who already struggle in social situations (Ho & Moscovitch, 2022).

Social isolation may have detrimental effects on those who are experiencing increased levels of stress, anxiety and loneliness related to the pandemic. Research focusing on the effects of the start of the pandemic found that levels of stress, anxiety, loneliness, and depressive symptoms have worsened among students (Elmer et al., 2020). Most concerning is that individuals with anxiety disorders were more negatively affected by the COVID-19 pandemic compared to those with other psychological disorders (Asmundson et al., 2020). Individuals with SAD may be at a greater risk of experiencing negative psychological wellbeing, and coping strategies that can be targeted individually might serve as beneficial given the increase in social isolation. Research has found that social anxiety decreased in socially anxious students in the years preceding the pandemic but during the pandemic, social anxiety levels remained high (Arad, 2021). Further, participants with higher pre-pandemic social anxiety reported currently feeling lonelier and more fearful of negative evaluation but also reported greater efforts to affiliate with others (Ho & Moscovitch, 2022). Social isolation seems to have a detrimental impact for those with SAD, and this is especially relevant given the potential for ongoing social distancing measures and isolation during the COVID-19 pandemic.

Additionally, within this context self-compassion, compared to self-coldness (treating oneself without compassion by being self-judgmental and over-identifying with negative aspects)

may act as a protective buffer against negative psychological well-being (Lau et al., 2020). That is, being self-compassionate during the pandemic may mitigate the negative impact of the pandemic by encouraging individuals to see the pandemic as a shared experience, compared to self-coldness which may amplify one's isolating and focus on being more self-critical (Lau et al., 2020). Altogether, this suggests that self-compassion may be a beneficial strategy during times of heightened stress and increased social isolation. Inducing self-compassion may be especially beneficial during the pandemic as individuals may realize they are not alone in their suffering, which is a key element of self-compassion.

It was hypothesized that inducing self-compassion would lead to greater levels of state self-compassion compared to the cognitive reappraisal condition and control condition. It was also hypothesized that a reappraisal exercise would increase levels of state cognitive reappraisal when compared to the self-compassion condition and control condition. Additionally, we expected that both the self-compassion condition and cognitive reappraisal conditions would report lower distress levels compared to the control condition. Finally, based on previous research showing that self-compassion inductions are particularly helpful for those high in social anxiety (Harwood & Kocovski, 2017), we expected that social anxiety would moderate the effect the manipulation had on distress. That is, we expected that those higher in social anxiety would show greater benefits from the self-compassion induction versus the reappraisal condition, relative to those lower in social anxiety.

Method

Participants

A total of 327 undergraduate students participated in this study. There were 51 participants who were excluded from this study. Fourteen participants were removed for not

writing about a social judgement situation, 14 did not complete the written induction completely or accurately, and 23 failed the majority of the attention checks. The remaining sample (N =276) identified primarily as female (86%; 13% male), with one individual identifying as Other. Ages ranged from 17-54 (M = 19.51, SD = 3.30). The sample was predominantly White (73%), with 14% participants identifying as Asian, 5% Middle Eastern, 3% Black/African American and 5% identifying as Other. Participants were randomly assigned to a self-compassion condition (n = 91), cognitive-reappraisal condition (n = 90), or a control condition (n = 95). The participants received course credit for completing this online study.

Materials

Social Phobia Inventory. The *Social Phobia Inventory* (SPIN; Connor et al., 2000) was used as a measure of social anxiety in studies 1, 2 and 3. The SPIN is a 17-item scale used to measure levels of social anxiety felt within the past week. Participants rate each item on a 5-point Likert scale (*0 = not at all; 4 = extremely*). The SPIN assesses 3 domains of social anxiety. This includes physiological arousal (e.g., "I am bothered by blushing in front of people"); fear (e.g., "parties and social events scare me") and avoidance (e.g., "I avoid talking to people I don't know"). Scores range from 0 to 68, with higher scores representing higher levels of trait social anxiety. The SPIN has been reported as having good reliability, internal consistency and validity (Connor et al., 2000).

Social Interaction Anxiety Scale. The *Social Interaction Anxiety Scale* (SIAS; Mattick & Clarke, 1998) was used as a measure of baseline anxiety in Studies 1, 2 and 3. The SIAS is a 20-item measure used to measure trait social anxiety (e.g., "I find it difficult mixing comfortably with the people I work with"; "I feel I'll say something embarrassing when talking"). Each item is rated by the participant on a 5-point Likert scale (*0 = not at all true of me; 4 = extremely true*

of me). A total score is calculated by reverse scoring items 5, 9, and 11, then adding up each individual score together. Scores range from 0 to 80, and higher scores indicate higher levels of social anxiety. The SIAS has been shown to be most reliable for undergraduate students (α = .99) and people with SAD (α = .93; Mattick & Clarke, 1998).

Freiburg Mindfulness Scale. *The Freiburg Mindfulness Inventory* (FMI; Walach et al., 2006) was used in Study 1 and 2 to assess baseline levels of mindfulness. The FMI is a 14-item measure used to measure levels of trait mindfulness (e.g., "I feel connected to my experience in the here-and-now"). Each item is rated on a 4-point Likert scale (*1 = rarely; 4 almost always*). A total score is calculated by reverse scoring one item ("I am impatient with myself and with others") then adding up the scores of each item together. Scores range from 14 to 56, and higher scores indicate higher levels of mindfulness. The FMI has been shown to be semantically robust and psychometrically stable (α = .86) and has a medium correlation with self-awareness, which demonstrates construct validity (Walach et al., 2006).

Emotional Regulation Questionnaire (Cognitive Reappraisal Subscale). *The Emotional Regulation Questionnaire* (ERQ; Gross, & John, 2003) was used in all three studies to measure baseline and state reappraisal levels. The ERQ is a 10-item measure used to measure how well participants are able to regulate their emotions. The Cognitive Reappraisal subscale was used as a baseline measure of trait reappraisal (e.g., "when I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm" and was modified slightly in order to be used as a dependent measure of state reappraisal (e.g., "I kept my emotions to myself"; "I changed what I was thinking about to feel more positive emotion (such as joy or amusement)". Each item is rated on a 7-point Likert scale (*1 = strongly disagree; 4 = strongly agree*). Items are added together to compute the reappraisal subscale. Higher scores on the

reappraisal subscale are representative of higher levels of reappraisal The ERQ has been shown to be reliable for both the reappraisal (α = .79) and for suppression subscales (α = .73). Additionally, the test–retest reliability across three months was acceptable (α= .69; Gross, & John, 2003).

Self-Compassion Scale. The *Self-Compassion Scale* (SCS; Neff, 2003) was used as a baseline measurement of trait self-compassion in Studies 1, 2 and 3. The SCS is a 26-item self-rating scale composed of six subscales: self-kindness (e.g., "I try to be loving towards myself when I'm feeling emotional pain"); self-judgment (e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"); common humanity (e.g., "when I feel inadequate in some way I try to remind myself that feelings of inadequacy are shared by most people"); isolation (e.g., "when I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world"); mindfulness (e.g., "when something painful happens I try to take a balanced view of the situation"); and over-identification (e.g., "when something painful happens I tend to blow the incident out of proportion"). Each item is rated by the participant on a 5-point Likert scale (*1 = strongly disagree; 5 = strongly agree*). Both SCS total scores (α =.92) and the six subscales (α ranging from .75 to .81) have been shown to have good internal reliability. Both the SCS total score (α =.93) and six subscale scores (α ranging from .80 to .88) showed good test-retest reliability over a three-week period (Neff et al., 2019).

Subjective Units of Distress Scale. The *Subjective Units of Distress Scale* (SUDS; Wolpe, 1969) is a one-item question evaluating the level of distress the participant is feeling at that moment with higher scores being representative of higher levels of distress *(0 = no distress; 100 = highest distress possible).* The SUDS was used in all three studies and was administered at various points throughout each study in order to evaluate levels of distress at the present

moment. It served as both a baseline measurement to test for differences before random assignment and as a dependent measure to test for differences after random assignment.

State-Trait Anxiety Inventory – State Form. The *Spielberger State-Trait Anxiety Inventory – State Version* (STAI-S; Spielberger et al., 1983) was used to evaluate the participants' level of state anxiety in all three of our studies. It was use as a dependent measure and was administered after participants had completed the writing induction (Studies 1 and 2) and after the speech task (Study 3). The STAI-S is a 20-item self-rating questionnaire evaluating how anxious a participant feels at that moment. Participants complete 20 questions (e.g., "I feel strained"), where they rate each of the 20 questions on a 4-point scale (*1 = not at all; 4 = very much so*). Total scores can range from 20-80, with higher scores indicating higher levels of state anxiety. The STAI has proven to have strong internal consistency (α ranging from .86 to .95), with good test-retest reliability coefficients (α ranging from .65 to .75) over a 2-month period (Spielberger et al., 1983).

State Self-Compassion Scale –Long. *The State Self-Compassion Scale* (SSCS-L; Neff et al., 2021) was used as dependent measure to evaluate the participants' level of state self-compassion after completing the writing induction (Studies 1 and 2) or after the speech (Study 3). The SSCS-L is an 18-item self-rating questionnaire which evaluates present moment self-compassion. Participants responded on a 5-point scale *(1 = not at all true for me; 5 = very true for me).* The SSCS-L can be scored into 6 subscales: self-kindness (e.g., I'm giving myself the caring and tenderness I need"), self-judgment (e.g., "I'm being pretty tough on myself"), common humanity (e.g., "I see my difficulties as part of life that everyone goes through") isolation (e.g., "I feel separate and cut off from the rest of the world"), mindfulness (e.g., "I'm taking a balanced view of this painful situation") and over identification (e.g., "I'm obsessing

and fixating on everything that's wrong"). The subscores for self-kindness, common humanity and mindfulness can be computed by averaging the scores on each corresponding item, whereas the other 3 subscales: self-judgment, isolation and over-identification, need to be reverse-scored first then averaged. A total self-compassion score can be computed by averaging the six subscale means. Higher scores on the total self-compassion score are reflective of higher state self-compassion. Both the SSCS-L total score ($\alpha = .94$) and the six subscales (α's > .73) have been found to be reliable (Neff et al., 2019).

Manipulation check. The manipulation check consisted of three questions that participants responded to on a 5-point Likert scale (*1 = not at all; 5 = extremely).* 1) "when writing about my past speech, to what extent did I try to change the way I was thinking about it?" 2) "when writing about my past speech, to what extent was I focused on being kind to myself?"; 3) "when writing about my past speech, to what extent did I try to think of things other than my past speech?". The manipulation check was administered at the end of the study in order to evaluate the extent in which participants were engaged in their specific writing task.

Procedure

Participants took part in an online survey on Qualtrics, where they first answered demographics and questionnaires regarding social anxiety, emotional regulation, stress and mindfulness. They were then asked to recall a situation during the COVID-19 pandemic where they felt judged by others and were asked to answer a few questions regarding this situation (see Appendix A). The instructions prompted participants to recall and write about a situation during the pandemic in which they felt judged by others and examples such as wearing a mask were provided. The questions regarding the situations brought to mind included the following: when did the situation happen, how well they could remember the situation, how anxious they were

during and when recalling the situation. Following this, they were randomly assigned to one of three conditions: self-compassion, cognitive reappraisal or control where they completed a writing task. The three conditions, self-compassion, cognitive reappraisal or control had unique prompts in order to guide participants to think about their situation in a different way. Participants were guided to write about their situation in each of these conditions (see Appendix B).

Self-Compassion Condition. Those assigned to the self-compassion condition completed a slightly modified self-compassion induction created by Neff et al. (2021). Participants were given three writing prompts: mindfulness, common humanity and self-kindness. In the first writing prompt, participants were asked to write about their situation in a mindful manner and to adopt an attitude of acceptance and non-judgment when thinking about their situation. They were asked to write down any thoughts or emotions they had regarding their situation. Next, participants were asked to write about how other people may share similar feelings when they encounter a similar situation. Participants were encouraged to see difficult situations as part of a shared experience and that they are not alone. Finally, participants were asked to write words of encouragement, support and kindness toward themselves. They were told to consider what they might say to a close friend going through a similar situation and to direct that encouragement and kindness toward themselves.

Cognitive Reappraisal Condition. Those assigned to the cognitive reappraisal condition completed a modified written reappraisal (Ehret et al., 2018). There were three writing prompts that participants were asked to complete, each challenging the way in which participants thought about their situation. In the first prompt, participants were asked about the consequences of thinking the way they currently were and how that way of thinking could impact them in various

domains. Next, participants were asked to write arguments and situations which reinforce or validate a more positive way of thinking in order to show a change in mindset and what impact that might have. Finally, participants were asked to come up with a more positive statement about their situation and to write it down. These prompts helped participants change the way in which they were thinking about their situation and to come out with a more balanced and positive view regarding this situation.

Control condition. Those assigned to the control condition completed a slightly modified writing exercise created by Neff et al. (2021). There were three writing prompts that participants were asked to complete where they were encouraged to provide as much detail as possible regarding their situation. In the first prompt, participants are instructed to write about who was involved in their situation. Next, they were asked to describe in as much detail as possible the individuals, including themselves, involved in this situation. Finally, participants were asked to write about what was said by others or themselves during the situation. They were also asked to write about what they were thinking or saying to themselves internally during the situation.

After completing the written manipulation, participants were immediately asked to report their level of distress. Then, participants were asked to report their levels of self-compassion, anxiety, distress and emotional regulation as well as complete a manipulation check. Finally, participants were provided with the opportunity to provide any feedback they had regarding the study in an open-ended format, and then were presented with the debriefing form.

Analytic Strategy

A multivariate analysis of variance (MANOVA) was conducted to determine any significant effects of the writing task manipulation (self-compassion vs. cognitive reappraisal vs.

control) on levels of self-compassion, cognitive reappraisal, distress and anxiety. PROCESS (Hayes, 2018) was used to run moderation analyses to determine if those who reported high vs. low levels of social anxiety would benefit the most from the self-compassion induction.

Results

Baseline Measures

Participants' social anxiety, self-compassion, emotional regulation and mindfulness were measured across conditions and reliability was computed for each scale (see Table 1). There were no significant differences between the three conditions on these measures, F (2, 273) = 1.23, p = .213. Baseline correlational analyses revealed that social anxiety was significantly negatively correlated to self-compassion and trait cognitive reappraisal and both trait self-compassion scales correlated significantly and positively with trait cognitive reappraisal (See Table 2).

Additionally, participants were asked to complete a few questions regarding the social situation they brought to mind. There were no significant differences between the three conditions before random assignment on these questions at the multivariate level, F (2, 272) = 1.27, p = .234. However, univariate analyses revealed a significant difference on how much control participants reported having, F (2, 272) = 3.23, p = .041, $\eta 2$ =.023. A Tukey HSD post-hoc test determined that the control condition reported having significantly less control during their situation (M = 1.37, SD = 1.08) compared to those who were in the cognitive reappraisal condition (M = 1.80, SD = 1.25), p = .036. Therefore, the types of situations brought to mind were similar in terms of anxiety associated with the situation and the importance of the situation. However, those in the control condition reported having the least amount of control. Across

conditions, these situations were only rated as slightly anxiety inducing while recalling, slightly important and moderately anxiety inducing during the moment (see Table 4).

Manipulation Check

A manipulation check was conducted to determine how effective the written induction was on inducing self-compassion or reappraisal and to see if participants thought of things besides their situation. There were significant differences across conditions on the extent to which they reported being kind to themselves, $F(2, 273) = 7.30$, $p < .001$, the extent to which they challenged their thoughts, $F(2, 273) = 8.27$, $p < .001$, and the extent to which they thought about things other than their situation, $F(2, 273) = 6.56$, $p = .002$ (see Table 3).

A Tukey HSD post-hoc test determined that self-kindness during the writing induction was significantly lower for those who were in the control condition ($M = 2.39$, $SD = 1.08$) when compared to those who were in the self-compassion condition ($M = 2.91$, $SD = 1.09$) and the cognitive reappraisal condition ($M = 2.92$, $SD = 1.08$), p's = .003. Additionally, the ability to challenge one's thoughts during the writing induction was significantly lower for those who were in the control condition ($M = 2.59$ $SD = 1.19$) when compared to those who were in the self-compassion condition ($M = 3.10$, $SD = 1.08$), $p = .008$ and cognitive reappraisal condition ($M = 3.24$, $SD = 1.19$), $p < .001$. Finally, thinking of things other than the situation during the writing induction was significantly lower for those who were in the control condition ($M = 2.74$, $SD = 1.07$) when compared to those who were in the self-compassion condition ($M = 2.87$, $SD = 1.16$), $p = .014$ and cognitive reappraisal condition ($M = 2.96$, $SD = 1.16$), $p = .003$.

