The Effects of Self-Compassion on Responses to Social Stressors Among Individuals with Social Anxiety

By

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Abstract

Self-compassion is a healthy way to interact with oneself in response to difficult situations. Interventions designed to increase self-compassion have focused on individuals writing self-compassionately about past negative events. It remains unclear if self-compassionate writing about anxiously anticipated events can help manage future-oriented distress. One population for whom this approach might prove beneficial are socially anxious people, for whom distress about the future is relevant. Study 1 explored whether describing anxiously anticipated events could elicit distress and whether self-compassionate writing was more effective than control writing in addressing such distress. Socially anxious participants were randomly assigned to write about an anticipated anxiety-provoking event (n = 236) or a neutral event (n = 50). The former group (n = 224) were then randomly assigned to write about that event again, in either a self-compassionate (n = 133) or neutral (n = 91) manner. Writing about the anxiety-provoking event proved effective at eliciting distress. Subsequent self-compassionate writing about the event increased state self-compassion, positive affect and determination to engage in the event. Study 2 evaluated whether writing about an anxiously anticipated task (i.e., the Trier Social Stress Test: TSST) in a self-compassionate manner would promote objective performance on the TSST and a subjective sense of success. Socially anxious university students (n = 85) completed the online study in three phases: 1) baseline self-report measures; 2) random assignment to self-compassionate writing (n =34), control writing (n = 26), or no writing (n = 25), then the TSST, and state self-report measures; and 3) one-month follow-up (e.g., social anxiety). Participants in the self-compassionate writing condition had higher confidence, eye contact, and state self-compassion compared to those in the control writing, but not the no writing condition. Exploratory analyses found that greater levels of fear of the upcoming task attenuated the effect of self-compassionate

writing. Overall, results suggest that self-compassionate writing about a future anxiously anticipated event may be beneficial and that a fruitful direction for future research is to elucidate the utility of self-compassion for coping with anticipated difficulties.

Key words: self-compassion, writing induction, social anxiety, anticipated distress, trier social stress test

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Self-compassion

Developed and elaborated on by Neff in 2003, self-compassion, which is in part based on Buddhist philosophies, has quickly grown as an area of research (Adams & Leary, 2007; Arch et al., 2018; Barnard & Curry, 2011; Neff, 2003b). According to Neff and colleagues (2003b, 2018), self-compassion comprises three compassion-related behaviours and their uncompassionate counterparts; self-kindness vs self-judgment, common humanity vs isolation and mindfulness vs over-identification. Self-kindness entails treating oneself with acceptance and love rather than self-judgment and criticism, particularly in response to difficult situations. Common humanity entails viewing oneself as part of the world and understanding that others go through similar challenges, whereas mindfulness entails the ability to acknowledge and be present with painful experiences without avoiding them or allowing them to control one's life (Neff, 2003b).

As such, self-compassion is characterized by a healthy way to interact with oneself in response to failure, feelings of inadequacy or difficult situations (Neff, 2003b). Accordingly, self-compassion allows for the creation of a safe space in which individuals can grow in self-awareness and face their inner selves without fear of self-judgment (Neff, 2003b). Neff (2003b) posits that self-compassion does not mean that individuals overlook their failures; instead, they can approach them without being overly critical. This approach allows individuals to distance themselves from their negative thoughts and obtain a more objective and non-judgmental perspective (Leary et al., 2007). Being able to face oneself in a safe space allows for a more accurate understanding of reality, including one's own maladaptive behaviours and thought

patterns (Neff, 2003b). In essence, mindfulness facilitates the creation of a space for which compassion and self-kindness can grow. Moreover, by their very nature of detachment and non-judgment, the compassionate behaviours of self-compassion reduce self-criticism, thus further increasing self-kindness, understanding and self-efficacy (Leary et al., 2007).

Numerous studies have found self-compassion to be beneficial across various aspects of mental health and well-being (Barnard & Curry, 2011; Dimitra et al., 2020; MacBeth & Gumley, 2012; Phillips & Hine, 2021; Zessin et al., 2015). In their meta-analysis, Zessin et al. (2015) found self-compassion to be positively associated with overall well-being. They found that individuals with higher self-compassion tend to evaluate their lives as more satisfactory, with more fulfillment and an increased perception of positive emotions and the absence of negative emotions. In their meta-analysis on self-compassion and coping, Ewert et al. (2021) found self-compassion to be positively associated with both emotion-focused and problem-focused coping. They found that individuals with higher self-compassion were more likely to actively deal with stressors and emotions through positive reframing and acceptance and less likely to engage in maladaptive avoidance of stressors and emotions such as self-blame and worry. Consistently, from a physical and health-related perspective, self-compassion has been shown to positively impact overall physical health, functional immunity, sleep, exercise and danger avoidance (Phillips & Hine, 2021). Moreover, self-compassion is negatively associated with mental health symptoms, including anxiety, depression and stress (MacBeth & Gumley, 2012). Notably, MacBeth and Gumley (2012) and Ferrari et al. (2019) found that the benefits of self-compassion were found across samples including clinical and non-clinical samples and students and non-student samples, suggesting that self-compassion is beneficial across populations.

Self-compassion has also been associated with both present-focused and future-oriented behaviours. Leary et al. (2007) found that when asked to evaluate their own performance on a verbal presentation, participants with high self-compassion judge themselves more kindly than those with lower self-compassion. Moreover, Leary et al. (2007) found that participants with high self-compassion were more accurate in their self-evaluation, suggesting that they based their evaluation on their actual performance (as compared with others' ratings of them), as opposed to a catastrophized or self-criticized view of their performance. Additionally, within a sample of university students' high trait self-compassion was associated with less catastrophizing, personalizing and greater equanimity when faced with an imagined future-based failure. Consistently, Bailis et al. (2023) found within samples of university students that trait levels of self-compassion predicted decision-making and task performance within students with a history of problem gambling behaviours. The results suggest that high levels of self-compassion can benefit various aspects of well-being, including impacts on future-oriented behaviours and task performances. Nevertheless, it remains unclear if the benefits seen across trait self-compassion are also present when self-compassion is induced in a more transitory state. As such, the present study aimed to examine the efficacy of a self-compassion induction in dealing with future-oriented threats in the context of social anxieties.