Written Induction

Participants were randomly assigned to one of three writing conditions (self-compassion, cognitive reappraisal or control) and were asked to follow three writing prompts. A research

assistant coded for the number of words written and Qualtrics recorded the amount of time it took each participant to complete the writing task. Participants were required to stay on the written induction page for at least 5 minutes before the next arrow would appear.

There was no significant difference between conditions on the number of words written, $F(2,274) = 2.09$, $p = .126$, $\eta 2 = .015$. Although the difference was not significant, on average, the self-compassion condition wrote more words ($M = 681.62$, $SD = 286.47$) than the reappraisal condition ($M = 640.11$, $SD = 353.72$) and the control condition ($M = 637.16$, $SD = 300.41$).

There was a significant difference between conditions on the amount of time spent on the written induction, $F(2,274) = 5.71$, $p = .004$, $\eta 2 = .040$. A Tukey HSD post-hoc test determined that the reappraisal condition spent significantly more time in seconds ($M = 555.38$, $SD = 483.42$) compared to the self-compassion condition ($M = 430.76$, $SD = 224.96$), $p = .029$ and compared to the control condition ($M = 402.42$, $SD = 199.89$), $p = .004$.

Effect of Condition on Self Compassion, Reappraisal and State Anxiety

Participants completed state measures of self-compassion (SCS), reappraisal (ERQ), anxiety (STAI-S), and distress (SUDS) after completing the written induction and reliability was computed for each scale (see Table 5). There was a significant difference between conditions on the SCS, $F(2,273) = 4.83$, $p = .009$, $\eta 2 = .034$. A Tukey HSD post-hoc test determined that self-compassion levels were significantly lower for those who were in the control condition ($M = 3.15$, $SD = .82$) when compared to those who were in the self-compassion condition ($M = 3.46$, $SD = .78$), $p = .021$ and the cognitive reappraisal condition ($M = 3.46$, $SD = .74$), $p = .022$.

There was a significant difference between conditions on the reappraisal subscale of the ERQ $F(2,273) = 6.90$, $p = .001$, $\eta 2 = .048$.). A Tukey HSD post-hoc test determined that reappraisal levels after the writing induction were significantly lower for those who were in the

control condition (M = 4.26, SD = 1.45) when compared to those who were in the self-compassion condition (M = 4.88 SD = 1.15*),* p = .003 and the cognitive reappraisal condition (M = 4.83, SD = 1.21), p =.007.

Regarding state anxiety, conditions did not differ significantly on the STAI, F (2, 273) =2.68, p =.070, $\eta 2$ =.007. However, there was a significant difference between conditions on the SUDS F(2,273) = 5. 46 p = .005, $\eta 2$ =.041, immediately after completing the writing induction. A Tukey HSD post-hoc test determined that distress levels, immediately after the writing induction, were significantly higher for those who were in the control condition (M = 38.42, SD = 26.75) when compared to those who were in the self-compassion condition (M = 29.09, SD = 23.40), p = .027 and the cognitive reappraisal condition (M = 27.48, SD = 22.99), p = .007. Conditions did not differ significantly on distress (SUDS 2) at the end of the study, F (2, 272) = .84, p =.448, $\eta 2$ =.006 (see Table 5). Thus, there were no significant differences between the conditions on distress levels at the end of the study.

Testing Social Anxiety as a Moderator

We ran four moderation analyses to test if social anxiety moderated the effect of condition on outcome. Hayes (2018) PROCESS (Model 1) was used to run the four moderation analyses using condition (self-compassion, cognitive reappraisal or control) as the predictor variable, social anxiety (SPIN) as the moderator and state self-compassion (SCS), state reappraisal (ERQ), and distress (SUDS) or state anxiety (STAI-S) as the outcome variable in order to evaluate if one of the three conditions was more beneficial for those who scored high on social anxiety (SPIN). Additionally, correlations were run in order to evaluate the relationship between the dependent variables after participants completed the written induction (See Table 6).

All four moderation models were not significant. As such, there were no differences in state self-compassion, state reappraisal, distress and state anxiety between conditions at different levels of baseline social anxiety (SPIN). This demonstrates that there was not a specific condition that was more beneficial in increasing state self-compassion state reappraisal, distress and state anxiety for those reporting different levels of baseline social anxiety.

Discussion

Consistent with our hypothesis, there were differences found across conditions in levels of distress. That is, both the self-compassion condition and cognitive reappraisal condition differed significantly from the control condition on distress levels reported immediately after the writing induction. However, they did not differ significantly from each other. Thus, both the self-compassion condition and the reappraisal condition helped lower distress levels immediately after the induction when compared to the control condition. This demonstrates that both a self-compassion and reappraisal induction can be beneficial when thinking about a past stressful social situation related to the pandemic. The global pandemic has impacted everyone, and it is possible that an engaging in an adaptive strategy can be beneficial for anyone coping with social stress associated with the pandemic. Since self-compassion is associated with more adaptive coping (Breines & Chen, 2012) and cognitive reappraisal is seen as an adaptive emotion regulation strategy (McRae et al., 2012), perhaps both can be equally beneficial in times of stress compared to no intervention. However, distress levels at the end of the study were no longer significantly different across the three conditions. This suggests that our effects are short lived.

Contrary to our hypotheses, the self-compassion condition reported significantly higher state self-compassion when compared to the control condition but was not significantly higher than the reappraisal condition. We had anticipated that those in the self-compassion condition

would score higher on self-compassion after completing the written induction compared to those in the reappraisal condition and control condition. However, those in the self-compassion condition only scored significantly higher on self-compassion when compared to the control condition. This pattern was also consistent with reappraisal levels, where those in the cognitive reappraisal condition only scored significantly higher on reappraisal scores when compared to the control condition. These results demonstrate that both a cognitive reappraisal or self-compassion induction can be equally beneficial in increasing reappraisal and self-compassion levels after recalling a past stressful situation related to the COVID-19 pandemic. Given that Study 1 was completed in the first year of the pandemic, it is plausible that students' overall mental health, levels of stress and loneliness were negatively affected during this time (Elmer et al., 2020).

We had also hypothesized that those higher in social anxiety would benefit the most from the self-compassion induction. This moderation hypothesis was based on previous research that has demonstrated that individuals with SAD report benefiting the most from a self-compassion induction (Harwood & Kocovski, 2017). However, we were not able to replicate these exact findings in this specific study. In this study, we found that participants with high levels of social anxiety who completed either the self-compassion or cognitive reappraisal induction reported benefiting most compared to the control conditions. Given that the study was analog, and the sample was not preselected based on a clinical diagnosis of social anxiety, it is plausible that those who participated in this study might not report high levels of social anxiety and had higher levels of self-compassion to begin with. Thus, we might not have had enough participants who would meet a clinical diagnosis for social anxiety, and this could have made it difficult to detect this effect and observe the benefits of a self-compassion induction for those high on social

anxiety. As a result, this study cannot be generalized toward those with high levels of social anxiety. It is also plausible that either induction is beneficial for those with high levels of social anxiety compared to a control condition. As such, more research is warranted to test these effects and implications.

Furthermore, we examined the types of situations brought to mind by participants and their anxiety related to those situations. We found that on average, participants rated the situation that they had described as moderately important, moderately anxiety provoking during the moment and only slightly anxiety provoking when asked to recall the situation. Participants often wrote about wearing masks in public settings and talking during Zoom meetings. It is possible that these types of situations were not as anxiety provoking as we had originally thought they would be. Perhaps, being in a global pandemic elicits the feeling of common humanity and as a result, participants do not feel as judged or as out of the ordinary. Moving forward, it will be important to examine social situations not related to the COVID-19 pandemic in order to see how these results may change.

Study 2

Given the situations recalled in the first study were not very anxiety inducing, the second study was modified to address this by no longer focusing on the effects of social stress associated with the COVID-19 pandemic. As mentioned previously, recalling a past social situation related to the COVID-19 pandemic was not as anxiety inducing as we would have expected. This might be due to the fact everyone is experiencing the global pandemic together or due to the fact that these kinds of social situations occur frequently and as a result are no longer novel and do not elicit much anxiety or that there were fewer opportunities for stressful social situations to occur during a global pandemic. As a result, the purpose of the second study was to investigate the

impact of a self-compassion induction on social stress, which no longer needed to be specific to the COVID-19 pandemic, in comparison to a cognitive reappraisal condition and control condition. Our hypotheses were the same as the first study. That is, it was hypothesized that inducing self-compassion would lead to greater levels of state self-compassion when compared to the cognitive reappraisal condition and control condition whereas a reappraisal exercise would increase levels of state cognitive reappraisal when compared to the self-compassion condition and control condition. We expected that both the self-compassion and cognitive reappraisal conditions would result in reporting of lower distress levels compared to the control condition. Finally, we expected social anxiety to serve as a moderator. That is, those with high levels of social anxiety would benefit the most from the self-compassion induction and report lower levels of distress.

Method

Participants

A total of 330 undergraduate students participated in this study. There were 53 participants who were excluded from this study. Twenty-six participants were removed for not writing about a social judgement situation, 11 did not complete the written induction completely and 16 failed the majority of the attention checks. The remaining sample (N = 277) identified primarily as female (75.8%; 24.1% male), with three individuals identifying as Other. Ages ranged from 18-56 (M = 22.11, SD = 5.58). The sample was predominantly White (56 %), with 21.7% participants identifying as Asian, 4.7% Middle Eastern, 5.1% Black/African American, 1% Indigenous and 5% identifying as Other. Participants were randomly assigned to a self-compassion condition (n = 91), cognitive-reappraisal condition (n = 91), or a control condition (n

= 95). Participants received course credit for taking part in this online study. Participants who completed Study 1 were not eligible to complete this study.

Materials

The same baseline measures as Study 1 were used, which included the SPIN, SIAS, SCS, SUDS and the ERQ. Additionally, the same manipulation check items were used. There were a few minor changes to the written inductions and the social situation. The social situation was modified to no longer be COVID-19 specific (see Appendix C). Instead, we encouraged a variety of stressful social situations which could have occurred at any point. The three writing conditions were modified to remove any COVID-19 specific details (see Appendix D).

Procedure

Participants completed an online survey on Qualtrics, where they answered demographic questions and questionnaires regarding social anxiety, emotional regulation, distress and mindfulness. Participants were then asked to recall a past situation where they felt judged by others, such as a past speech, and were asked to answer a few questions regarding this situation. They were then asked questions regarding the social situation brought to mind including when did the situation occur, how well they could remember the situation, how anxious they were during and when recalling the situation. The main difference in this study, compared to the first study, was that participants could choose any social judgement situation, the situation no longer had to be specific to the COVID-19 pandemic. Moreover, these situations that participants were asked to recall could have occurred at any point during their life as opposed to the COVID-19 specific situations which had occurred within the past year. Following this, participants were randomly assigned to one of three conditions: self-compassion, cognitive reappraisal or control

where they completed a writing task. The only modification that was made to the writing task was the removal of any COVID-19 specific language or details.

Analytic Strategy

A multivariate analysis of variance (MANOVA) was conducted to determine any significant effects of the writing task manipulation (self-compassion vs. cognitive reappraisal vs. control) on levels of self-compassion, cognitive reappraisal, distress and anxiety. PROCESS (Hayes, 2018) was used to run moderation analyses to determine if those who reported high levels of social anxiety would benefit the most from the self-compassion induction.

Results

Baseline Measures

Participants' baseline social anxiety, self-compassion, emotional regulation and distress scores were compared across conditions and reliability was computed for each scale (see Table 7). There were no significant differences between the three conditions on these measures, $F(2, 274) = 1.02$, $p = .436$.

Baseline correlational analyses revealed that, similar to Study 1, social anxiety was significantly negatively correlated with self-compassion and trait cognitive reappraisal and both trait self-compassion scales correlated significantly and positively with trait cognitive reappraisal (see Table 8).

Additionally, participants were asked complete a few questions regarding the social situation they brought to mind. Participants were asked how anxious they were during the situation, how anxious they currently are recalling the situations, how important the situation was to them and how much control they felt they had over the situation. There were no significant differences between the conditions before random assignment on these questions, $F(2, 273) =$

.59, p = .85, $\eta 2$ =.013. Therefore, the types of situations brought to mind were similar in terms of anxiety associated with the situation, control over the situation and the importance of the situation. Across conditions, these situations were rated as very anxiety inducing during the moment, moderately important and moderately anxiety inducing when recalling them (see Table 10). Compared to Study 1 (see Table 4), the situations brought to mind induced more anxiety and were rated as more important.

Manipulation Check

The same manipulation check was used to determine how effective the written induction was on inducing self-compassion or reappraisal and to evaluate if participants thought of things besides their situation (see Table 9). Only one of the three manipulation check items was significant. That is, there was a significant difference between the three conditions on the extent in which they challenged their thoughts, $F(2,274) = 5.80$, p = .003, $\eta 2$ =.041. A Tukey HSD post-hoc test determined that the ability to challenge one's thoughts during writing induction was significantly higher for those who were in the self-compassion condition (M = 3.26, SD = 1.06) when compared to those who were in the control condition (M = 2.74, SD = 1.01), p = .002.

Written Induction

Participants were randomly assigned to one of three writing conditions (self-compassion, cognitive reappraisal or control) and were asked to follow three writing prompts. A research assistant coded for the number of words written and Qualtrics recorded the amount of time it took each participant to complete the writing task. Participants were required to stay on the written induction page for at least 5 minutes before the next arrow would appear.

There was no significant difference between conditions on the number of words written, F (2,274) = 1.36, p = .257, $\eta 2$ = .010. Although the difference was not significant, on average,

the control condition wrote more words (M = 139.49, SD = 99.61) than the reappraisal condition (M = 137.24, SD = 70.26) and the self-compassion condition (M = 121.89, SD = 59.47).

There was no significant difference between conditions on the amount of time spent on the written induction, $F(2,274) = 2.86$, $p = .059$, $\eta 2 = .020$. Although the difference was not significant, on average, the reappraisal condition spent more time in seconds (M = 612.50, SD = 553.56) than the control condition (M = 494.77 SD = 404.30) and self-compassion condition (M = 484.80, SD = 266.29).

Effect of Condition on Self Compassion, Reappraisal and State Anxiety

Participants completed state measures of self-compassion (SCS), reappraisal (ERQ), anxiety (STAI-S), and distress (SUDS) after completing the written induction and reliability was computed for each scale (see Table 11). There was a significant difference between conditions on the SCS, $F(2,274) = 3.07$, $p = .048$, $\eta^2 = .022$. A Tukey HSD post-hoc test determined that self-compassion levels, after the writing induction, were significantly higher for those who were in the self-compassion condition (M = 3.49, SD = .82) when compared to those who were in the control condition (M = 3.20, SD = .86), $p = .038$ but did not differ significantly from the reappraisal condition (M = 3.31, SD = .73).

There was a significant difference between conditions on the reappraisal subscale of the ERQ, $F(2,274) = 6.21$, $p = .002$, $\eta 2 = .043$. A Tukey HSD post-hoc test determined that reappraisal levels after the writing induction were significantly higher for those who were in the self-compassion condition (M = 4.84, SD = 1.28) when compared to those who were in the control condition (M = 4.20, SD = 1.35), p = .001, but did not differ significantly from the reappraisal condition (M = 4.55, SD = 1.10) .

There was a significant difference between conditions on the STAI F (2, 274) = 3.61, p =. 028, $\eta 2$ = .026. A Tukey HSD post-hoc test determined that state anxiety levels, after the writing induction, were significantly lower for those who were in the self-compassion (M = 41.74, SD = 11.27) when compared to those who were in the control condition (M = 46.37, SD = 12.21), p = .021, but did not differ significantly from the reappraisal condition (M = 44.16, SD = 11.74) .

There was a significant difference between conditions on the SUDS immediately after completing the writing induction, F(2,269) = 3.47, p = .033, $\eta 2$ = .026. A Tukey HSD post-hoc test determined that state distress levels immediately after the writing induction were significantly higher for those who were in the control condition (M = 37.00, SD = 26.23) when compared to those who were in the self-compassion condition (M = 28.30, SD = 22.06), p = .001, but did not differ significantly from the reappraisal condition (M = 30.22, SD = 21.62). Thus, there was a significant difference between the self-compassion condition and control condition on state distress levels immediately after completing the written induction. Conditions did not differ significantly on the SUDS at the end of the study, F(2, 269) = 1.61, p = .202, $\eta 2$ = .012. Thus, there were no significant differences between the conditions on distress levels after completing the entire study.

Testing Social Anxiety as a Moderator

We ran four moderation analyses to test if social anxiety moderated the effect of condition on outcome. Hayes (2018) PROCESS (Model 1) was used to run four moderations analyses using condition (self-compassion, cognitive reappraisal or control) as the predictor variable, social anxiety (SPIN) as the moderator and state self-compassion (SCS), state reappraisal (ERQ), and distress (SUDS) or state anxiety (STAI-S) as the outcome variable in

order to evaluate if one of the three conditions was more beneficial for those who scored high on social anxiety (SPIN). Correlations among the dependent variables appear in Table 12.

The moderation model using state reappraisal (ERQ) as an outcome, state distress (SUDS) as an outcome and state anxiety (STAI-S) as an outcome variable were not significant. As such, there were no differences on state reappraisal, distress and state anxiety between conditions at different levels of baseline social anxiety (SPIN). This demonstrates that there was not a specific condition that was more beneficial in increasing state reappraisal, distress and state anxiety for those reporting different levels of baseline social anxiety.

The moderation model using state self-compassion (SCS) as an outcome variable was significant $F(5, 271) = 16.57$, $p < .001$, $R^2 = .23$ (see Figure 1). Among those with low baseline social anxiety, those assigned to the self-compassion condition did not differ on state self-compassion relative to control participants, $b = .17$, $t = 1.20$, $p = .23$, those assigned to the reappraisal condition did not differ relative to control participants, $b = .10$, $t = .65$, $p = .52$, nor was there a difference between those assigned to the self-compassion compared to the reappraisal conditions, $b = .27$, $t = 1.79$, $p = .07$. These results suggest that those with low levels of social anxiety did not differ across conditions on state self-compassion levels. Among those high in social anxiety, those assigned to the self-compassion condition reported higher state self-compassion relative to control participants, $b = .43$, $t = 2.98$, $p = .004$ and those assigned to the cognitive reappraisal condition reported higher state self-compassion relative to control participants, $b = .40$, $t = 2.70$, $p = .007$. However, the difference between those in the self-compassion condition compared to the cognitive reappraisal condition was not significant, $b = .03$, $t = .20$, $p = .84$. These results suggest that those with high levels of social anxiety, differed across conditions on state self-compassion levels. That is, those high in social anxiety reported

higher levels of state self-compassion in both the self-compassion condition and reappraisal condition compared to the control condition.

Discussion

The main purpose of Study 2 was to compare a self-compassion induction to a cognitive reappraisal exercise and evaluate how they may differ when recalling a more general and unique social situation as opposed to a COVID-19 specific social situation. Once again, it was hypothesized that inducing self-compassion would lead to greater levels of state self-compassion when compared to the cognitive reappraisal condition and control condition. Similar to Study 1, we also expected that a reappraisal exercise would increase levels of state cognitive reappraisal when compared to the self-compassion condition and control condition. We had anticipated that both the self-compassion condition and cognitive reappraisal conditions would report lower distress levels compared to the control condition. Additionally, we expected that social anxiety would moderate the relationship between self-compassion and distress and that those higher in social anxiety would have benefited the most from the self-compassion induction. Although some of these hypotheses were not supported in Study 1, we believed it was important to test them again in a different context to see if the results of Study 1 would generalize outside of the context of the COVID-19 pandemic.

We evaluated the types of situations brought to mind by participants and their anxiety related to those situations. Study 1 found that on average, participants rated the situation that they had described as moderately important, moderately anxiety provoking during the moment and only slightly anxiety provoking when asked to recall the situation. However, in Study 2 participants often wrote about much more unique and personal situations as they no longer were required to bring to mind a COVID-19 specific social stressor. On average, these situations were

rated as more anxiety inducing during the moment, being less controllable, more important and more anxiety inducing when being recalled compared to the situations in Study 1.

Contrary to our hypothesis, those in the self-compassion condition scored significantly higher on reappraisal scores when compared to both the cognitive reappraisal and control condition. Moreover, these results differ from those that we found in Study 1, where both self-compassion and reappraisal inductions were equally beneficial at increasing reappraisal levels. These results demonstrate a self-compassion induction can be beneficial in increasing reappraisal and self-compassion levels after recalling a past stressful social situation. Based on these results, it seems possible that a self-compassion induction can increase state-reappraisal levels. This is consistent with past research which has found that an 8-week self-compassion training increased reappraisal levels and increased the use of cognitive reappraisal in the future (Diedrich et al., 2016;Roca et al., 2020). Therefore, it is possible that the underlying mechanism of self-compassion inductions may increase state reappraisal levels.

Consistent with our hypothesis and similar to Study 1, there was a significant difference found across conditions in levels of distress. Indeed, the self-compassion condition reported significantly lower levels of distress immediately after the induction compared to the control condition. These results differ from Study 1 where we found that both self-compassion and cognitive reappraisal writing conditions helped lower distress levels immediately after they were completed when compared to the control condition. Similar to Study 1, at the end of the study, there were no longer significant differences between the three conditions on distress levels.

Consistent with our hypothesis, there was a significant difference between levels of self-compassion for those in the self-compassion condition compared to those in the reappraisal and control condition. Similar to Study 1, we had anticipated that those in the self-compassion

condition would score higher on self-compassion after completing the written induction compared to those in the reappraisal condition and control condition. We did not find support for this hypothesis for Study 1 but did find support for it in Study 2. That is, those in the self-compassion condition scored significantly higher on self-compassion when compared to both the cognitive reappraisal and control condition. This would suggest that when recalling a past social judgment situation, which is not specific to the global COVID-19 pandemic, individuals in the self-compassion condition report having higher levels of self-compassion compared to those in the reappraisal and control conditions. This may suggest that a self-compassion induction may serve as a beneficial coping technique that increases levels of self-compassion when recalling a past situation that is more individualistic and personal as opposed to a COVID-19 specific situation. The differences between Study 1 and 2 may be a result of the type of social situation that participants brought to mind. The situations in Study 2 were rated as more important and more anxiety inducing.

Past research has found support that self-compassion is associated with acceptance (Neff et al., 2005) and self-improvement intentions (Breines & Chen, 2012.). It is plausible that for a personal and memorable social judgment situation, a self-compassionate approach is most beneficial as it guides participants to accept what has happened as opposed to challenging their thoughts. Past research has also suggested that experiencing stressful situations helps develop one's reappraisal skills (Crane et al., 2019; Seery & Quinton, 2016; Zeier et al., 2021). Thus, experiencing social stress more frequently may provide individuals with the chance to practice and develop their cognitive reappraisal skills (Zeier et al., 2021). As the situations described by participants were highly specific and personal, it is possible that participants have not been provided sufficient opportunities to practice and develop their cognitive reappraisal skills. Thus,

perhaps for social events that are more personal and not experienced as frequently, self-compassion can serve as a beneficial coping mechanism. This might be why Study 1 found reappraisal to also be a beneficial strategy as the situations brought to mind by participants were situations they may face frequently during the pandemic.

We had also hypothesized that those higher in social anxiety would benefit most from the self-compassion induction. This moderation hypothesis was based on previous research (Harwood & Kocovski, 2017) and we found some support for it. That is, we found that individuals with high levels of social anxiety reported increased levels of state self-compassion after completing either the self-compassion condition or the cognitive reappraisal exercise compared to the control condition. Thus, state self-compassion increased the most for those who reported having high levels of social anxiety after completing the self-compassion or reappraisal condition. Increasing state self-compassion through a written induction is beneficial for overall wellbeing as higher levels of self-compassion are associated with numerous psychological benefits and can help individuals cope with stressful situations, especially those with high levels of social anxiety.

Overall, our results suggest that self-compassion is beneficial when recalling a past social situation. We found that inducing self-compassion led to increased self-compassion and reappraisal when compared to the cognitive reappraisal and control conditions. The state anxiety levels were significantly less for those in the self-compassion compared to those in the cognitive reappraisal and control conditions. Study 1 and 2 provide evidence to suggest that both self-compassion and cognitive reappraisal techniques are beneficial when recalling past social stressors. However, future research should continue to explore how different groups of individuals cope differently as not everyone can successfully engage in self-compassion. Those

who fear self-compassion report not benefiting from self-compassion or may find it difficult to engage in a self-compassion induction (Gilbert, 2010; Stevenson et al., 2019). It is important to consider the impact that fear of self-compassion may have on overall success of self-compassion inductions and if cognitive-reappraisal inductions are especially beneficial for these individuals. The next study will compare a self-compassion induction to a cognitive reappraisal exercise to determine if either of these techniques can be beneficial for coping with a present social stressor and if there are differences amongst whom benefits the most from these inductions.

Study 3

The purpose of the third study was to continue to investigate a self-compassion induction compared to cognitive reappraisal in the context of social stress, but this time for a current stressor (i.e., speech task). Additionally, we wanted to evaluate how easy and often participants implemented the skills learned during their written induction in order to cope with a present social stressor as opposed to a past social stressor.

Fear of Self-Compassion

Despite the aforementioned benefits of engaging in self-compassion, some may find it hard to express self-compassion toward themselves during difficult and challenging times. Some may fear self-compassion as they do not feel worthy or deserving of receiving self-kindness (Gilbert, 2010). For those who fear self-compassion, engaging in self-compassion may not be beneficial and in fact, may be detrimental and result in negative outcomes (Gilbert, 2010; Stevenson et al., 2019). It has been found that those with SAD report higher scores in fear of self-compassion compared to a control condition (Merrit & Purdon, 2020). As such, the fear of self-compassion is common among individuals with social anxiety (Gilbert & Irons, 2004). Fear of self-compassion may act as a barrier for those with SAD and may hinder the positive benefits

of self-compassion. Previous research that has evaluated the impact of self-compassion inductions for those with social anxiety have not taken the fear of self-compassion into consideration. Thus, self-compassion may be beneficial for those with social anxiety. However, the fear of self-compassion may serve as a barrier and this may limit their engagement and consequently the benefits obtained from self-compassion inductions.

The impact of fear of self-compassion on inducing self-compassion among those with high social anxiety has yet to be examined. It has been found that self-compassion may not serve as beneficial for those who report high levels of fear toward self-compassion. In a study regarding eating disorder pathology, those who reported higher fear of self-compassion and were assigned to the self-compassion condition, reported worse outcomes than those lower in fear of self-compassion who were also in the self-compassion condition (Kelly & Carter, 2015). Those in the behavioural strategies intervention improved regardless of level of fear of self-compassion (Kelly & Carter, 2015). In sum, those with high levels of fear of self-compassion did not benefit from self-compassion but did benefit from the behavioural strategy intervention. Only one other study, to our knowledge, has examined the potential moderating role of fear of self-compassion in relation to self-compassion inductions; however, they did not find fear of self-compassion to significantly moderate outcome, suggesting that those with elevated levels of fear of self-compassion, compared to those with low levels, did not respond differently to the self-compassion induction (Stevenson et al., 2019). Overall, it may be the case that those with high fear of self-compassion may find engaging in self-compassion especially difficult and it is therefore important to explore the impact of fear of self-compassion on the response to self-compassion interventions.

Similar to Study 1 and 2, we hypothesized that inducing self-compassion would lead to greater levels of state self-compassion when compared to the cognitive reappraisal condition and control condition whereas a reappraisal exercise would increase levels of state cognitive reappraisal when compared to the self-compassion condition and control condition. Study 3 aimed at comparing a self-compassion induction to a reappraisal exercise to evaluate how they may differ in relation to an upcoming speech task. Consistent with past research evaluating the impact of a self-compassion induction, it was hypothesized that participants who completed the self-compassion induction would report lower post-event processing (Blackie & Kocovski, 2018), lower anticipatory anxiety (Harwood & Kocovski, 2017), lower social anxiety (Candea & Sezentagotai-Tartar, 2018) and greater willingness to engage in future social situations (Blackie & Kocovski, 2018) when compared to the control condition. However, these studies did not compare a self-compassion induction to another beneficial strategy, such as cognitive reappraisal. Additionally, it was hypothesized that participants who completed the self-compassion induction would report using the skills learnt in the induction to help cope with the speech task more frequently than those in cognitive reappraisal and control conditions. Similar to Study 1 and 2, we hypothesized that those with high levels of social anxiety would benefit the most from the self-compassion induction when having to face a social stressor (the speech task) when compared to the cognitive-reappraisal and control conditions. Thus, we hypothesized that social anxiety would serve as a moderator and that those high in social anxiety would benefit the most from the self-compassion induction compared to the reappraisal and control conditions. Finally, we hypothesized that fear of self-compassion would also serve as a moderator. That is, those high in fear of self-compassion would report benefiting the most from a cognitive reappraisal exercise.

Method

Participants

A total of 163 undergraduate students participated in this study. There were 5 participants who were excluded from this study. Two were removed due to technical difficulties, two did not provide a social situation and one did not finish the study. The remaining sample (N = 158) identified primarily as female (77.8%; 22.1% male), with one individual identifying as non-binary. Ages ranged from 17-55 (M = 19.58, SD = 4.76). The sample was predominantly White (60.8%), with 12.7% participants identifying as Asian, 7% Middle Eastern, 8.9% Black/African American, .6% Indigenous and 10% identifying as Other. Participants were randomly assigned to a self-compassion condition (n = 53), cognitive-reappraisal condition (n = 53), or a control condition (n = 52). Participants received course credit. Participants who completed Study 1 or 2 were not eligible for this study.

Materials

The same baseline measures as Study 1 and 2 were used, which included the SPIN, SIAS, SCS, SUDS and the ERQ. The Post-Event Processing Inventory (PEPI-T) and the fear of self-compassion scale were added as baseline measures. The social situation instructions and the writing inductions were similar to Study 2 but were modified to reflect a speech (see Appendix E and Appendix F). Participants were also provided with instructions about the speech task (see Appendix G).

The Anticipatory Social Behaviours Questionnaire (ASBQ) was added before participants gave their speech. The same post measures as Study 1 and 2 were used, which included the SCS, STAI-S, SUDS and the ERQ-Reappraisal. We added in the ERQ-Suppression subscale, Post-Event Processing Inventory-State (PEPI-S) and The Willingness to Communicate

scale (WTC) to our dependent measures. Participants were also asked to report how easy and often they implemented self-compassion and engaged in cognitive reappraisal strategies (see Appendix H). Finally, the same manipulation check was used.

Emotion Regulation Questionnaire (Expressive Suppression). *The Emotion Regulation Questionnaire* (ERQ; Gross, & John, 2003) was used as both a baseline and dependent measure to measure baseline and state suppression levels in Study 3. The Expressive Suppression subscale was used as a baseline measure (e.g., "I keep my emotions to myself") and was modified slightly in order to be used as a dependent measure (e.g., "I kept my emotions to myself"; "I changed what I was thinking about to feel more positive emotion (such as joy or amusement)". Each item is rated on a 7-point Likert scale (*1 = strongly disagree; 7 = strongly agree*). Items are added together to compute the suppression subscale. Higher scores on the suppression subscale are representative of higher levels of emotional suppression. The ERQ has been shown to be reliable for the suppression subscales (α = .73). Additionally, the test–retest reliability across 3 months was acceptable (α = .69; Gross & John, 2003).

Post-Event Processing Inventory: The *Post-Event Processing Inventory* (PEPI; Blackie & Kocovski; 2017) was used to measure repetitive and negative thinking in relation to social situations. The trait version (PEPI-T) was used as a baseline measure to measure levels of trait post-event processing (e.g., "I experience recurring thoughts about social events long after they are over") whereas the state version (PEPI-S) was used to measure levels of post-event processing after the speech task (e.g., "I thought about how poorly the situation went"). Both the PEPI-T and PEPI-S are 12-item scales used to measure post-event processing. Participants rate each item on a 5-point Likert scale (*1 = strongly disagree; 5 = strongly agree*). Both the PEPI-T and PEPI-S are made up of three subscales: self-judgement, frequency and intensity. A total

score can be computed by adding together the score on each item. Scores range from 12 to 60, with higher scores representing higher levels of post-event processing. Both scales have shown convergent, concurrent, discriminant/divergent, incremental, and predictive validity and both have demonstrated excellent internal consistency as well, the PEPI-T has shown excellent two-week test–retest reliability (Blackie & Kocovski; 2017).

Fear of Self-Compassion: The *Fear of Self-Compassion* (FOSC) subscale was used from the Fear of Compassion Scale (Gilbert et al., 2011). The FOSC scale was used as a baseline measure in Study 3 to measure levels of fear felt toward self-compassion. The FOSC scale is a 15-item scale used to measure trait levels fear of self-compassion. Participants rate each item on a 5-point Likert scale (*1 = don't agree at all; 5 = completely agree*). The FOSC scale assesses the degree to which individuals are afraid of providing oneself with compassion (e.g., "I feel that I don't deserve to be kind and forgiving to myself"). Scores range from 15 to 75, with higher scores representing higher fear of providing self-compassion. The FOSC scale has been reported to have good discriminant validity between the fear of self-compassion and self-compassion (r = -.54; Gilbert et al., 2011).