Self-compassion Interventions

As our knowledge of the many benefits of self-compassion continues to grow, so does the research on ways to promote self-compassion within individuals. In recent years there has been significant growth in both self-compassion-based therapies and brief self-compassion inductions. The two most common self-compassion-based therapies are Compassion-Focused Therapy (Gilbert, 2009) and Mindful Self-Compassion (Neff & Germer, 2013). These therapies involve

psychoeducation on self-compassion, mindfulness, and cognitive restructuring techniques (Kirby et al., 2017). They have been shown to effectively increase trait self-compassion and are associated with positive psychological outcomes, including improved eating behaviours, increased mindfulness and decreased rumination, self-criticism, depression and anxiety (Ferrari et al., 2019; Kirby et al., 2017; Wilson et al., 2019).

In contrast to lengthier therapies, self-compassion inductions are brief interventions that typically involve some form of self-compassionate writing. Interventions can range from single sessions to multiple writing sessions within a short time (e.g., Blackie & Kocovski, 2018b; Johnson & O'Brien, 2013). The vast majority of studies using brief self-compassionate writing inductions have been based on the writing task that Leary et al. (2007) introduced. In their original study, Leary and colleagues had participants recall a past negative event that had occurred within the past two weeks that caused negative feelings about oneself. Participants then received three prompts reflecting the three positive aspects of self-compassion: self-kindness, mindfulness and common humanity. The writing intervention was designed to facilitate thinking in a self-compassionate manner and to create a self-compassionate mind state. Leary et al. (2007) found that those who wrote about a negative event in a self-compassionate manner had higher state self-compassion levels than those who had written about the event in an expressive manner. Moreover, they found that the self-compassion induction worked best for those with lower levels of trait self-compassion.

Since the development of the writing task in 2007, numerous studies have used it, or a variation of it, to increase state self-compassion and evaluate its impact on subsequent psychological outcomes. In a sample of undergraduate students, Breines and Chen (2012) found that compared to a self-esteem or control conditions, individuals who wrote about a moral

transgression, test failure or personal weakness self-compassionately expressed more motivation to improve themselves and their performance. On their part, Johnson and O'Brien (2013) had participants write about a shame-inducing situation in a self-compassionate manner three times within a week. They found that compared to expressive writing, participants in the self-compassion condition had lower state shame and negative affect and reduced shame-proneness and depression two weeks later. Przezdziecki and Sherman (2016) had breast cancer survivors write about an event that had negatively impacted how they viewed their bodies, followed by a self-compassion writing induction. They found that one brief self-compassion writing session resulted in increased state self-compassion and reduced negative affect. Finally, Zhang and Chen (2016) found that individuals who took a self-compassionate perspective towards a past regret demonstrated more acceptance and forgiveness towards themselves.

In her original 2003a article, Neff posits that self-compassion is most relevant in times of hardships, failures or when one experiences feelings of inadequacy. In fact, self-compassion is most often seen as a positive way to respond to an adverse past incident, as seen in the self-compassion scale instructions, which begin with “How I typically act towards myself in difficult times” (Neff, 2003a). Accordingly, when trying to induce or increase self-compassion, individuals are often instructed to bring to mind a past negative or humiliating event that gives rise to negative affect and to which they can then respond self-compassionately. Leary et al. (2007) had participants recall a past negative event that had occurred that caused negative feelings about oneself, with the idea being that by bringing to mind a difficult situation, individuals can work to accept and validate their painful feelings—effectively causing a negative mindstate that then facilitates the development of self-compassion. Consequently, all subsequent self-compassion inductions have used the same approach by having participants first recall a past

negative event and then write about it self-compassionately (Arch et al., 2018; Blackie & Kocovski, 2018b; Breines & Chen, 2012; Cândea & Szentágotai-Tătar, 2018; Dreisoerner et al., 2021; Dundas et al., 2017; Friis et al., 2017; Harwood & Kocovski, 2017; Johnson & O'Brien, 2013; Odou & Brinker, 2015; Przezdziecki & Sherman, 2016; Zhang & Chen, 2016).

The approach of having participants recall a past adverse event makes sense when studying the impact of a self-compassion induction after a stressful event or negative experience (Arch et al., 2018; Blackie & Kocovski, 2018b). Similarly, having participants recall a past negative event is relevant when assessing for the impact of self-compassion on depression and other mental health struggles in which the focus may primarily be on the past (e.g., shame and regret; Cândea & Szentágotai-Tătar, 2018; Johnson & O'Brien, 2013; Zhang & Chen, 2016). However, when examining the impact of self-compassion on an upcoming situation or event, this approach leaves an apparent disconnect from the self-compassionate writing task and the upcoming task. As such, it remains unclear if self-compassionate writing can be effectively applied to feared future negative events. That is, does writing about a future anxiously anticipated event in a self-compassionate manner show the same benefits as writing about a past negative event. Self-compassionate writing may prove particularly relevant in circumstances in which distress is future-oriented as opposed to past-orientated. Populations in which self-compassionate writing may prove particularly beneficial include those who suffer from an anxiety disorder and experience distress over the uncertainty and fear associated with potentially impactful events that might occur in the future. Although these qualities are common across the anxiety disorders, for practical purposes I will focus in particular on the potential relevance of applying self-compassion to individuals who suffer from social anxiety, a common anxiety disorder.

Social Anxiety

Marked by fear or anxiety in social situations with the potential for evaluation, social anxiety disorder (SAD), previously known as social phobia, is the third most common mood and anxiety mental health disorder (Hofmann & DiBartolo, 2014; Kessler et al., 2012). A recent study on the prevalence of SAD across seven countries found that one in three young adults aged 16-29 met the criteria for SAD (Jefferies et al., 2020). Rates of SAD were higher in western countries, with more than half of participants endorsing clinical levels of social anxiety (Jefferies et al., 2020). SAD has also been found to impact both males and females equally (Hofmann & Otto, 2017; Jefferies et al., 2020) and to have a 12-month prevalence of approximately 8% and lifetime prevalence rates ranging from 10.7-13% (Bandelow & Michaelis, 2015; Hofmann & Otto, 2017; Kessler et al., 2005, 2012). Symptoms of social anxiety may arise at any point during one's life but primarily begin in the early teens (mean age = 13), with 90% of cases occurring before the age of 23 (Hofmann & Otto, 2017; Jefferies et al., 2020; Kessler et al., 2005, 2012).