Anticipatory Social Behaviours Questionnaire. The *Anticipatory Social Behaviours Questionnaire* (ASBQ; Hinrichsen & Clark, 2003) is a 12-item measure that examines trait anticipatory processing related to a social event. The questions were modified to refer to the speech task that participants were required to do in Study 3 (e.g., "I made a conscious effort to not think about the speech"; "I reminded myself of things I should not do"). Participants are asked to report how much they are engaging in the specific behaviours or thoughts at the present moment while anticipating their speech task. Their response on a 4-point scale (*1 = never; 4 =*

always) where higher scores are reflective of maladaptive anticipatory behaviours. The internal consistency of the ASBQ has been reported as high (α = .88; Hinrichsen & Clark, 2003).

Willingness to Communicate. *The Willingness to Communicate scale (*WTC; McCroskey, 1992) is a 20-item measure used to measure participants' willingness to engage in future social scenarios. The WTC was used a dependent measure and was completed after the speech was presented. The WTC evaluates the extent in which participants are willing to engage in a variety of different social situations in different contexts (group discussions, meetings, interpersonal conversations, and public speaking) and with different people (strangers, acquaintances, and friends). Each item is rated on a 0 to 100 scale. Higher scores are representative of a greater willingness to of time that engage in social situations. The WTC scale has demonstrated reliability and excellent construct validity (McCroskey, 1992).

Procedure

Participants completed the entire study and speech task over Zoom. They completed the pre-questionnaire, writing situation, written induction and post questionnaires on Qualtrics over the Zoom call. For the baseline measures, participants were asked to report levels of social anxiety, self-compassion, emotional regulation, fear of self-compassion and post-event processing.

Participants were then asked to recall a speech or presentation where they felt judged and to write about it. This differed from Study 1 and Study 2 as any social judgment situation was acceptable for those studies whereas in Study 3 participants were instructed to select a speech or presentation. Then, they were randomly assigned to one of three conditions. The three conditions, self-compassion, cognitive reappraisal or control had the same unique prompts as Study 2. After participants completed the writing task, they were informed that they would need

to give a 3-minute speech. They were asked to report levels of anticipatory anxiety and distress before they prepared for their speech. Once the speech was done, participants then completed post measures evaluating their state levels of self-compassion, social anxiety and post-event processing.

Analytic Strategy

A multivariate analysis of variance (MANOVA) was conducted to determine any significant effects of the writing task manipulation (self-compassion vs. cognitive reappraisal vs. control) on levels of self-compassion, cognitive reappraisal, distress and anxiety. PROCESS (Hayes, 2018) was used to run moderation analyses to determine if those who reported high levels of social anxiety benefit most from the self-compassion induction and to see if those with high levels of fear of self-compassion benefit the most from a cognitive-reappraisal exercise.

Results

Baseline Measures

Participants' baseline social anxiety, self-compassion, emotional regulation, post-event processing, fear of self-compassion, Zoom anxiety, Zoom comfort and distress scores were compared across conditions and reliability was computed for each scale (see Table 13). There were no significant differences between the three conditions on these measures at the multivariate level, $F(2, 155) = .74$, $p = .772$, $\eta 2 = .043$. Baseline correlational analyses revealed that, just like Study 1 and 2, social anxiety was significantly negatively correlated to self-compassion and trait cognitive reappraisal and both trait self-compassion scales correlated significantly and positively with trait cognitive reappraisal. Additionally, trait post-event processing was significantly correlated with trait social anxiety whereas trait fear of self-

compassion was seen to be positively correlated with social anxiety and negatively correlated with self-compassion, cognitive reappraisal and post-event processing (see Table 14).

Participants were asked to describe a past speech or presentation where they had felt judged by others and then were asked to answer a few questions regarding the speech. There was a significant difference between the three conditions on these questions at the multivariate level, $F(2, 155) = 2.58$, $p = .003$, $\eta 2 = .094$. Upon further examination, there was a significant difference between the three conditions on how much control they reported having over the situation $F(2, 155) = 6.19$, $p = .003$, $\eta 2 = .074$. A Tukey HSD post-hoc test determined that the cognitive reappraisal condition reported having significantly more control during their situation ($M = 1.64$, $SD = 1.08$) compared to those who were in the self-compassion condition ($M = .91$, $SD = 1.01$), $p = .002$. There was also a significant difference between the three conditions on how anxious they reported being during their social situation $F(2, 155) = 5.74$, $p = .004$, $\eta 2 = .069$. A Tukey HSD post-hoc test determined that the cognitive reappraisal condition reported having significantly less anxiety during their situation ($M = 2.85$, $SD = 1.28$) compared to those who were in the self-compassion condition ($M = 3.42$, $SD = .77$), $p = .010$ and those in the control condition ($M = 3.41$, $SD = .83$), $p = .012$. Therefore, the types of situations brought to mind were similar across conditions in terms of the importance. However, those in the reappraisal condition reported having significantly more control and less anxiety than the self-compassion condition.

Across conditions, these situations were rated as slightly anxiety inducing while recalling, moderately to very important, and very anxiety inducing during the moment and individuals reported being very worried about being judged by others during the moment (see Table 16). Compared to Study 1 (see Table 4), and Study 2 (see Table 10) the situations brought

to mind for Study 3 induced more anxiety and were rated as more important. Participants also reported in Study 3 having the least amount of control over their social situations and most amount of fear associated with being judged by others.

Manipulation Check

The same manipulation check as Study 1 and 2 was used to determine how effective the written induction was on inducing self-compassion or reappraisal and to evaluate if participants thought of things besides their situation (see Table 15). There were no significant differences between the three conditions at the multivariate level, $F(2,155) = .83$, $p = .545$, $\eta 2 = .016$.

Written Induction

Participants were randomly assigned to one of three writing conditions (self-compassion, cognitive reappraisal or control) and were asked to follow three writing prompts. A research assistant coded for the number of words written and Qualtrics recorded the amount of time it took each participant to complete the writing task. Participants were required to stay on the written induction page for at least 5 minutes before the next arrow would appear.

There was a significant difference between conditions on the number of words written, $F(2,155) = 3.82$, $p = .024$, $\eta 2 = .047$. A Tukey HSD post-hoc test determined that the reappraisal condition wrote significantly more words ($M = 173.92$, $SD = 72.21$) than the control condition ($M = 144.96$, $SD = 63.05$), $p = .039$. The difference between the number of words written between the reappraisal condition and self-compassion condition ($M = 147$, $SD = 40.04$) was approaching significance, $p = .057$.

There was a significant difference between conditions on the amount of time spent on the written induction, $F(2,155) = 10.17$, $p = .000$, $\eta 2 = .116$. A Tukey HSD post-hoc test determined that the reappraisal condition spent more time in seconds ($M = 507.35$, $SD = 178.87$) than the

control condition (M = 378.13 SD = 125.76), $p < .001$. Additionally, the self-compassion condition spent more time in seconds (M = 448.70, SD = 129.99) compared to the control condition, $p = .040$.

Effect of Condition on Dependent Measures

Participants completed state measures of self-compassion (SCS), reappraisal and suppression (ERQ), anxiety (STAI-S), post-event processing (PEPI-S), anticipatory anxiety (ASBQ), willingness to communicate (WTC) and distress (SUDS) after completing the written induction and reliability was computed for each scale (see Table 17). After controlling for baseline difference regarding the social situation brought to mind, there were no significant differences between the three conditions on these dependent measures, $F(2, 155) = .76$, $p = .748$, $\eta 2 = .044$.

Participants were also asked to report how often and how easy it was to implement the skills learnt during their writing induction (see Table 19 and 20). There were no significant differences on how often they reported implementing the various strategies learnt to help cope with the upcoming social stressor, $F(2, 155) = .58$, $p = .896$, $\eta 2 = .030$. There were also no significant differences on how easy it was to implement these strategies, $F(2, 155) = .82$, $p = .651$, $\eta 2 = .037$.

Testing Social Anxiety as a Moderator

We ran seven moderation analyses to test if social anxiety moderated the effect of condition on outcome. Hayes (2018) PROCESS (Model 1) was used to run the seven moderation analyses using condition (self-compassion, cognitive reappraisal or control) as the predictor variable, social anxiety (SPIN) as the moderator and state self-compassion (SCS), state reappraisal (ERQ), post-event processing (PEPI-S), anticipatory anxiety (ASBQ), willingness to

communicate (WTC) and distress (SUDS) or state anxiety (STAI-S) as the outcome variable in order to evaluate if one of the three conditions was more beneficial for those who scored high on social anxiety (SPIN). Correlations among the dependent variables appear in Table 18.

The moderation model using post-event processing (PEPI-S), anticipatory anxiety (ASBQ), willingness to communicate (WTC) and distress (SUDS) or state anxiety (STAI-S) as an outcome variable were not significant. As such, there were no differences on state reappraisal, post-event processing, anticipatory anxiety, willingness to communicate, distress and state anxiety between conditions at different levels of baseline social anxiety (SPIN).

The moderation model using state self-compassion (SCS) as an outcome variable was significant $F(5, 152) = 10.06$, $p < .001$, $R^2 = .24$. This was qualified by a significant interaction between the control and cognitive reappraisal condition, $R^2 = .24$, $t(5, 152) = 2.21$, $p = .037$ (see Figure 2). Among those with low baseline social anxiety, those assigned to the self-compassion condition did not differ from those assigned to the control condition, $b = .016$, $t = .08$, $p = .94$, those assigned to the control condition did not differ relative to the reappraisal condition, $b = -.09$, $t = -.45$, $p = .654$ and those in the reappraisal condition did not differ significantly relative to those in the self-compassion condition, $b = .11$, $t = .55$, $p = .59$. These results suggest that those with low levels of social anxiety do not differ across conditions on state self-compassion levels. Among those high in social anxiety, those assigned to the self-compassion condition did not differ on state self-compassion relative to control participants, $b = .35$, $t = 1.69$, $p = .093$, those assigned to the cognitive reappraisal condition reported more state self-compassion compared to control participants, $b = .55$, $t = 2.57$, $p = .011$, however the difference between the reappraisal and self-compassion condition was not significant, $b = -.20$, $t = -.98$, $p = .329$. These results suggest that those with high levels social anxiety differ across conditions on state self-

compassion levels. That is, those high in social anxiety reported higher levels of state self-compassion after completing the reappraisal condition compared to the control condition.

The moderation model using state reappraisal (ERQ) as an outcome variable was significant $F(5, 271) = 2.99$, $p = .013$, $R^2 = .09$. This was qualified by a significant interaction $F(2, 152) = 2.21$, $p = .021$, $R^2 = .047$ (see Figure 3). Among those low in social anxiety, there was no significant difference between those in the control condition compared to the self-compassion condition, $b = -.51$, $t = -1.37$, $p = .17$, the difference between the control and reappraisal condition was also not significant, $b = -.53$, $t = -1.39$, $p = .17$ and the difference between the self-compassion and reappraisal condition was also not significant, $b = .015$, $t = .04$, $p = .97$. These results suggest that those with low levels of social anxiety do not differ across conditions on state reappraisal levels. Among those high in social anxiety, there was no significant difference between those in the control condition and those assigned to the self-compassion condition, $b = .69$, $t = 1.87$, $p = .063$, those assigned to the self-compassion condition reported higher levels of state reappraisal compared to the cognitive reappraisal condition, $b = .90$, $t = 2.34$, $p = .02$, those assigned to the self-compassion condition did not differ significantly from those assigned to the reappraisal condition, $b = -.21$, $t = -.57$, $p = .57$. These results suggest that those with high levels social anxiety do differ across conditions on state reappraisal levels. That is, those high in social anxiety reported higher levels of state reappraisal after completing the reappraisal condition compared to the control condition.

Testing Fear of Self-Compassion as a Moderator

We ran seven moderation analyses to test if fear of self-compassion moderated the effect of condition on outcome. Hayes (2018) PROCESS (Model 1) was used to run the seven moderation analyses using condition (self-compassion, cognitive reappraisal or control) as the

predictor variable, fear of self-compassion as the moderator and state self-compassion (SCS), state reappraisal (ERQ), post-event processing (PEPI-S), anticipatory anxiety (ASBQ), willingness to communicate (WTC) and distress (SUDS) or state anxiety (STAI-S) as the outcome variable in order to evaluate if one of the three conditions was more beneficial for those who scored high on fear of self-compassion.

The moderation models using state self-compassion (SSC), state distress (SUDS) and state anxiety (STAI-S) as outcome variables were not significant. As such, there were no differences in state self-compassion, distress and state anxiety between conditions at different levels of baseline fear of self-compassion.

When using state reappraisal as an outcome variable, there was a significant interaction, $F(2, 152) = 3.96$, $p = .021$, $R^2 = .048$. Among those with low fear of self-compassion, the difference between the control and self-compassion condition was not significant, $b = -.20$, $t = -.50$, $p = .62$, the difference between the control and reappraisal condition was also not significant, $b = -.44$, $t = -1.10$, $p = .27$ and the difference between the reappraisal and self-compassion condition was not significant, $b = .24$, $t = .65$, $p = .52$. These results suggest that those with low levels of fear of self-compassion do not differ across conditions on state reappraisal levels. Among those with high fear of self-compassion, the difference between the control and self-compassion condition was not significant, $b = .28$, $t = .74$, $p = .46$ those in the cognitive reappraisal condition reported significantly more fear of self-compassion compared to those assigned to the control condition, $b = .77$, $t = 2.01$, $p = .046$, and the difference between the reappraisal and self-compassion condition was not significant, $b = -.49$, $t = -1.24$, $p = .22$. These results suggest that those with high fear of self-compassion do differ across conditions on state

reappraisal levels. That is, those high in fear of self-compassion reported higher levels of state reappraisal after completing the reappraisal condition compared to the control condition.

Discussion

The main purpose of Study 3 was to compare a self-compassion induction to a cognitive reappraisal exercise in order to evaluate how these strategies may differ and help individuals to cope with an upcoming social situation. Our past studies involved recalling a past social stressor, however Study 3 investigates how these written exercises may be beneficial not only for past social stress but also for an upcoming social stressor. In all three studies, participants were asked to recall a past social stressor and then were randomly assigned to one of three conditions to work through their past social stressor. We evaluated the types of situations brought to mind by participants and their anxiety related to those situations. In Study 3, participants were asked to recall a social situation (such as a speech or presentation where they had felt judged by others) and describe it. Compared to Study 1, the situations described in Study 3 were significantly harder to recall, induced significantly more anxiety during the moment, individuals worried significantly more about being judged, had significantly less control over the situation and reported the event as significantly more important. Compared to Study 2, the situations described in Study 3 were significantly harder to recall, induced significantly more anxiety during the moment, were slightly more important, slightly more anxiety inducing now, and individuals reported slightly less control and slightly more worry about being judged. Overall, this suggests that recalling a social judgment situation, such as a speech or presentation where they had felt judged by others, was more important and induced more anxiety. This is important as it suggests that in order to best induce anxiety related to a past social situation, future studies may want to ask participants to recall a social situation such as a presentation or speech where they had felt

judged by others as opposed to a COVID-19 specific (Study 1) or general social situation (Study 2).

As hypothesized, we found some support that those with high levels of social anxiety do differ across conditions on state self-compassion levels and state reappraisal levels. That is, those high in social anxiety reported higher levels of state self-compassion after completing the reappraisal condition compared to the control condition after completing their speech. Additionally, those high in social anxiety reported higher levels of state reappraisal after completing the reappraisal condition compared to the control condition after completing their speech. We found some support for the prediction that those with high levels fear of self-compassion do differ across conditions on state reappraisal levels. That is, those high in fear of self-compassion reported higher levels of state reappraisal after completing the reappraisal condition compared to the control condition after completing their speech.

Previous work has demonstrated that those who report high levels of social anxiety benefit most from self-compassion (Harwood & Kocovski, 2018). However, that study did not compare a self-compassion induction to another beneficial strategy, such as cognitive reappraisal. This alternative strategy may be beneficial for those with elevated levels of fear of self-compassion as they may find it hard to treat themselves kindly during times of hardship. Although this current study found only some support for our hypotheses, these results do suggest that there are differences in how individuals with high levels of social anxiety and fear of self-compassion respond to social stressors. To our surprise and contrary to past literature and our past studies, we found that the reappraisal condition was most beneficial for those with high levels of social anxiety and fear of self-compassion. Although we only saw significant differences on specific dependent measures such as reappraisal and self-compassion, this

warrants further research in order to better understand the differences between self-compassion and cognitive reappraisal techniques to help cope with upcoming social stressors. Moreover, future research may want to examine the lasting impact of inducing such mindsets. For example, recent work has examined the impact of experimentally inducing people with positive vs. negative beliefs about self-compassion and found that inducing positive beliefs about self-compassion predicted self-compassionate responding up to a week later (Chwyl et al., 2021). However, the current study did not examine the long-term impact of the self-compassion or cognitive reappraisal induction. The study also did not specifically aim at altering negative self-compassionate beliefs, such as targeting the fear of self-compassion. Given the results of this study and the impact of the reappraisal induction, future studies may seek to evaluate if these types of inductions can be beneficial in challenging negative self-compassion beliefs.

Contrary to our hypotheses we did not find any significant differences between the three conditions on the dependent measures, how often they reported implementing the various strategies learnt to help cope with the upcoming social stressor and how easy it was to implement these strategies. Past research that has looked at the effect of inducing self-compassion to cope with social stress has found that it decreases anticipatory anxiety related to an upcoming speech task when compared to a control condition (Blackie & Kocovski, 2018). In this case, it is plausible that engaging in a speech over Zoom was not as anxiety inducing as engaging in a speech in person, which is what past research has focused on. As such, a limitation of this study was that it had to be done entirely online due to COVID-19 restrictions. As a result, participants gave their speech over Zoom as opposed to in person. It is possible that presenting on Zoom may be different than presenting in person and consequently may have impacted how individuals completed our study. For example, participants could choose to look at something else other than

the researcher when presenting or could have read off their notes directly which are less likely to occur in person settings. Future studies should evaluate a similar study design involving in an in-person speech in order to evaluate if there are any differences amongst self-compassion and reappraisal exercises in order to cope with upcoming social stressors. It is also plausible that the time allotted for preparing was not enough to think back to their written responses for the writing induction. Participants were given 5 minutes to prepare for their speech but may have focused solely on their speech preparation and not the beneficial induction techniques that they had learnt, even if they were asked to adopt a similar mindset. Future studies that are done in person may wish to have participants spend time preparing for their speech and referring back to the answers they provided to the writing prompts as a reminder. With the return to in-person presentations and social situations, it may be especially relevant to examine how those with heightened social anxiety cope with the transition from a virtual setting to in person and what strategies may be most optimal for them.

General Discussion

Study 1 found initial support suggesting that either a self-compassion induction or cognitive reappraisal exercise was beneficial in helping individuals cope with stress associated with recalling a stressful social situation during the pandemic. Both the self-compassion and cognitive reappraisal conditions reported higher state self-compassion and state reappraisal levels and lower distress compared to those in the control condition. Study 2 found that when recalling a past social stressor, which no longer needed to be specific to the COVID-19 pandemic, a self-compassion induction was most beneficial in aiding individuals cope with social judgement. Those in the self-compassion condition reported higher state self-compassion and state reappraisal and lower state anxiety when compared to the control condition. However, there were

no significant differences between the self-compassion condition and cognitive reappraisal condition. There was some support to suggest that those who report high levels of social anxiety benefit most from a self-compassion induction or a cognitive reappraisal exercise when compared to the control condition as they reported the highest levels of state reappraisal. Finally, Study 3 found support suggesting that those high in social anxiety and fear of self-compassion benefit most from a cognitive reappraisal exercise when coping with past and present social stress.

Across studies, we found several important implications which contribute to the current research regarding the relationship between self-compassion and social anxiety. All three studies explored the impact of a brief self-compassion induction on coping with social stress. The main goal was to compare a self-compassion induction to another beneficial strategy as opposed to only comparing it to a control condition, which has been what past research has primarily focused on. This was important as it helped explore for whom and in which contexts a self-compassion or cognitive reappraisal induction may be the most optimal. Previous research has demonstrated the benefits of self-compassion for those who report high levels of social anxiety (Harwood & Kocovski, 2017) and we were able to find some support for this in our studies. In Study 1, those who reported high levels of social anxiety did not differ significantly from those with moderate or low levels of social anxiety on the dependent measures. In Study 2 we found support to suggest that those who report high levels of social anxiety may benefit most from either a self-compassion induction or a cognitive reappraisal induction in regard to increasing state self-compassion levels. In Study 3, we found that those who reported high levels of social anxiety benefited the most from the cognitive reappraisal exercise as they reported significantly higher state reappraisal levels and state self-compassion levels compared to control. Altogether,

this provides the field with further knowledge regarding how those with high levels of social anxiety may cope differently when facing social stress.

A second finding has implications on the fear of self-compassion literature, which is a relatively new field of study. Fear of self-compassion is associated with greater stress and negative psychological wellbeing (Gilbert et al., 2011). Past research has suggested that those with social anxiety may benefit from self-compassion, however this may not be the case if they also experience high levels of fear associated with self-compassion (Kelly & Carter, 2015). Study 3 was the only study in which included a measurement regarding fear of self-compassion. Unlike past research (Stevenson et al., 2019), we found support to suggest that fear of self-compassion serves as a moderator for some, but not all, of our outcome variables. Specifically, we found that those who reported high levels of fear of self-compassion reported benefiting significantly more from the cognitive reappraisal condition compared to the control condition. Given the results of Study 1 and Study 2 demonstrated similarities between the self-compassion condition and cognitive reappraisal condition on state reappraisal after completing the written induction, it is interesting to see the differences for those who reported higher levels of fear of self-compassion. This may illustrate the fact that those who fear self-compassion may benefit from an alternative strategy to aid with coping with social stress in an adaptive manner as opposed to engage in self-compassion. Although fear of self-compassion is a relatively new field of study, this study provides some evidence to suggest how those who fear self-compassion may differ in their ability to cope with an upcoming social stressor when given another beneficial coping mechanism. Although past research has suggested that when those with high fear of self-compassion engage in self-compassion, they tend to report more negative psychological wellbeing, this was not the case in Study 3 as the control condition reported the lowest levels of

state reappraisal in our moderation model (Kelly & Carter, 2015). As a result, we did not find support to suggest that engaging in self-compassion may be detrimental however, we do have some support to suggest that an alternative beneficial strategy may be more optimal on specific outcome variables such as state reappraisal.

As past research has shown that both a self-compassion induction and cognitive reappraisal exercise may be equally beneficial, we set out to better understand how these two strategies may differ. Previous research has demonstrated that cognitive reappraisal exercises are equally beneficial in reducing social anxiety among those who reported high levels of social anxiety when compared to self-compassion inductions (Stevenson et al., 2019). Other studies have demonstrated that self-compassion strategies were found to be more effective for regulating emotions compared to a control condition but were equally as effective as the cognitive-reappraisal and acceptance conditions (Diedrich et al., 2014). In all three of our studies, both the self-compassion and cognitive reappraisal inductions led to similar levels of self-compassion and reappraisal. What this suggests to us is that there is overlap between these two strategies and their underlying mechanisms. In other words, by having participants view their situation mindfully with self-kindness and common humanity they also engaged in reappraisal. This was also the case for those who tried to challenge their thoughts regarding their situation, as they reported being mindful, treating themselves kindly and that they were not alone in suffering. For example, in Study 1 both the self-compassion and cognitive reappraisal strategies were beneficial compared to the control induction when coping with past social judgment related to the pandemic. However, these two techniques did not differ significantly from each other. In fact, in Study 1 and Study 2 state anxiety, reappraisal and self-compassion levels were very similar for those who were assigned to the self-compassion condition compared to those who were assigned

to the cognitive reappraisal condition. In Study 2, we found that the self-compassion induction was most beneficial compared to the control induction; however, it did not differ significantly from the cognitive reappraisal condition. Finally, in Study 3 we found that neither strategy was significantly more beneficial compared to a control writing task when dealing with an upcoming social stressor. Moreover, in Study 3 we found that the cognitive reappraisal condition was most beneficial for those with high social anxiety compared to the control condition. It is known that reappraisal requires extensive effort to successfully engage and alter one's mindset regarding their thoughts and feelings (Goldin et al., 2012). Although individuals with social anxiety tend to engage in emotion suppression it is possible that with guided prompts, they are able to adopt a reappraisal mindset which also allows them to treat themselves with self-compassion.

Our findings may have differed across studies due to the type of social stress that participants brought to mind. In Study 1 participants were asked to recall a pandemic-related social stressor, whereas in Study 2 participants were asked to recall a more general social stressor In Study 1, it is possible that when dealing with a social situation such as the COVID-19 pandemic, any beneficial strategy can be helpful to cope with social stress. Although there is support for the ways in which the two types of strategies differ, past research has found that self-compassion predicted lower social anxiety directly and indirectly through lower emotional suppression and that higher self-compassion also predicted higher levels of cognitive reappraisal (Bates et al., 2020). Specifically, emotional regulation techniques have been found to influence the impact of self-compassion on social anxiety (Inwood & Ferrai, 2018). This would suggest that the two concepts are somewhat linked, and that self-compassion can increase cognitive reappraisal. In fact, this is similar to what we found in our studies where in Study 1 we found that both the self-compassion and cognitive reappraisal exercise reported significantly higher

state reappraisal compared to control and in Study 2 the self-compassion induction reported significantly higher state reappraisal levels compared to the control condition. In Study 2, the self-compassion condition reported benefiting most relative to the control condition. It is possible that when a situation was more personal, treating oneself with kindness was more beneficial than trying to challenge one's thoughts regarding a past situation. Past research has found that emotion suppression is a common strategy used by those with social anxiety and those with social anxiety report ineffective use of cognitive reappraisal (Dryman & Heimberg, 2018). Emotional suppression, the opposite of cognitive reappraisal, has been referred to as one of the many safety behaviours that those with high levels of social anxiety utilize when faced with social situations (Bates et al., 2020). Those with high levels of social anxiety may engage in emotional suppression more often than those low in social anxiety. It is possible that when dealing with past social situations that elicit social anxiety, individuals may be more likely to attempt to suppress their emotions and may find it hard to challenging their past views as opposed to accepting the past and treating oneself compassionately.

Another contextual factor that may have played a role in the differences we obtained in our results across studies was the presence of stress. In Study 1 and Study 2, participants were dealing with past social stress only. In Study 3, participants were asked to recall a past social judgement situation and then completed a speech task. In Study 1 and 2 we found that self-compassion can be especially helpful for coping with past social stressors. However, in Study 3 we found that engaging in a cognitive reappraisal exercise was most beneficial for coping with upcoming social stress. It may be easier to challenge one's thoughts regarding an upcoming speech task as opposed to engaging in self-kindness. Research has suggested that the impact of cognitive reappraisal on social anxiety may be determined by one's self-efficacy in effectively

reappraising the event (Dryman & Heimberg, 2018). In all three of our studies, we did not measure self-efficacy and as such future research may want to include a measure evaluating self-efficacy in order to evaluate its role in engagement in self-compassion and cognitive reappraisal as this may be a potential way in which they differ.

Limitations and Future Direction

One limitation of the design in all three of our studies was that they took place virtually. In Studies 1 and 2, participants completed a survey on Qualtrics. As noted in our results section, participants had to be excluded for not accurately completing the study. Although there has been supported to suggest that online interventions are sufficient to induce specific mindsets, it is plausible that participants in both of these studies could have been distracted (Chwyl et al., 2021). Participants were timed while completing sections of Studies 1 and 2 and although participants were only required to spend five minutes on the written induction, many spent longer. This could suggest that participants took the time to fully engage in the inductions or that they were doing something else. If participants wrote appropriate answers and passed the majority of attention checks, they were retained. It is not possible to know why some participants took longer on the study compared to others (i.e., distracted vs. engaged). In Study 3, participants completed the study virtually but synchronously as they had to sign up for a timeslot and were asked to keep their cameras turned on. Compared to the two previous studies, fewer participants were excluded. Therefore, it is possible that having their cameras on made participants focus on the study and avoid distractions. Future research may wish to conduct these studies again using the knowledge we have gained throughout in order to more intensely induce anxiety by asking participants to recall a social situation such as a speech or presentation, as well as more

accurately inducing self-compassion or cognitive reappraisal by minimizing the possibility of distractions by having cameras turned on or being done entirely in person.

In Studies 1 and 2, distress levels were no longer significantly different from the control condition by the end of the study and in Study 3 we do not see any significant differences between the three inductions when coping with a present social stressor. Given we did not conduct follow ups to each of these studies, we are unable to conclude how long lasting the administration of these inductions were. Indeed, we found that the distress levels reported in all three of our studies were below the average distress levels reported in past research regarding recalling past social situations and preparing for upcoming social stressors. For example, past research involving an upcoming in person speech task have found that distress ratings were reported to be on average over 50 before the speech and over 60 during the speech (Blackie & Kocovski, 2018). More specifically, those with high levels of social anxiety reported on average distress in the high 60s whereas those low in social anxiety reported on average distress in the low 50s (Harwood & Kocovski, 2017). Out of all 3 of our studies, only one came close to replicating these levels of distress. In Study 3, which contained a speech task, distress levels were similar to that of previous literature. The control condition reported the highest amount of distress (52.21) when anticipating their speech. It is possible that recalling a past social stressor does not elicit enough distress, especially compared to past literature. Moreover, it seems as though a speech task administered over Zoom may not elicit as much anxiety compared to past work involving a similar design and an in-person speech.

The current research involved a short self-compassion, cognitive reappraisal or control writing exercise which participants were instructed to take at least 5 minutes to complete. Other research has found support that weekly 90-minute self-compassion workshops over the course of

3 weeks increased self-compassion scores, life satisfaction, positive affect and decrease negative affect scores compared to a control group which completed no workshops (Mantelou & Karakasidou, 2017). Another study which focused on two 90-minute sessions over the course of 3-weeks found similar results such that those who completed the self-compassion intervention compared to the active control intervention reported significantly increases in self-compassion, mindfulness, optimism and self-efficacy and significant decrease in rumination but there were no follow-ups done in this study (Smeets et al., 2014). Similarly, we also did not run follow up tests in order to test how long lasting the effects may be. Previous research has run similar designs for self-compassion inductions and have found the effects to be lasting. In fact, it has been found that both a brief self-compassion induction as well as an 8-week mindfulness based self-compassion program has resulted in long lasting changes which can lasted for at least a year (Neff & Germer, 2013; Shapira & Mongrain, 2010).

Another limitation of all three studies relates to limited generalizability given each sample consisted of predominantly those who identify as female and we used a convenience sample of university students as opposed to the general population which would include much more diversity. Moreover, we did not use a sample of individuals who were diagnosed with social anxiety disorder. Future research should expand on the current study by collecting data from a more diverse sample including those who have been formally diagnosed with social anxiety disorder. By doing so, it may help identify beneficial coping strategies for a more diverse sample and especially for those who suffer from social anxiety disorder. This may also help determine key differences between self-compassion and cognitive reappraisal inductions in terms of who may benefit most.

A final limitation of our study was that we measured fear of self-compassion only in our final study. Including it in Study 1 and Study 2 would have been beneficial to further understand the impact fear of self-compassion plays on engaging in self-compassion. It would be beneficial for future research to include this scale in order to further understand how fear of self-compassion may serve as a barrier. Past research evaluating the moderating role of fear of self-compassion in relation to self-compassion inductions is scarce and this limited research is equivocal (Kelly & Carter, 2015; Stevenson et al., 2019). However, in Study 3 we did find some support for it. We found that those who reported higher levels of fear of self-compassion benefited most when compared to those low in this trait. As a result, future research should continue to examine the moderating role of fear of self-compassion in relation to the effectiveness of self-compassion inductions in different contexts.

Conclusion

Altogether, these three studies provide support regarding when and for whom a self-compassion induction or cognitive reappraisal exercise may be the most optimal to implement. Despite not finding specific differences between the two strategies, each study provided several unique contributions to the literature in regard to who it may be most beneficial for and when. In Study 1, it was found that both a self-compassion and cognitive reappraisal induction helped participants cope with past social stress associated with the COVID-19 pandemic. This perhaps illustrates that in times of prolonged stress experienced by many, any beneficial strategy may be better than nothing to help cope with social judgment experienced during the pandemic. In Study 2, it was found that a self-compassion induction helped participants cope with past social stress compared to a control writing task. In Study 3 we found evidence that those with high levels of social anxiety and fear of self-compassion benefit most from a cognitive reappraisal exercise

prior to a speech. Although, we did not find complete support for our hypotheses, we did find that the two strategies appear to overlap. This was demonstrated throughout all three of our studies where we saw the self-compassion induction reported similar levels of state reappraisal as the cognitive reappraisal condition and the cognitive reappraisal exercise reported similar levels of state self-compassion as the self-compassion condition. Although they are two different types of techniques that are often used to cope with stress and social anxiety, their underlying mechanisms may be similar. Overall, this research provides practical implications for self-compassion and cognitive reappraisal interventions and is consistent with recent research demonstrating the effectiveness and feasibility of online based interventions to target negative beliefs regarding self-compassion (Chwyl et al., 2021). Especially in times of social isolation or for those that have difficulty engaging in social situations, these types of interventions can be administered independently.