Characterized by fear of evaluation and avoidance, social anxiety occurs on a spectrum in which lower levels can prove adaptive by allowing individuals to adjust to those around them and integrate themselves into new situations (Gilbert, 2001; Hofmann & DiBartolo, 2014). However, social anxiety becomes problematic when fear and anxiety of a specific situation becomes disproportionate and debilitating (American Psychiatric Association, 2013). In accordance with the Diagnostic and Statistical Manual of Mental Disorders- Fifth Edition (DSM-5), diagnostic criteria for SAD include marked fear or anxiety in situations in which evaluation is possible, fear of behaving in a way that may be negatively evaluated or lead to rejection, and fear that symptoms of anxiety (e.g., sweating) will result in negative evaluations. Moreover, the fear and anxiety must lead to avoidance or significant anxiety and distress if unavoidable. Although

commonly associated with public speaking, SAD can also impact any areas of life or functioning that involve the potential for evaluation (e.g., performances, eating or writing in public, speaking to authority figures; Hofmann & Otto, 2017; Spence & Rapee, 2016). In western societies, SAD has primarily been characterized by fear of embarrassment and humiliation and is associated with fears of blushing, sweating, or appearing anxious in social situations (Jefferies et al., 2020).

SAD is a detrimental and potentially debilitating mental health disorder that impacts many individuals. As such, effective treatments for SAD are essential. Two common forms of treatment for SAD are exposure therapy and cognitive behaviour therapy, with exposures (Hofmann & Otto, 2017; Leichsenring & Leweke, 2017; National Institute for Health and Care Excellence, 2017). Studies have found behavioural exposure to be effective in reducing anxiety in general (Hofmann & Hay, 2018; Hofmann & Otto, 2017; Kaczkurkin & Foa, 2015), while written exposure to feared situations has also been found to reduce anxiety and psychological symptoms (Fracalanza et al., 2014; Goldman et al., 2007; Sloan & Marx, 2019). Moreover, the combination of behavioural exposures and cognitive processing involved in CBT is meant to allow individuals to deactivate their cognitive and behaviour defensive (i.e., safety behaviours) throughout exposures, which enables them to stay within stressful situations without engaging in safety behaviours, gain an alternative perspective on situations, and change their self-representation in a more positive direction (Bouchard et al., 2017; Hofmann & Otto, 2017; McMillan & Lee, 2010). In their meta-analysis, McMillan and Lee (2010) found that the combination of cognitive processing and exposure was more effective in treating SAD than exposure alone. Likewise, numerous studies have found CBT to be an effective form of treatment for SAD (Alden et al., 2018; Barrera et al., 2016; Bouchard et al., 2017; Craske et al., 2014; Hofmann & Hay, 2018; Sewart et al., 2019).

Despite these effective treatments, challenges remain in the treatment of SAD, underscoring the need for interventions to facilitate engagement and improve outcomes in SAD treatment. In a sample of 206 participants with SAD and panic disorder, Chartier-Otis et al. (2010) found that 69.9% of individuals reported having unmet mental health needs. Consistently, studies have found that individuals with social anxiety tend to avoid health care services (Bandelow & Michaelis, 2015; Bouchard et al., 2017; Wang et al., 2005). These results are not surprising when considering the characteristics of social anxiety, primarily fear of evaluation and subsequent avoidance. It stands to reason that individuals who fear being judged will not be quick to seek out services where self-disclosure may be necessary. In fact, the idea of seeking services and engaging in psychotherapy itself may be seen as a threat, as overwhelming and needing to be avoided. For instance, Bandelow and Michaelis (2015) reported that social anxiety is severely underrepresented in their specialized anxiety disorder clinic. Moreover, it is estimated that 65% of individuals with lifelong symptoms of social anxiety do not seek services or treatment, and only 5% of individuals seek treatment within a year of onset (Chartier-Otis et al., 2010; Leichsenring & Leweke, 2017; Ruscio et al., 2007).

In addition to avoidance of treatment, for those in treatment, key characteristics and processes of SAD may serve as barriers that prevent individuals from remaining in treatment or reduce the potential benefits of treatment (Clark & Wells, 1995; Spence & Rapee, 2016). Studies have found that CBT may not always be effective for those who seek treatment and can have elevated dropout rates or attrition (Craske et al., 2014). Dropout rates of CBT treatment range from 11.73% to 26% (Craske et al., 2014; Fernandez et al., 2015; Hans & Hiller, 2013; Taylor et al., 2012). Paradoxically one of the challenges of treating socially anxious individuals with CBT is the avoidance behaviours themselves. For instance, as part of CBT, individuals are asked to

intentionally expose themselves to feared situations and not engage in safety behaviours. Yet, fear of evaluation and avoidance may cause individuals to become overwhelmed and avoid engaging in the treatment prescribed exposures and cognitive reprocessing (Mcmanus et al., 2008). Fernandez et al. (2015) posit that one way to help clients remain in treatment is by preparing individuals early in treatment for upcoming tasks through preparatory strategies. Thus, highlighting a need for brief interventions that may help prepare individuals for exposure and help facilitate engagement.

In summary, SAD is a detrimental and potentially debilitating mental health disorder that impacts many individuals. Despite effective treatments, barriers remain that may prevent individuals from seeking out or gaining the most benefits from treatment. Fear of evaluation and avoidance play a prominent role in SAD and may hinder an individual's ability to fully engage in exposure activities which are a key part of CBT treatment. Given the challenges involved with engaging with exposures, increasing state self-compassion prior to exposures, may help to reduce some of the anticipated anxiety and fears related to exposures thus increasing the likelihood of clients engaging in avoided activities.

Self-compassion and Social Anxiety

A growing body of evidence indicates a negative association between self-compassion and many of the mechanisms commonly associated with social anxiety. For instance, Leary et al. (2007) had participants imagine a negative social situation involving failure and indicate to what extent it might bother them. They found that higher trait self-compassion predicted less catastrophizing, less personalizing and greater equanimity in the face of an imagined failure. In that same study, they found that those with higher self-compassion rated neutral feedback more positively than those with low self-compassion and were more likely to challenge the neutral

feedback. Consistent with Leary et al.'s (2007) findings, studies have also found that higher self-compassion is associated with more accurate self-judgment, a greater sense of perceived competence, increased communication, increased resiliency during stressful social events and reduced self-presentation concerns, fear of failure, self-criticism and avoidance-oriented coping (Arch et al., 2014; Ferrari et al., 2019; Lathren et al., 2019; Leary et al., 2007; Long & Neff, 2018; Neff et al., 2005).

More recently, studies have started to examine the association between self-compassion and social anxiety. Werner et al. (2012) found that individuals with social anxiety were more likely to have lower levels of trait self-compassion. These results are not surprising when one considers the contrast between the key characteristics of self-compassion: self-acceptance, accurate self-evaluation, belongingness, and less catastrophizing, and those of social anxiety: fear of evaluation, self-criticism, avoidance and catastrophizing (Hofmann & Otto, 2017; Leary et al., 2007; Long & Neff, 2018). Moreover, studies that have examined self-compassion within individuals with social anxiety have found it to reduce shame, decrease state anxiety, and help facilitate healthy post-event processing, all of which play a role in the development and maintenance of social anxiety (Arch et al., 2016, 2018; Blackie & Kocovski, 2018a; Harwood & Kocovski, 2017). Long and Neff (2018) suggest several ways in which self-compassion may buffer against social anxiety. First, self-kindness in the face of failure creates a sense of acceptance rather than self-judgment, thus reducing some of the self-criticism common in social anxiety. Second, taking a mindful approach to situations allows individuals to have a balanced and objective perspective on a situation, thus reducing the likelihood of overidentification and fixation with negative aspects of an interaction. Lastly, through common humanity, individuals

can realize that they are not alone in their experiences, thus reducing fears of evaluation (e.g., "Other people make mistakes and aren't judged, it is okay if I make mistakes").

Studies have also found self-compassionate training and writing to increase self-compassion and improve psychological functioning in socially anxious populations. Arch et al. (2016) found that a brief self-compassion training in which women listened to a ten-minute loving-kindness mediation recording for three days prior to a stress test effectively increased state self-compassion and decreased state anxiety. Similarly, when comparing the impact of a two-week intervention in which participants recalled a negative event and subsequently reconsidered it in a self-compassionate or cognitive reappraisal manner, Cândea and Szentágotai-Tătar (2018) found the self-compassionate training not only increased trait self-compassion but also reduced social anxiety and shame-proneness.

Likewise, brief one-session writing inductions have also been found to be beneficial specifically for individuals with social anxiety. Individuals with social anxiety have been shown to experience a greater increase in state self-compassion following a self-compassionate writing induction when compared to healthy adults (Arch et al., 2018) and individuals with low social anxiety (Harwood & Kocovski, 2017). Harwood and Kocovski (2017) found that self-compassionately writing about a past negative experience significantly decreased state anxiety for an upcoming task. Arch et al. (2018) found that despite using more negative and anxious words in the writing task, socially anxious individuals who completed a brief self-compassionate writing task immediately following a stressful task recovered from the stress quicker through increased adaptive reflections and post-event processing. Likewise, in a sample of students with social anxiety, Blackie and Kocovski (2018b) found similar results, with increased self-

compassion being associated with decreased post-event processing and increased willingness to engage in future social situations one day after the self-compassion induction.

Overall, the past two decades of research on self-compassion have demonstrated it to be a positive trait with many psychological and physical benefits. In particular, studies have shown self-compassion to directly contrast many of the harmful mechanisms associated with social anxiety, suggesting that increasing self-compassion may positively impact social anxiety and facilitate treatment.

In summary, self-compassion is positively related to many adaptive psychological functioning. Specifically, it has been associated with many elements that directly counteract common characteristics of social anxiety, including avoidance, catastrophizing, shame, and anxiety. Moreover, brief self-compassionate writing inductions have been particularly effective at increasing state self-compassion within individuals with social anxiety, which has subsequently been associated with decreased state anxiety, post-event processing, and fear of evaluation. However, nearly all of the research on self-compassion inductions has examined its impact after the fact. The many positive benefits of self-compassion, including greater equanimity, better self-judgment, and less self-criticism, should lend themselves well to helping individuals not only recover from stressful events but face those stressful events and succeed. Nevertheless, few studies to date have focused on bringing a self-compassionate writing induction approach to an upcoming stressful task. The present studies aim to evaluate whether writing about an anticipated event in a self-compassionate manner can facilitate engagement and reduce subsequent avoidance.

Study 1

To date, research in the self-compassion field has primarily focused on increasing self-compassion through recalling past negative events and examining the impact of the subsequently increased self-compassion on future outcomes. It is clear that a brief self-compassion induction based on a past negative event can be beneficial in both increasing state self-compassion and improving psychological outcomes. Nevertheless, it remains unclear if self-compassionate writing can be effectively applied to feared future negative events. There are several ways in which self-compassion could also be relevant to future-oriented distress. One such factor may be through increased emotion regulation. Finlay-Jones (2017) posits that the greater acceptance and positive affect and decreased negative affect associated with self-compassion can help individuals better regulate difficult emotions in the face of distress. She hypothesizes that self-compassion's positive association with positive affect, optimism, subjective well-being and happiness can facilitate lower physiological reactivity when faced with stressors. Moreover, individuals with higher self-compassion have been shown to have a higher sense of self-worth and to be less likely to appraise negative events as reflective of their own sense of self-worth (Finlay-Jones, 2017; Leary et al., 2007). As such, self-compassion may help individuals reframe distressing or potentially distressing incidents into a more positive self-compassionate context (Allen & Leary, 2010), which may help decrease anticipated anxiety and facilitate engagement. Lastly, the mindfulness component of self-compassion allows for a non-judgemental awareness of one's difficult experiences and emotions, leading to greater emotional acceptance (Finlay-Jones, 2017; Neff, 2003a). Finlay-Jones (2017) postulates that greater emotional acceptance can subsequently reduce distress regarding future negative experiences. As such, it is conceivable that a self-compassionate writing induction would prove beneficial if it was tailored to a specific

anxiously anticipated event, particularly as it may help individuals learn specific cognitive restructuring strategies prior to the stressful or feared task (Arimitsu & Hofmann, 2017; Cândea & Szentágotai-Tătar, 2018).