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Table 1

Study 1 Baseline Descriptive Statistics by Condition

	Self-Compassion (n = 91)		Reappraisal (n = 90)		Control (n = 95)				
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	α
Social Anxiety									
SPIN	33.05	13.91	31.43	14.92	31.01	15.34	.493	.61	.94
SIAS	38.13	14.99	35.77	15.32	36.77	17.46	.504	.61	.94
Self-Compassion									
SCS	2.76	.63	2.85	.60	2.72	.63	.993	.37	.89
Mindfulness									
FMI	34.89	6.77	35.76	6.58	35.35	6.57	.513	.60	.84
Reappraisal									
ERQ	4.86	1.14	4.86	1.14	4.81	1.14	.422	.36	.90
Distress									
SUDS	42.75	24.53	40.22	26.38	44.65	25.70	.693	.50	-

Note. SIAS= Social Interaction Anxiety Scale, SPIN = Social Phobia Inventory. FMI= Friedberg Mindfulness Inventory; SCS = Self-Compassion Scale; ERQ = Emotional Regulation Questionnaire; SUDS = Subjective Units of Distress Scale.

Table 2

Study 1 Baseline Correlations

	SIAS	FMI	SCS	SSCS	ERQ	SUDS 1
SPIN	.85**	-.37**	-.47**	-.35**	-.13*	.23**
SIAS	-	-.43**	-.49**	-.39**	-.20**	.22**
FMI		-	.67**	.51**	.44**	-.20**
SCS			-	.62**	.41**	-.29**
SSCS				-	.40**	-.30**
ERQ					-	-.15*
SUDS 1						-

Note. SIAS= Social Interaction Anxiety Scale, SPIN = Social Phobia Inventory. FMI= Friedberg Mindfulness Inventory; SCS = Self-Compassion Scale; ERQ = Emotional Regulation Questionnaire; SUDS = Subjective Units of Distress Scale.
* = p<.05. ** = p<.01

Table 3

Study 1 Manipulation Check Items by Condition

	SC (n = 91)		CR (n = 90)		Control (n = 95)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Changed thoughts	2.91_a	1.09	2.92_a	1.08	2.39_b	1.09	7.30	.001
Being kind	3.10_a	1.08	3.24_a	1.19	2.59_b	1.18	8.27	.000
Thought of other things	2.87_a	1.16	2.96_a	1.16	2.74_b	1.07	6.55	.002

Note. SC = self-compassion condition; CR = cognitive reappraisal condition. Means in the same row with different subscripts are significantly different at $p < .05$.

Table 4

Study 1 Social Judgment Situation Items by Condition

	SC (n = 91)		CR (n = 90)		Control (n = 95)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Remember	2.96	.87	2.93	.95	2.95	.95	.015	.985
Anxious During	2.70	1.08	2.57	1.07	2.52	1.03	.757	.470
Worried about being judged	2.87	.96	2.63	1.10	2.81	1.00	1.34	.264
Control	1.49_{ab}	1.19	1.80_{a}	1.25	1.37_{b}	1.08	3.23	.041
How important	1.89	1.09	1.88	1.56	2.04	1.21	.591	.554
Anxious Now	1.40	1.13	1.33	1.09	1.28	1.21	.224	.800

Note. SC = self-compassion condition; CR = cognitive reappraisal condition. Means in the same row with different subscripts are significantly different at $p < .05$.

Table 5

Study 1 Post Measures by Condition

	Self-Compassion (n = 91)		Reappraisal (n = 90)		Control (n = 95)				
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	α
SUDS 2	29.09 $_a$	23.39	27.48 $_a$	22.99	38.42 $_b$	26.38	5.46	.005	-
SUDS 3	25.53	22.71	25.22	24.81	29.22	24.16	.804	.45	-
STAI-S	44.10 $_a$	5.62	44.99 $_a$	6.18	42.93 $_b$	6.41	2.68	.07	.92
ERQ	4.88 $_a$	1.15	4.83 $_a$	1.21	4.26 $_b$	1.45	6.91	.001	.94
S-SCS	3.46 $_a$	.78	3.46 $_a$	.74	3.15 $_b$	.82	4.83	.009	.86

Note. SUDS 2 = subjective units of distress scale after induction; SUDS 3 = subjective units of distress scale at end of the study; STAI STAI-S= state-trait anxiety inventory – state; ERQ= Emotional Regulation Questionnaire; S-SCS= state self-compassion scale. Means in the same row with different subscripts are significantly different at $p < .05$.

Table 6

Study 1 Dependent Measures Correlations

	SSCS	ERQ	SUDS 2	SUDS 3
STAI	-.74**	-.48**	.54**	.58**
SSCS	-	.58**	-.48**	-.50**
ERQ		-	-.28**	-.26**
SUDS 2			-	.80**
SUDS 3				-

Note SUDS 2 = subjective units of distress scale after induction; SUDS 3 = subjective units of distress scale at end of the study; STAI STAI-S= state-trait anxiety inventory – state; ERQ= Emotional Regulation Questionnaire; S-SCS= state self-compassion scale.
* = $p<.05$. ** = $p<.01$

Table 7

Study 2 Baseline Descriptive Statistics by Condition

	Self-Compassion (n = 91)		Reappraisal (n = 91)		Control (n = 95)				
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	α
Social Anxiety									
SPIN	30.23	15.35	31.77	14.04	29.90	14.14	.427	.65	.93
SIAS	36.58	16.63	36.48	14.97	37.77	15.05	.197	.82	.93
Self-Compassion									
SCS	2.77	.70	2.79	.62	2.77	.57	.030	.97	.93
Mindfulness									
FMI	36.20	6.90	35.57	7.10	36.57	6.27	.602	.55	.84
Reappraisal									
ERQ	4.63	1.15	4.63	1.19	4.84	1.08	1.01	.37	.89
Distress									
SUDS 1	31.07	25.75	33.04	25.77	35.12	25.27	.570	.57	-
SUDS 2	37.73	24.68	41.12	26.47	40.99	26.23	.499	.61	-

Note. SIAS= Social Interaction Anxiety Scale, SPIN = Social Phobia Inventory; FMI= Friedberg Mindfulness Inventory. SCS = Self-Compassion Scale; ERQ = Emotional Regulation Questionnaire; SUDS 1 = baseline; SUDS 4 = after social judgment situation.

Table 8

Study 2 Baseline Correlations

	SIAS	FMI	SCS	SSCS	ERQ	SUDS 1
SPIN	.86**	-.40**	-.50**	-.61**	-.23**	.31**
SIAS	-	-.42	-.51**	-.58**	-.21**	.26**
FMI		-	.65**	.59**	.51**	-.23**
SCS			-	.826**	.42**	-.27**
SSCS				-	.40**	-.30**
ERQ					-	-.20*
SUDS 1						-

Note. SIAS= Social Interaction Anxiety Scale, SPIN = Social Phobia Inventory; FMI= Friedberg Mindfulness Inventory. SCS = Self-Compassion Scale; ERQ = Emotional Regulation Questionnaire; SUDS 1 = baseline; SUDS 4 = after social judgment situation.
* = $p<.05$. ** = $p<.01$

Table 9

Study 2 Manipulation Check Items by Condition

Measure	SC (n = 91) *M*	*SD*	CR (n = 91) *M*	*SD*	Control (n = 95) *M*	*SD*	*F*	*p*
Being Kind	3.02	1.03	3.03	1.04	2.79	1.05	1.72	.182
Challenged thoughts	3.26_{a}	1.06	3.02_{ab}	1.09	2.74_{b}	1.01	5.80	.003
Thought of other things	2.65	1.09	2.75	1.14	2.58	1.16	.518	.596

Note. SC = self-compassion condition; CR = cognitive reappraisal condition. Means in the same row with different subscripts are significantly different at $p < .05$.

Table 10

Study 2 Social Judgement Situation Items by Condition

	SC (n = 91)		CR (n = 91)		Control (n = 95)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Remember	2.79	1.06	2.95	.95	2.96	.87	.869	.421
Anxious During	2.68	1.04	2.68	1.09	2.84	1.06	.730	.483
Worried about being judged	2.94	.90	2.98	1.00	3.09	.98	.626	.535
Control	1.40	1.19	1.34	1.15	1.35	1.16	.071	.932
How important	2.28	1.11	2.30	1.20	2.17	1.29	.310	.733
Anxious Now	1.46	1.13	1.16	1.09	1.52	1.23	.640	.528

Note. SC = self-compassion condition; CR = cognitive reappraisal condition

Table 11

Study 2 Dependent Measures by Condition

	Self-Compassion (n = 91)		Reappraisal (n = 91)		Control (n = 95)				
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	α
SUDS 3	28.34 $_{a}$	22.18	30.22 $_{ab}$	21.62	36.97 $_{b}$	25.69	3.47	.03	-
SUDS 4	25.06	22.77	28.00	22.57	31.18	23.74	1.61	.20	-
STAI-S	41.80 $_{a}$	11.31	44.16 $_{ab}$	11.74	46.37 $_{b}$	12.21	3.48	.03	.93
ERQ	4.84 $_{a}$	1.29	4.55 $_{ab}$	1.10	4.20 $_{b}$	1.35	6.12	.003	.92
S-SCS	3.49 $_{a}$	.82	3.31 $_{ab}$	.73	3.20 $_{b}$	.86	2.99	.05	.94

Note. SUDS 3 = subjective units of distress scale after induction; SUDS 4 = subjective units of distress scale at end of the study; STAI STAI-S= state-trait anxiety inventory – state; ERQ= Emotional Regulation Questionnaire; S-SCS= state self-compassion scale. Means in the same row with different subscripts are significantly different at $p < .05$.

Table 12

Study 2 Dependent Measures Correlations

	SSCS	ERQ	SUDS 2	SUDS 3
STAI	-.73**	-.38**	.48**	.59**
SSCS	-	.49**	-.42**	-.48**
ERQ		-	-.11**	-.26**
SUDS 2			-	.70**
SUDS 3				-

Note. SUDS 2 = subjective units of distress scale after induction; SUDS 3 = subjective units of distress scale at end of the study; STAI STAI-S= state-trait anxiety inventory – state; ERQ= Emotional Regulation Questionnaire; S-SCS= state self-compassion scale.
* = p<.05. ** = p<.01

Table 13

Study 3 Baseline Descriptive Statistics by Condition

	Self-Compassion (n = 53)		Reappraisal (n = 53)		Control (n = 52)				
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	α
Social Anxiety									
SPIN	30.02	16.38	29.11	14.65	30.02	14.87	.062	.94	.93
SIAS	35.77	18.34	36.72	15.85	37.11	16.89	.086	.92	.94
Self-Compassion									
SCS	2.75	.70	2.76	.619	2.76	.68	.004	.99	.93
Fear of Self-Compassion									
FOC	16.71	13.52	16.94	13.25	19.25	12.97	.59	.56	.93
Post-Event Processing									
PEPI-T	38.23	13.02	35.77	11.12	39.15	10.83	1.17	.31	.94
Reappraisal									
ERQ	4.81	1.15	4.68	1.12	4.74	1.11	.177	.84	.81
Suppression									
ERQ	4.12	1.43	3.84	1.30	3.84	1.23	.761	.47	.77
Distress									
SUDS 1	37.17	22.12	26.60	21.18	29.01	21.56	.598	.55	-
SUDS 2	32.98	25.11	32.68	23.63	38.54	24.85	.946	.39	-
Zoom Anxiety	1.43	1.08	1.47	.89	1.58	1.24	.246	.78	-
Zoom Comfort	2.04	1.45	2.38	1.35	1.79	1.41	2.33	.10	-

Note. SIAS= Social Interaction Anxiety Scale, SPIN = Social Phobia Inventory; FMI= Friedberg Mindfulness Inventory. SCS = Self-Compassion Scale; ERQ = Emotional Regulation Questionnaire; SUDS 1 = baseline; SUDS 2 = after social judgment situation.

Table 14

Study 3 Baseline Correlations

	SIAS	FOSC	SCS	ERQ-R	ERQ-S	PEPI-T	SUDS 1	SUDS 2
SPIN	.85**	.38**	-.60**	-.18*	.23**	.59**	.52**	.41**
SIAS	-	.38**	-.51**	-.10	.29**	.57**	.47**	.39**
FOSC		-	-.43**	-.11	.46**	.37**	.40**	.26*
SCS			-	.33**	-.19*	-.47**	-.40**	-.20*
ERQ-R				-	-.04	-.07	-.18*	.00
ERQ-S					-	.12	.22**	.14
PEPI-T						-	.48**	.35**
SUDS 1							-	.52**
SUDS 2								-

Note. SIAS= Social Interaction Anxiety Scale, SPIN = Social Phobia Inventory; FMI= Friedberg Mindfulness Inventory. SCS = Self-Compassion Scale; ERQ = Emotional Regulation Questionnaire; SUDS 1 = baseline; SUDS 2 = after social judgment situation.
* = $p<.05$. ** = $p<.01$

Table 15

Study 3 Manipulation Check Items by Condition

	SC (n = 53)		CR (n = 53)		Control (n = 52)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Being Kind	2.58	1.13	2.49	1.15	2.42	1.13	.268	.765
Challenged thoughts	2.66	1.29	2.57	1.17	2.23	1.13	1.86	.159
Thought of other things	2.21	1.29	1.98	1.10	2.13	.991	.549	.579

Note. SC = self-compassion condition; CR = cognitive reappraisal condition. Means in the same row with different subscripts are significantly different at $p < .05$.

Table 16

Study 3 Social Judgement Situation Items by Condition

	SC (n = 53)		CR (n = 53)		Control (n = 51)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Remember	2.11	1.19	1.89	1.10	1.71	1.01	1.69	.187
Anxious During	3.42_{b}	.77	2.85_{a}	1.28	3.41_{b}	.83	5.74	.004
Worried about being judged	3.09	1.10	3.00	1.06	3.31	.95	1.25	.290
Control	$.91_{b}$	1.01	1.64_{a}	1.08	1.33_{ab}	1.16	6.19	.003
How important	2.42	1.39	2.40	1.28	2.51	1.16	.117	.890
Anxious Now	1.45	1.35	1.43	1.25	1.31	1.21	.182	.834

Note. SC = self-compassion condition; CR = cognitive reappraisal condition

Table 17

Study 3 Dependent Measures by Condition

	Self-Compassion (n = 53)		Reappraisal (n = 53)		Control (n = 52)				
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	α
SUDS 3	25.21	22.97	22.02	20.49	32.21	26.01	2.64	.075	-
SUDS 4	43.85	30.15	43.28	23.02	52.21	28.76	1.73	.180	-
SUDS 5	32.09	22.25	29.49	24.26	37.56	26.86	1.48	.231	-
STAI-S	43.13	5.88	41.30	5.99	40.96	5.70	2.09	.127	.82
ERQ Reappraisal	4.02	1.35	4.12	1.38	3.92	1.47	.266	.767	.89
ERQ Suppression	4.20	1.28	3.88	1.20	3.97	1.17	1.03	.358	.68
S-SCS	3.37	.87	3.43	.73	3.18	.95	1.19	.308	.93
Willingness to Communicate WTC	52.11	21.34	53.21	20.76	48.00	20.13	.915	.403	.93
Post-Event Processing PEPI-S	34.53	12.62	33.72	12.18	37.83	12.26	1.63	.200	.94
Anticipatory Anxiety ASBQ	33.74	7.56	31.23	7.09	33.27	7.53	1.72	.182	.86

Note. SUDS 3 = subjective units of distress scale after induction; SUDS 4 = subjective units of distress after being told about speech; SUDS 5 = subjective units of distress at the end of the study; STAI-S= state-trait anxiety inventory – state; ERQ= Emotional Regulation Questionnaire; S-SCS= state self-compassion scale.

Table 18

Study 3 Dependent Measures Correlations

	PEPI-S	WTC	ASBQ	SCS	ERQ-R	ERQ-S	SUDS 3	SUDS 4	SUDS 5
STAI	.33**	-.27**	.25**	-.29**	-.13	.07	.25**	.36**	.38**
PEPI-S	-	-.42**	.55**	-.67**	-.33**	.11	.44**	.56**	.66**
WTC		-	-.56**	.37**	.19*	-.18*	-.36**	-.49**	-.40*
ASBQ			-	-.41**	-.17*	.25**	.43**	.58**	.39**
SCS				-	.44**	-.15	-.50**	-.50**	-.67**
ERQ-R					-	.20*	-.21**	-.14**	-.34**
ERQ-S						-	.08	.12	.06
SUDS 3							-	.67**	.63**
SUDS 4								-	.69**
SUDS 5									-

Note. SUDS 3 = subjective units of distress scale after induction; SUDS 4 = subjective units of distress after being told about speech; SUDS 5 = subjective units of distress at the end of the study; STAI-S= state-trait anxiety inventory – state; ERQ= Emotional Regulation Questionnaire; S-SCS= state self-compassion scale.
* = $p<.05$. ** = $p<.01$

Table 19

Study 3 Frequency Items

	SC (n = 53)		CR (n = 53)		Control (n = 52)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
think of things other than your speech	2.19	1.42	2.08	1.33	2.46	1.45	1.06	.350
think more positive	2.96	1.36	3.23	1.35	2.85	1.23	1.17	.312
worried about being judged by others	3.47	1.35	3.25	1.10	3.77	1.36	1.99	.140
remind yourself that you are not alone	1.91	1.10	1.98	1.22	1.90	1.20	.070	.932
be mindful	2.75	1.35	2.98	1.22	2.73	1.25	.694	.501
focused on being kind to yourself	2.57	1.22	2.75	1.30	2.31	1.13	1.78	.172
try to change the way you were thinking	2.79	1.38	2.96	1.21	2.87	1.33	.225	.799
challenge your thoughts	2.55	1.40	2.72	1.28	2.62	1.27	.224	.800

Note. SC = self-compassion condition; CR = cognitive reappraisal condition.