Studies that have examined the impact of self-compassion inductions on future events have had participants first recall past negative events to induce self-compassion (Breines & Chen, 2012; Friis et al., 2017; Przezdziecki & Sherman, 2016). These studies have found this approach to be beneficial in changing affect and impacting subsequent behaviours. Nonetheless, the question remains as to whether having participants write specifically about an anticipated event would prove equally effective. However, before examining the impact a brief self-compassionate writing task may have on the anticipated event itself, we must first establish whether writing about a future event is sufficient to elicit negative affect that can then be responded to self-compassionately. Previous studies examining the impact of anxiously anticipated writing have primarily focused on general anxiety disorders and having participants write about their worst-case scenarios (Fracalanza et al., 2014; Goldman et al., 2007; Ovanessian et al., 2019). Moreover, few of these studies have specifically examined the immediate impact of writing about a feared event. Fracalanza et al. (2014) found that within a sample of participants with general anxiety, anxious arousal increased immediately after writing about their worst-case scenario. Nevertheless, it remains unclear if similar results would be found within a sample of socially anxious individuals. That is, first, does writing about an anxiously anticipated event, in an imaginal exposure style, put someone in a negative enough mindset for self-compassion to become relevant. Second, does writing about that event self-compassionately increase state self-compassion and subsequently improve mood. Lastly, does writing about an anticipated event self-compassionately enhance one's sense of determination?

Study 1 first had participants write about an anticipated social anxiety-provoking event or a neutral one; measures were taken to first assess whether writing about an anxiously anticipated event decreased positive affect and increased negative affect. Participants then completed either Neff et al.'s (2021) self-compassionate mindstate writing induction or a control writing task to assess whether self-compassionately writing about an anxiously anticipated event successfully increased state self-compassion, positive affect, and determination and decreased negative affect. I first hypothesized that self-compassionate writing would be more effective than control writing at increasing state self-compassion. Second, I hypothesized that positive affect would increase, and negative affect would decrease after a self-compassionate writing exercise, in the context of anticipated future anxiety-provoking events. Third, self-compassionate writing was expected to be more effective than control writing at increasing levels of determination to engage in the anxiety-provoking events participants wrote about.

Method

Participants

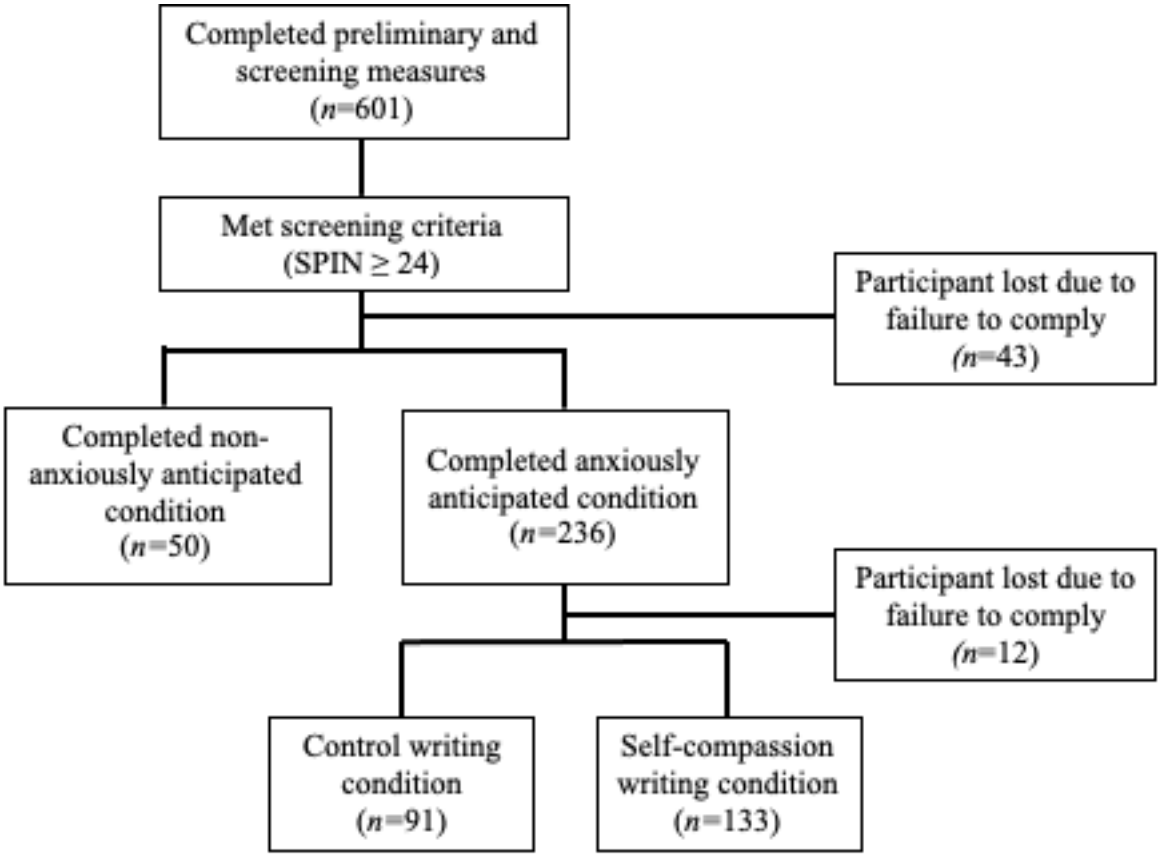
Participants in this study consisted of undergraduate students at the University of Manitoba registered in the Introduction to Psychology course. Participants completed the current study in one sitting that included two steps: a preliminary questionnaire which served as a screener, and the experimental study. The experimental step of the study consisted of two sequential components: the anxious anticipation induction versus control conditions (i.e., comparison of writing about an anticipated social anxiety-provoking events or a neutral one), and the self-compassionate writing versus control writing conditions. To enhance the likelihood that participants would harbor a fear of an upcoming anticipated event, only students who scored

high in social anxiety on the screening test were invited to participate in the experimental component of the study.