Table 20

Study 3 Ease Items

Measure	SC (n = 53) *M*	*SD*	CR (n = 53) *M*	*SD*	Control (n = 52) *M*	*SD*	*F*	*p*
Think of other things	2.36	1.39	2.06	1.12	2.21	1.24	.768	.466
think more positive	2.79	1.23	2.81	1.16	2.63	1.25	.334	.717
To be mindful	2.60	1.20	2.89	1.24	2.46	1.16	1.71	.183
Remind yourself that you are not alone	2.55	1.40	2.58	1.28	2.35	1.24	.507	.603
Be kind to yourself	2.91	1.31	3.04	1.14	2.81	1.28	.451	.639
Change the way you were thinking	2.55	1.25	2.75	1.21	2.69	1.23	.398	.672
Challenge your thoughts	2.70	1.23	2.79	1.06	2.71	1.15	.103	.902

Note. SC = self-compassion condition; CR = cognitive reappraisal condition.

Table 21

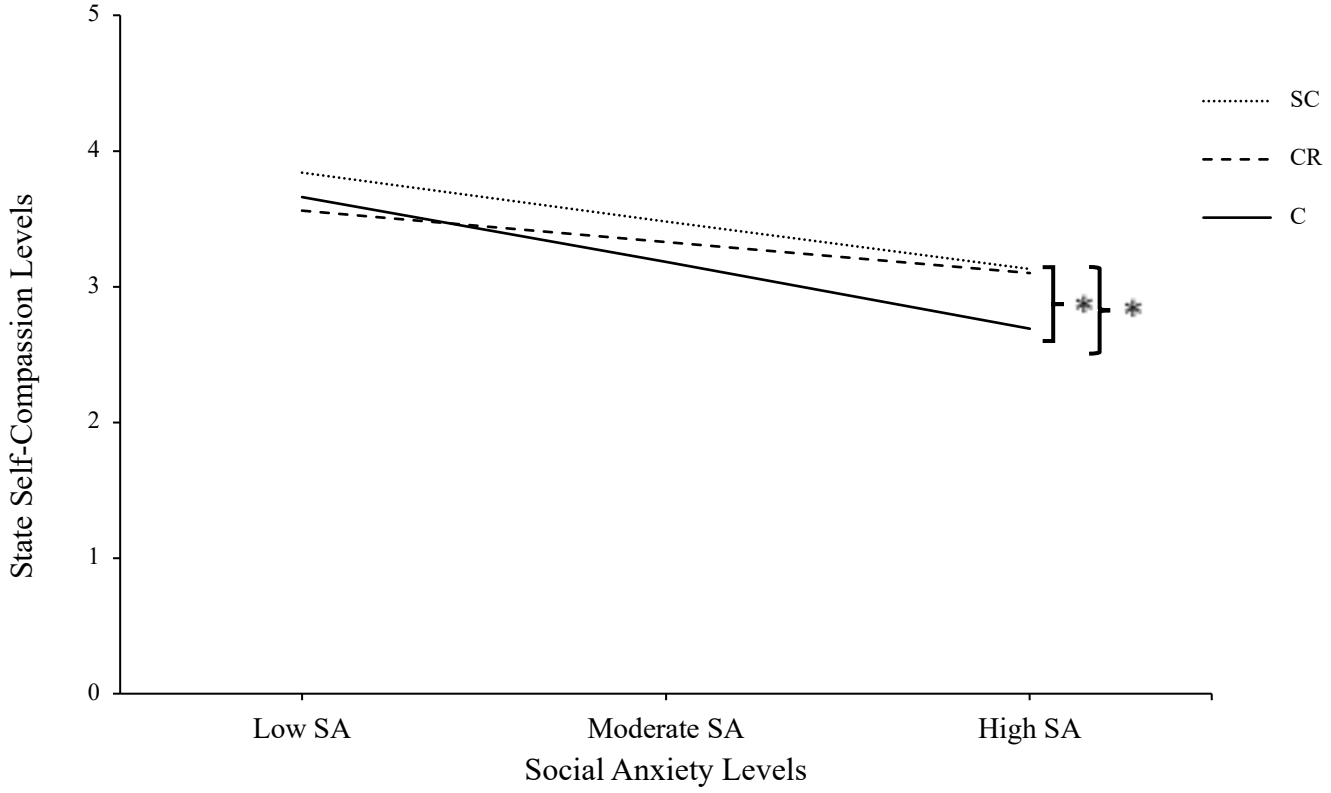
Social Judgement Situation Items by Study

	Study 1 (n = 276)		Study 2 (n = 277)		Study 3 (n = 158)			
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*
Remember	2.95_{a}	.915	2.90_{a}	.963	1.90_{b}	1.14	65.62	.001
Anxious During	2.60_{a}	1.05	2.74_{a}	1.06	3.22_{b}	1.02	18.09	.001
Worried about being judged	2.78_{a}	1.02	3.01_{b}	.961	3.13_{b}	1.04	7.16	.001
Control	1.55_{a}	1.18	1.36_{ab}	1.16	1.29_{b}	1.11	3.04	.049
How important	1.94_{a}	1.15	2.25_{b}	1.19	2.44_{b}	1.27	9.51	.001
Anxious Now	1.33_{a}	1.14	1.27_{a}	1.09	1.40_{a}	1.18	2.25	.106

Note. Means in the same row with different subscripts are significantly different at $p < .05$.

Figure 1

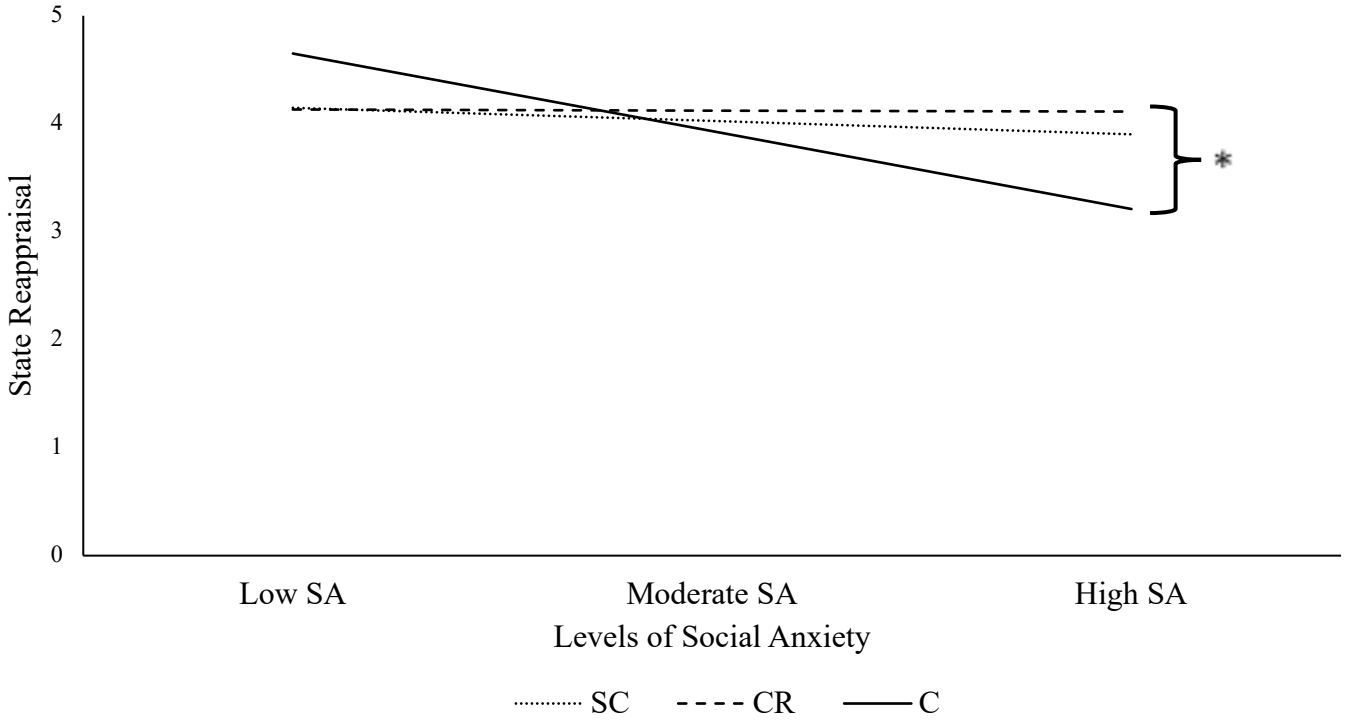
Study 2: Social Anxiety Moderating State Self-Compassion Across Conditions



Note. * $p < .05$

Figure 2

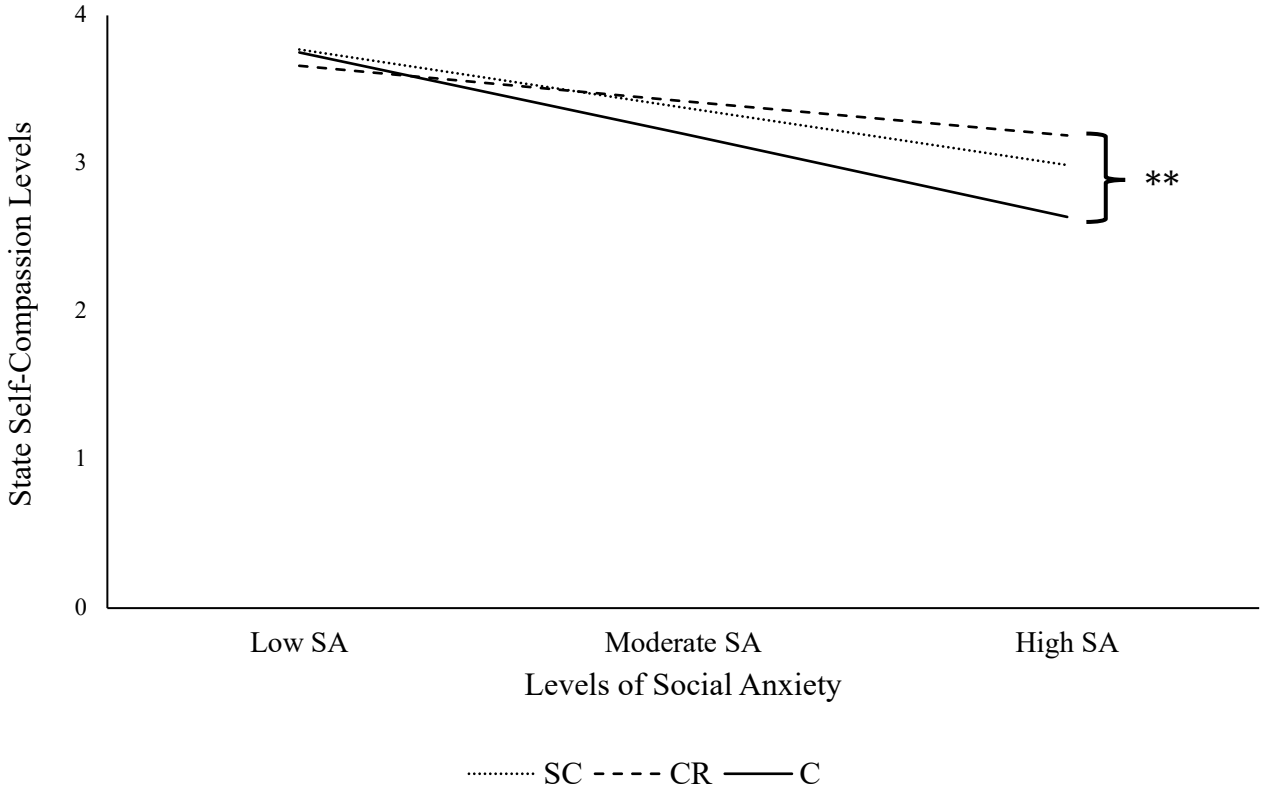
Study 3: Social Anxiety Moderating State Reappraisal Across Conditions



Note. * $p < .05$

Figure 3

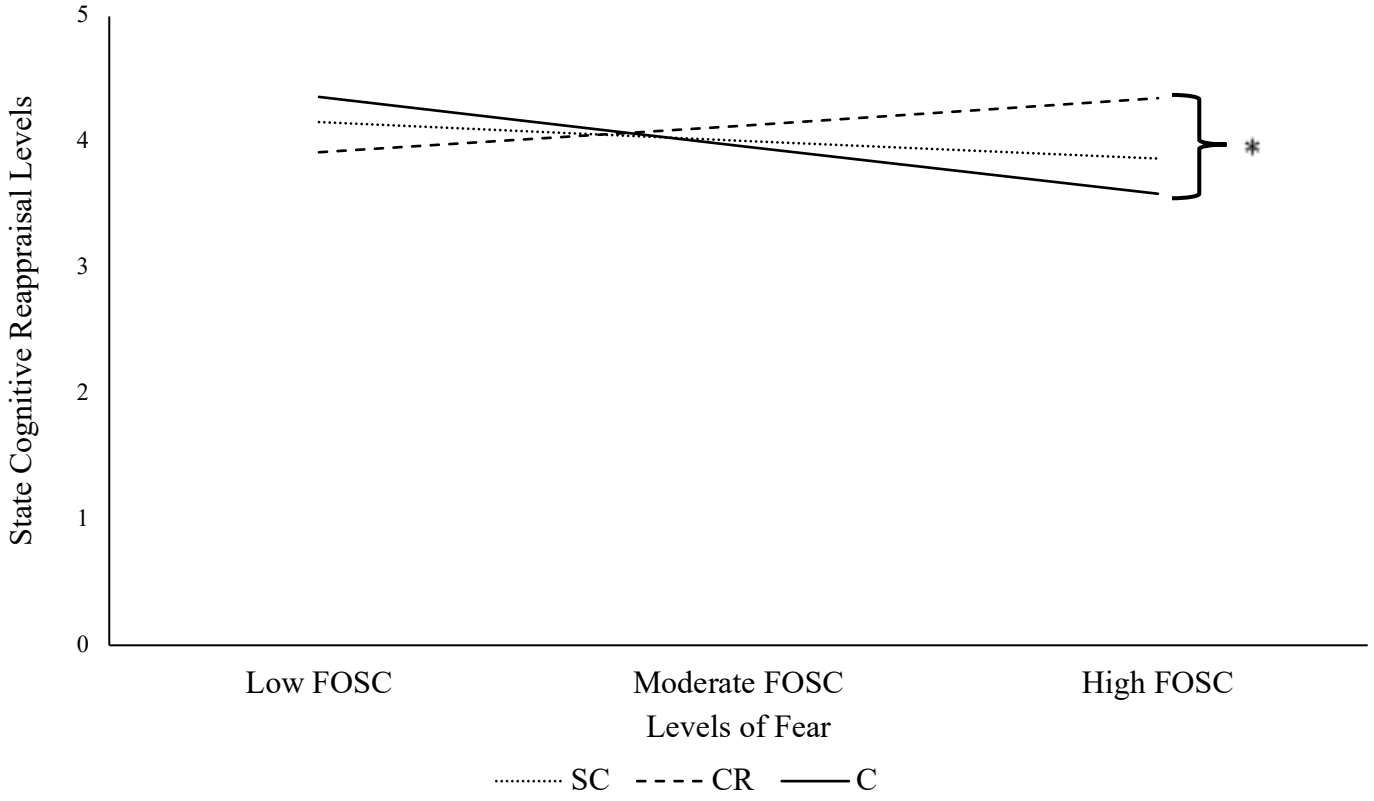
Study 3: Social Anxiety Moderating State Self-Compassion Across Conditions



Note. ** $p < .01$

Figure 4

Study 3: Fear of Self-Compassion Moderating State Reappraisal Across Conditions.



Note. * $p < .05$

Appendix A
Study 1: Social Judgment Situation Writing Instructions

Some people are worried about being judged by other people in the way that they are handling the pandemic. **Please write about a time in which you felt concerned about being judged by others.** For example, have you been concerned that people might be judging you based on how you appeared or acted on a video chat? Have you worried people may be judging your decision to wear a mask or not wear a mask or how you look with a mask? When in public have you worried other people think you are not distancing enough. It can be a major concern or a very minor concern. Please pick a specific situation.