Figure 1.1 illustrates the participants' flow throughout the study. A total of 604 participants registered for the study via the University of Manitoba SONA system, a participant management system that allows participants to self-register and complete studies and allows researchers to grant course credit for participation. Six hundred one participants completed the preliminary measures, via Qualtrics, which included demographics and measures of social anxiety, self-compassion, self-esteem, and affect (see below for a description of these measures). Of those who completed the preliminary measures 54.7% (n = 329) met the inclusion criteria to continue with the study (scored 24 or higher on the SPIN, indicating elevated levels of social anxiety; Connor et al., 2000), and completed the anticipation induction component of the study. A total of 43 participants were excluded prior to any analysis due to failure to comply with study procedures, resulting in n = 286 (82.9% female, 16.4% male, 0.7 other, 49.3% eighteen years of age, 40.9% white, 17.8% Filipino, 13.6% South Asian, 76.6% English as a first language) for the initial anticipation induction manipulation check. Only participants in the anxiously anticipated condition (n = 236) then participated in the writing condition. An additional 12 participants were further excluded from the analysis, due to failure to comply with study procedures, resulting in an overall n = 224. The achieved sample size of 90 participants per condition for the primary analyses of self-compassion writing compared to control writing (using mixed method ANCOVA) exceeded the requirements for 80% power to detect a medium effect size (ηp^2 = .06), with a two-tailed significant criterion of α = .05 (using G*Power 3.1). All participants received partial course credit for their participation in the study. All procedures of this study were approved by the Office of Human Research Ethics at the University of Manitoba.

Figure 1.1

Study 1 Participant Flow Chart



Measures

Preliminary Measures

Social Phobia Inventory (SPIN). The SPIN is a 17-item self-report measure designed to assess for severity of social anxiety in response to interpersonal and public situations (Connor et al., 2000). Participants were asked to reflect on the past week and rate how much each item has bothered them on a 5-point rating scale from 0 (*not at all)* to 4 (*extremely*). The sum of all items represents the severity of social anxiety, with higher scores indicating higher social anxiety. The SPIN measures three components of social anxiety, namely, fear (e.g., "Parties and social events scare me"), avoidance (e.g., "I avoid activities in which I am the center of attention"), and

physiological symptoms (e.g., “Heart palpitations bother me when I am around people”) and has been shown to differentiate across severity of social anxiety. Previous studies have found that scores of 19-23 indicate sub-clinical levels of social anxiety, while scores of 24 or greater indicate clinical levels (Connor et al., 2000; Osório et al., 2010). For this study, only participants with a score of 24 or higher, indicating high social anxiety, were recruited. The SPIN has been shown to have good psychometric properties within both clinical and student populations ($\alpha >$ .90; Antony et al., 2006; Blackie & Kocovski, 2018a; Osório et al., 2010). Moreover, the SPIN has been shown to be sensitive to changes in social anxiety post interventions (Antony et al., 2006). The internal consistency in the SPIN for the overall sample was high ($\alpha = .91$).

Rosenberg Self-Esteem Scale (RSE). As is common in self-compassion research, trait self-esteem was measured and controlled for using the RSE. The RSE is a widely used measure consisting of 10-items that assess global self-esteem (Gnambs et al., 2018; Rosenberg, 1965). Participants were asked to rate, on a 4-point scale from 1 (*strongly disagree)* to 4 *(strongly agree*), statements regarding their general feeling about themselves (e.g., "I feel I do not have much to be proud of"). Negatively worded items were reverse scored before all items were summed for an overall score. Higher scores indicate greater self-esteem. The RSE has been shown to have good internal reliability ($\alpha >$ .87; Conway, 2020; Leary et al., 2007). The internal consistency of the RSE in the current study was good ($\alpha = .86$).

Attention check. An attention check question was embedded into the self-esteem scales. On this item, participants were asked to “please select ‘almost always’ on this item.” An attention check question was used to assess for response biases throughout the questionnaires.

Demographics. Participants completed demographic questions consisting of age, gender, year of university, ethnicity and spoken language.

Experimental Measures

State Self-Compassion-Short (SSCS-S). The SSCS-S is a 6-item self-report measure that assesses individuals' current levels of state self-compassion (Neff et al., 2021). Neff and collogues created the SSCS-S by adapting the trait Self-Compassion Scale to reflect current feelings and perspectives in response to a current instance of suffering (e.g., "I'm giving myself the caring and tenderness I need; I'm remembering that there are lots of others in the world feeling like I am"). Participants were asked to rate each item on a 5-point scale from 1 (*Not at all true of me*) to 5 (*Very true of me*). Each of the six items on the SSCS-S corresponds with one of the six components of self-compassion as described by Neff (2003b). Nevertheless, the scale is a single factor measure of overall state self-compassion (Neff et al., 2021). Scores were calculated by reverse scoring the negative items and taking a grand mean of all the items, with a higher score indicating higher state self-compassion. The SSCS-S has been validated within an undergraduate student sample and was shown to have high internal consistency ($\alpha = .86$; Neff et al., 2021). The internal consistency for the SSCS-S in the current study was acceptable ($\alpha = .65$-.76).

Positive and Negative Affect Scale (PANAS). The PANAS is a widely used 20-item self-report measure that assesses individuals' positive and negative affect (Watson et al., 1988). Participants were asked to rate a series of positive and negative affective words (e.g., nervous, jittery, enthusiastic) on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*), based on how they feel in the moment (Watson et al., 1988). A mean score of all the positive items was calculated for a positive affect score and vice versa for the negative affect score. The PANAS has been used in previous studies involving self-compassion and has been shown to have good validity and reliability ($\alpha > .87$ negative affect; $\alpha > .88$ positive affect; Neff, Long et al., 2018;

Neff et al., 2021). Moreover, the PANAS has been shown to be reliable within a socially anxious population and to be sensitive to changes in affect pre- to post interventions (Neff et al., 2021; Sewart et al., 2019). The internal consistency for the PANAS in the current study was good (α = .90-.91 negative affect; α = .86-92 positive affect)

Measure of Determination. Through extensive literature review, no pre-existing brief questionnaires were found that assess individuals' self-efficacy and willingness to engage in an anticipated task. As such, two questions were developed to assess participants' willingness to engage ("On a scale of 0-10, how willing are you to engage in the event you described?") and their confidence ("On a scale of 0-10, how confident are you that you can engage in the event you described even if it gets very stressful?"). An additional question was adapted from the Fear Questionnaire to assess individuals' level of fear and avoidance for the described event ("On a scale of 0-10, how much would you avoid the situation you described above because of fear or other unpleasant feelings?"; Marks & Mathews, 1979). Overall scores for determination were calculated by reverse scoring the fear/avoidance item and taking the sum of all three items, with a higher score indicating greater determination to engage in the described event. The internal consistency for determination in the current study was acceptable (α = .79-.83).

Procedures

All components of the study took place online. Data were collected via Qualtrics, an online survey tool. The current study had two steps: the preliminary questionnaires, which served as a screener and the experimental study. Consent was obtained at the start of the study (see Appendix A).

A link to the study was made available to all students in the Introduction Psychology class via the University of Manitoba SONA system. By clicking the link, students were brought

to a consent form describing the purpose of the study. Those who consented to participate completed measures of self-esteem, social anxiety (SPIN), and a series of demographic questions. Measures were presented in a quasi-random order, with demographics being presented last every time. After completing the demographic questions, only participants who scored 24 or higher on the SPIN, indicating high social anxiety (Connor et al., 2000), were able to continue to the experimental component of the study. Those who scored lower than 24 were debriefed and received their course credit. Participants with high social anxiety then completed state self-compassion (SSCS-S) and affect (PANAS) measures prior to being randomly assigned to one of two anticipation induction conditions using Qualtrics programming. Participants were assigned at a 3:1 ratio with 3 participants in the anxiously anticipated event for every 1 in the neutral event. This was done to ensure a large enough sample in the anxiously anticipated event condition for the main analysis between writing conditions.

Anticipation Induction Conditions

Anxiously Anticipated Events. Participants in the anxiously anticipated event condition were instructed to take a moment to think about an upcoming event or activity in which they would like to participate in, but that causes them significant worries or anxiety (e.g., upcoming presentation, a performance, group hangouts). Following a written exposure model (Goldman et al., 2007), participants were asked to write a story about experiencing their worst fear while engaging in that situation. Participants were encouraged to write about their thoughts and feelings related to the event and to write in the first person and the present tense (see appendix B for instructions).

Non-anxiously Anticipated Events. Participants in the neutral event condition were instructed to take a moment to think about an upcoming event or activity that they would like to

participate in that does not cause them any worries or anxiety. They were then asked to take five minutes to describe the event and any thoughts or feelings they anticipated experiencing. Participants were encouraged to write in the first person and the present tense (see Appendix B for instructions).

To ensure that participants wrote according to their assigned anticipated condition instructions, two research assistants, who were unaware of the participants' assigned conditions, were asked to judge whether participants were assigned to the non-anxious condition, the anxiety/worry condition, neither condition or both conditions based on their written responses. Coders' inter-rater reliability was assessed using Cohen's Kappa, with substantial agreement (k=.80) found between coders. Consequently, when both coders' judgments agreed that a participant's written responses did not align with their assigned condition, that participant's data were removed from all analyses (n = 27).

Upon completing the anticipation induction, all participants were given state self-compassion (SSCS-S), affect (PANAS), and measures of determination. Participants were also asked to indicate on a scale from 1 (*Not at all difficult*) to 6 (*extremely* difficult), 1) how difficult engaging in their described situation was expected to be, 2) how anxious did they feel about engaging in the situation, and 3) whether the situation did not cause them any anxiety or worry. Previous studies have found that students typically reported choosing moderately difficult situations (Neff et al., 2021). Scores on the measures of difficulty and anxiety indicate the instructions for each condition were successful in guiding participants' selection of anticipated events with participants in the anxiously anticipated condition expressing having described a more difficult situation (M = 4.36, SD = 1.30) compared to those in the non-anxiously anticipated condition (M = 1.78, SD = 1.28), $t(284) = 12.75$, $p < .001$. They also indicated greater

anxiety regarding the upcoming situation (M = 5.06, SD = 1.10) compared to those in the non-anxiously anticipated condition (M = 2.16, SD = 1.33), $t(284) = 16.27$, $p < .001$. While those in the non-anxious condition rated their upcoming situation as causing less fear (M = 1.58, SD = 1.02), compared to those in the anxiously anticipated condition (M =4.02, SD = 1.96), $t(284) = -12.67$, $p < .001$. Participants in the non-anxiously anticipated condition were then debriefed and received their course credit.

Writing Conditions

Consistent with Neff et al. (2021), participants in the anxiously anticipated event condition were then told, "we would now like to you to take part in a brief exercise to see if it is helpful in dealing with this difficult anticipated situation." Participants were then randomly assigned to one of two writing conditions to be completed regarding their anticipated situation. Participants were informed that their responses would remain anonymous and confidential. A minimum of 100 words was required for every writing prompt in order to progress to the next segment. Subsequently, participants completed post-test measures of state self-compassion (SSCS-S), positive and negative affect (PANAS), and measures of determination.

Self-compassionate Writing. Neff et al. (2021) developed a modified and updated version of Leary et al.'s (2007) original writing induction. Neff posits that some of the features of Leary's writing prompts are inconsistent with some of the key features of self-compassion (Neff et al., 2021). For instance, in the original prompts, they ask individuals to "describe their feelings about the event in an objective and unemotional fashion" (Leary et al., 2007, p.899); however, Neff postulates that self-compassion mindfulness involves accepting and validating emotions rather than approaching them from an unemotional standpoint. Similarly, although Leary's prompt on common humanity asks participants to list ways in which others may have

experienced similar events, it makes no mention of the sense of connectedness and understanding that no one is perfect; thus, it does not adequately tap into the entire construct (Neff et al., 2021). As such, in order to better tap into the key components of self-compassion, Neff et al. (2021) added more psychoeducation in each prompt (e.g., consider that experiencing difficult situations is part of being human") along with concrete examples to demonstrate self-compassionate language to participants (e.g., "it's only natural that I want to spend time with friends"; see Appendix C for the full self-compassionate mindstate induction). Neff et al. (2021) found that their mindstate induction successfully increased state self-compassion, decreased negative affect, and increased positive affect.