What was the situation?

When did it occur? (any time from March 12th to the present is fine)

Approximately how long ago? (please select the best answer)
1 day; 2-3 days; 1 week; 2-3 weeks; 1 month; 2 months or more

Please respond to the following items about the situation you brought to mind.

Item	Not at all	Somewhat	Moderately	Very Much	Extremely
1. How well were you able to remember the situation?	1	2	3	4	5
2. How anxious were you during the situation?	1	2	3	4	5
3. To what extent were you worried about people judging you?	1	2	3	4	5
4. Did you feel like you had control over the situation?	1	2	3	4	5
5. How important was the situation to you?	1	2	3	4	5
6. How anxious are you <u>now</u>, thinking about the situation?	1	2	3	4	5

Appendix B
Study 1: Written Inductions

1.Self Compassion

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this difficult situation. There are different strategies we can use to help cope with the pandemic. One strategy is to be self-compassionate. This means we try to be kind to ourselves, much like we would be kind to a friend who is having a hard time. This also means we try to view our struggles in a balanced way. We try to be mindful.

Rather than paying so much attention to our negative thoughts and feelings, we try to simply notice them come and go without letting them take over. Finally, this means we try to recognize that everyone is suffering and having a hard time with this pandemic. We try to see the common humanity. We are not alone.

Please complete this brief writing exercise and follow the instructions as closely as possible. Please spend 5 minutes on this writing task. You will be able to advance to the next section once 5 minutes has passed.

[**Mindfulness: Writing prompt 1]**
In the space below, please write about what thoughts and emotions are coming up for you right now regarding this difficult situation. Note any uncomfortable emotions you may have, such as feeling stressed, ashamed, sad, anxious, and so on. As you write and notice your feelings, see if you can validate your experience with an attitude of acceptance and non-judgment. Try not to downplay your feelings, but at the same time please try not to exaggerate them either. Please write 2-3 sentences.

[Common humanity: Writing prompt 2]

In the space below, please write about how other people may share similar feelings when encountering situations like this. Consider that experiencing difficult situations is a part of being human, and that you are not alone. Although the way people struggle is different and the amount of challenge varies, all people face difficulties in life. What you are experiencing is not abnormal but is a part of life. Please write 2-3 sentences.

[Self-kindness: Writing prompt 3]

In the space below, please write any words of support, encouragement and kindness to yourself that would be helpful to hear right now. If you are not sure what to say, imagine what you would say to a close friend who was struggling with a similar difficult situation. What words would you use to convey compassion, support, and non-judgmental understanding? Now see if you can use this as inspiration for what to say to yourself. Please write 2-3 sentences.

Please take some time to read what you wrote to yourself and see how it feels to hear these words of kindness and concern directed towards you. Notice if anything is particularly comforting or helpful. Take a few slow, deep breaths as you read your own words. Let yourself receive this support.

Details from your answer will not be used during the reporting of this data.

2.Active Control- Cognitive Reappraisal

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this difficult situation. There are different strategies we can use to help cope with the pandemic. One strategy is cognitive reappraisal. This means that we try to reinterpret situations to change our emotions related to the situation. We try to see negative and emotional situations from a different viewpoint.

Please complete this brief writing exercise and follow the instructions as closely as possible. Please spend 5 minutes on this writing exercise. You will be able to advance to the next section once 5 minutes have passed.

[Writing Prompt 1]
Thinking about your situation, what bothers you the most? What are the consequences of thinking this way? What evidence do you have to support thinking this way? How do you feel if you think like that? Does this thought help you feel how you want to? And how does it influence your behavior if you think like that? Does this thought help you behave like you want? Please write 2-3 sentences

[Writing Prompt 2]
Which arguments speak against thinking that way? Can you think of situations or experiences that question thinking that way? Please write 2-3 sentences.

[Writing Prompt 3]
Now try to formulate a more balanced or positive statement, which may be more helpful for you. Feel free to test different versions until you have found one that makes you feel better about the situation you wrote about. Please write 2-3 sentences.

Before moving on, please read everything you wrote in the boxes. Please take some time to read what you wrote to yourself and notice how it feels to change your perspective and thoughts towards your stressful situation.

Details from your answer will not be used during the reporting of this data.

3.Control

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this difficult situation. Please complete this brief writing exercise and follow the instructions as closely as possible. Please spend 5 minutes on this writing exercise. You will be able to advance to the next section after 5 minutes has passed.

[Writing Prompt 1]

In the space below, please write about what exactly is occurring in the difficult situation you previously mentioned. Try to be as descriptive as possible. Please write 2-3 sentences.

.

[Writing Prompt 2]

In the space below, please write about who is involved in the situation even if you are the only one involved (in this case describe yourself in this situation). Please describe the people involved, with as much detail as possible. Please write 2-3 sentences.

[Writing Prompt 3]

In the space below, please write any words that have been spoken in the situation, either what you have said to yourself, what other people have said to you, or what you have said to other people. Please use as much detail as possible. Please write 2-3 sentences.

Please take some time to read what you wrote and see if anything particularly stands out for you.

Details from your answer will not be used during the reporting of this data.

Appendix C
Study 2: Social Judgment Situation Instructions

Some people are worried about being judged by other people during social situations. **Please write about a situation in which you felt concerned about being judged by others.**

For example, have you been concerned that people might be judging you based on how you appeared or acted? Have you worried that people may be judging something you've said or done? When in public have you worried about what other people may be thinking about you? Please pick a specific situation that still bothers you.

What was the situation?

Approximately how long ago? (please select the best answer)
1 day; 2-3 days; 1 week; 2-3 weeks; 1 month; 2 months or more

Please do your best to record the actual date: _____

Please respond to the following items about the situation you brought to mind.

Item	Not at all	Somewhat	Moderately	Very Much	Extremely
7. How well were you able to remember the situation?	1	2	3	4	5
8. How anxious were you during the situation?	1	2	3	4	5
9. To what extent were you worried about people judging you?	1	2	3	4	5
10. Did you feel like you had control over the situation?	1	2	3	4	5
11. How important was the situation to you?	1	2	3	4	5
12. How anxious are you <u>now</u>, thinking about the situation?	1	2	3	4	5

Appendix D
Study 2: Written Inductions

1.Self Compassion

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this difficult situation. There are different strategies we can use to help cope with social judgment. One strategy is to be self-compassionate. This means we try to be kind to ourselves, much like we would be kind to a friend who is having a hard time. This also means we try to view our struggles in a balanced way. We try to be mindful.

Rather than paying so much attention to our negative thoughts and feelings, we try to simply notice them come and go without letting them take over. Finally, this means we try to recognize that everyone experiences suffering. We try to see the common humanity. We are not alone.

Please complete this brief writing exercise and follow the instructions as closely as possible. Please spend 5 minutes on this writing task. You will be able to advance to the next section once 5 minutes has passed.

[**Mindfulness: Writing prompt 1]**

In the space below, please write about what thoughts and emotions are coming up for you right now regarding this difficult situation. Note any uncomfortable emotions you may have, such as feeling stressed, ashamed, sad, anxious, and so on. **As you write and notice your feelings, see if you can validate your experience with an attitude of acceptance and non-judgment.** Try not to downplay your feelings, but at the same time please try not to exaggerate them either. Please write 2-3 sentences.

[**Common Humanity: Writing prompt 2]**

In the space below, please write about how other people may share similar feelings when encountering situations like this. **Consider that experiencing difficult situations is a part of being human, and that you are not alone.** Although the way people struggle is different and the amount of challenge varies, all people face difficulties in life. What you are experiencing is not abnormal but is a part of life. Please write 2-3 sentences.

[**Self-Kindness: Writing prompt 3]**

In the space below, please write any words of support, encouragement and kindness to yourself that would be helpful to hear right now. If you are not sure what to say, imagine what you would say to a close friend who was struggling with a similar difficult situation. **What words would you use to convey compassion, support, and non-judgmental understanding?** Now see if you can use this as inspiration for what to say to yourself. Please write 2-3 sentences.

Please take some time to read what you wrote to yourself and see how it feels to hear these words of kindness and concern directed towards you. Notice if anything is particularly comforting or helpful. Take a few slow, deep breaths as you read your own words. Let yourself receive this support.

Details from your answer will not be used during the reporting of this data.

2.Active Control- Cognitive Reappraisal

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this difficult situation. There are different strategies we can use to help cope with social judgment. One strategy is cognitive reappraisal. This means that we try to reinterpret situations to change our emotions related to the situation. We try to see negative and emotional situations from a different viewpoint.

Please complete this brief writing exercise and follow the instructions as closely as possible. Please spend 5 minutes on this writing exercise. You will be able to advance to the next section once 5 minutes have passed.

[Writing Prompt 1]

Thinking about your situation, what bothers you the most? What are the consequences of thinking this way? **What evidence do you have to support thinking this way?** How do you feel if you think like that? Does this thought help you feel how you want to? And how does it influence your behavior if you think like that? Does this thought help you behave like you want? Please write 2-3 sentences

[Writing Prompt 2]

Which arguments speak against thinking that way? Can you think of situations or experiences that question thinking that way? Please write 2-3 sentences.

[Writing Prompt 3]

Now try to formulate a more positive statement, which may be more helpful for you. Please write 2-3 sentences.

Before moving on, please read everything you wrote in the boxes. Please take some time to read what you wrote to yourself and notice how it feels to change your perspective and thoughts towards your stressful situation.

Details from your answer will not be used during the reporting of this data.

3.Control

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this difficult situation. Please complete this brief writing exercise and follow the instructions as closely as possible. Please spend 5 minutes on this writing exercise. You will be able to advance to the next section after 5 minutes has passed.

[Writing Prompt 1]

In the space below, please write about what exactly is occurring in the difficult situation you previously mentioned. **Try to be as descriptive as possible**. Please write 2-3 sentences.

[Writing Prompt 2]

In the space below, please write about who is involved in the situation even if you are the only one involved (in this case describe yourself in this situation). **Please describe the people involved, with as much detail as possible**. Please write 2-3 sentences.

[Writing Prompt 3]

In the space below, please write any words that have been spoken in the situation, either what you have said to yourself, what other people have said to you, or what you have said to other people. **Please use as much detail as possible.** Please write 2-3 sentences.

Appendix E
Study 3: Social Judgment Situation Instructions

Some people are worried about being judged by other people during speech or presentation. **Please write about a speech or presentation in which you felt concerned about being judged by others while you were speaking.**

For example, have you been concerned that people might be judging while you give a speech at an event such as a wedding? or presentation? Have you worried that people, such as classmates, may be judging you during a class presentation? Or have you felt judged while telling a story to a large group. Please pick a specific social situation that still bothers you.

What was the social situation?

Approximately how long ago? (please select the best answer)
1 week; 1 month; 6 months; 1 year; more than one year ago

Please do your best to record the actual date: _____

Item	Not at all	Somewhat	Moderately	Very Much	Extremely
How well were you able to remember the situation?	1	2	3	4	5
How anxious were you during the situation?	1	2	3	4	5
To what extent were you worried about people judging you when you spoke?	1	2	3	4	5
Did you feel like you had control over the situation?	1	2	3	4	5
How important was the situation to you?	1	2	3	4	5
How anxious are you <u>now</u>, thinking about the situation?	1	2	3	4	5

Appendix F
Study 3: Written Inductions

1.Self Compassion

There are different strategies we can use to help cope with social judgment. One strategy is to be self-compassionate. This means we try to be kind to ourselves, much like we would be kind to a friend who is having a hard time. This also means we try to view our struggles in a balanced way. We try to be mindful. Rather than paying so much attention to our negative thoughts and feelings, we try to simply notice them come and go without letting them take over. Finally, this means we try to recognize that everyone experiences suffering. We try to see the common humanity. We are not alone.

[Mindfulness: Writing prompt 1]

Please complete this brief writing exercise and follow the instructions as closely as possible.

In the space below, please write about what thoughts and emotions are coming up for you right now regarding this difficult situation. Note any uncomfortable emotions you may have, such as feeling stressed, ashamed, sad, anxious, and so on. Please write 2-3 sentences.

As you write and notice your feelings, see if you can validate your experience with an attitude of acceptance and non-judgment. Try not to downplay your feelings, but at the same time please try not to exaggerate them either.

[Common humanity: Writing prompt 2]

In the space below, please write about how other people may share similar feelings when encountering situations like this. Please write 2-3 sentences.

Consider that experiencing difficult situations is a part of being human, and that you are not alone. Although the way people struggle is different and the amount of challenge varies, all people face difficulties in life. What you are experiencing is not abnormal but is a part of life.

[Self-kindness: Writing prompt 3]

In the space below, please write any words of support, encouragement and kindness to yourself that would be helpful to hear right now. Please write 2-3 sentences.

If you are not sure what to say, imagine what you would say to a close friend who was struggling with a similar difficult situation. What words would you use to convey compassion, support, and non-judgmental understanding? Now see if you can use this as inspiration for what to say to yourself.

Please take some time to read what you wrote to yourself and see how it feels to hear these words of kindness and concern directed towards you.

Notice if anything is particularly comforting or helpful. Take a few slow, deep breaths as you read your own words. Let yourself receive this support.

Details from your answer will not be used during the reporting of this data

2.Active Control- Cognitive Reappraisal

There are different strategies we can use to help cope with social judgment. One strategy is cognitive reappraisal. This means that we try to reinterpret situations to change our emotions related to the situation. We try to see negative and emotional situations from a different viewpoint. Now, please read over your situation again and take your time contemplating it. Please write down your thoughts to the following questions. Details from your answer will not be used during the reporting of this data

[Writing Prompt 1]
What are the consequences of thinking this way? How do you feel if you think like that? Does this thought help you feel how you want to? And how does it influence your behavior if you think like that? Does this thought help you behave like you want? Please write 2-3 sentences.

[Writing Prompt 2]
Which arguments validate this statement? Can you think of situations that reinforce your statement? Which arguments speak against it? Please write 2-3 sentences.

[Writing Prompt 3]
Now try to formulate a more positive statement, which may be more helpful for you. Please write 2-3 sentences.

Details from your answer will not be used during the reporting of this data.

3.Control

There are different strategies we can use to help cope with social judgment. We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this painful or difficult social situation. Please complete this brief writing exercise and follow the instructions as closely as possible. In the space below, please write about what exactly is occurring in this difficult situation. Try to be as descriptive as possible.

[Writing Prompt 1]
In the space below, please write about who is involved in the situation if it involves more than just you. Please write 2-3 sentences.

[Writing Prompt 2]
Please describe the people involved with as much detail as possible, even if you are the only one involved (in this case describe yourself). Please write 2-3 sentences.

[Writing Prompt 3]
In the space below, please write any words that have been spoken in the situation, either what you have said to yourself, what other people have said to you, or what you have said to other people. Please use as much detail as possible. Please write 2-3 sentences.

Details from your answer will not be used during the reporting of this data.

Appendix G
Study 3: Speech Instructions

Next, you will be giving a speech. In preparation for your speech, think about the writing task you just completed about your past speech. **Try to adopt a similar mindset as you had while writing about your past speech.**

Please consider that you are at a job interview and discuss why you would be a great candidate for this job. You may talk about a variety of things such as any relevant skills or experience, your goals or ambitions and any other qualifications or traits that might make you a great fit.

Please complete these questions regarding the upcoming speech task and then you will be able to take a couple minutes to prepare for your speech.

Appendix H
Study 3: Ease and Frequency Items

Ease Items While presenting your speech….	**Difficult**	**Somewhat Difficult**	**Neither Easy nor Difficult**	**Somewhat Easy**	**Very easy**
1.To what extent was it easy for you to think of things other than your speech?	1	2	3	4	5
2.To what extent was it easy for you try to think more positive during your speech?	1	2	3	4	5
3.To what extent was it easy to be mindful?	1	2	3	4	5
4.To what extent was it easy for you to remind yourself that you are not alone?	1	2	3	4	5
5.To what extent was it easy for you to be kind to yourself?	1	2	3	4	5
6.How easy was it for you to *try to change* the way you were thinking about it?	1	2	3	4	5
7.To what extent was it easy for you to challenge your thoughts?	1	2	3	4	5

Frequency Items While presenting your speech….	**Never**		**Sometimes**		**Very Often**
1.How often did you try to think of things other than your speech?	1	2	3	4	5
2.How often did you try to think more positive during your speech?	1	2	3	4	5
3.How often were you worried about being judged by others?	1	2	3	4	5
4.How often did you remind yourself that you are not alone?	1	2	3	4	5
5.How often did you try to be mindful?	1	2	3	4	5
6.How often were you focused on being kind to yourself?	1	2	3	4	5
7.How often did you *try to change* the way you were thinking about your speech?	1	2	3	4	5
8.How often did you challenge your thoughts?	1	2	3	4	5