Based on Neff et al.'s (2021) updated self-compassion mindset induction, participants were asked to respond to three prompts targeting mindfulness, common humanity and self-kindness and designed to increase overall state self-compassion. Consistent with Neff et al. (2021), participants were first asked to write about their current thoughts and emotions related to the upcoming event in a mindful manner. They were encouraged to note any negative emotions they may feel and validate their experiences with acceptance and non-judgment. Participants were provided with examples of things they might write (e.g., "this is really hard for me right now…"). Next, participants were prompted to write about how others may experience similar feelings in those situations to enhance common humanity. They were encouraged to reflect on how everyone experiences difficulties at times (e.g., "I am not the only one who struggles with these types of holiday situations"). Lastly, participants were asked to write about the event with self-kindness. They were asked to write words of encouragement and support to themselves (e.g., "you are doing the best you can"). Upon completing all the prompts, participants were

encouraged to take a moment and read what they have written and to reflect on it for a moment (Neff et al., 2021).

Control Writing. Based on Neff et al. (2021), participants in the control writing condition were asked to respond to three prompts designed to parallel self-compassion writing by further describing the anticipated event (see Appendix C). Participants were asked to a) objectively describe the situation, b) write about who will be involved and c) words that may be said in the situation. Upon completing all the prompts, participants were encouraged to take a moment and reread their responses.

Lastly, to ensure that what participants wrote matched their assigned condition, before being debriefed all participants completed a compliance check question (Neff et al., 2021). Participants were asked to select one of three possible answers to describe what they were asked to do: a) write about your feelings in an accepting and validating way, consider how going through difficult situations is part of being human, write to yourself like a supportive friend; b) write about the situation and try to figure out how to solve the problem; c) write the details of the situation, who is involved and what was said with as much detail as possible. Participants in the self-compassion condition must select (a) and those in the control condition (c) to pass the compliance check. Upon completing the compliance check question, participants saw a debriefing form explaining the study, thanking them, and providing them with mental health resources.

Data Preparation and Screening for Anticipation Conditions

A total of 329 participants completed the anticipation condition phase of the study. Prior to analysis, 43 participants were removed for failure to comply with study procedures. Specifically, 15 participants were removed for not completing an anticipated condition, while

one was removed due to incomplete data. The remaining 27 participants were removed for not following the anticipated condition instructions as identified by the research assistants.[1] Lastly, six participants were found to have failed the attention check question embedded within the self-esteem scale. Participants' responses were visually inspected for any further response bias with no further indication of response bias. As such, they were retained for all analyses, resulting in an overall n = 286, with 236 in the anxiety condition and 50 in the non-anxiety condition.

A comparison of the final 286 participants with the 43 dropped participants was conducted to assess for differences between those being removed and kept across baseline measures. No significant differences were found between the groups on age, gender, first spoken language and all baseline study variables (see Table 1.1). However, the final data set may differ from the overall sample population's ethnicity. A comparison of those kept vs. dropped found a significant difference in ethnicity between groups X^2 (2) = 9.66, p = .002, φ = -.17, with a significantly greater proportion of participants from ethnic minorities being removed (10.9% of the overall sample) compared to white participants (2.1% of the overall sample). Additionally, results indicate that those in the non-anxiety condition were more likely to be dropped from the study than those in the anxiety condition X^2 (2) = 35.11, p < .001, φ = -.33. Visual inspection of participants' responses along with coders' ratings suggest that those in the non-anxiety condition were more likely to have been dropped from the study due to not following study protocol, that is, despite being assigned to a non-anxiety writing condition, some participants wrote about and described anxiety-inducing events even if instructed to not do so.

[1] Results for Study 1 did not differ even when participants who failed to write as instructed (n = 27) were retained in the analyses.

Table 1.1

Comparison of Dropped vs. Kept Participants

Demographic Variables	X^2	*p*	φ
Age	11.54	.484	.18
Gender	1.10	.579	.06
Ethnicity	9.66	.002	-.17
Language	1.68	.195	-.07
Group	35.11	<.001	-.33
Study Variables	***t***	***p***	***g***
SA	-0.01	.996	-.00
Pre_A_SC	1.55	.123	.25
SES	0.73	.469	.12
Pre_A_NA	-1.20	.230	-.20
Pre_A_PA	0.34	.732	.06

Note: SA= Social anxiety; Pre_A_SC= Self-compassion pre-anticipation induction; SES= Self-esteem; Pre_A_NA= Negative affect pre-anticipation induction; Pre_A_PA= Positive affect pre-anticipation induction; φ = Phi; *g*= Hedges measure of effect size.

Results

Prior to data analysis, all variables were checked for accuracy of data entry, missing values, outliers and any violations of the assumptions of *t*-test and multivariate analysis, namely normality, homogeneity of variance and random sampling. Regarding missing data, only the PANAS was found to have any missing data. In order to retain as many participants as possible, missing data on the PANAS was addressed using mean replacement for participants with less

than 20% of their data missing. Accordingly, participants with more than 20% of their data missing on any specific PANAS measures (i.e., pre-anticipation induction positive affect $n = 6$; pre-anticipation induction negative affect $n = 14$; post-anticipation positive affect $n = 5$; post-anticipation negative affect $n = 5$) were removed from all analysis involving that specific measure.

Univariate outliers were assessed using boxplots and a three-standard deviation cut-off. Five individual cases on the PANAS scales were found to be above the cut-off. A visual inspection of participants' data showed no further indication of response biases across other measures. Consequently, all five scores were adjusted to the nearest non-outlier score plus one via winsorization. Multivariate outliers were also assessed using Mahalanobis distance analysis on pre and post-anticipation measures; no multivariate outliers were found. A visual inspection of histograms, Q-Q plots, Skewness and Kurtosis showed that all variables met the assumption of normality. See Tables 1.2 and 1.3 for descriptive statistics of the study variables pre and post anticipation induction. The assumption of homogeneity of variance was not violated as assessed using residual score scatter plots of the dependent variable and Levene tests.

Table 1.2

Descriptive Statistics for the Study Variables Pre-Anticipation Induction

Measure	*n*	*M (SD)*	*Skew*	*Kurt*
SES	286	25 (4.97)	.17	.04
Pre_A_SC	286	2.84 (.68)	-.02	-.24
Pre_A_PA	280	24.92 (7.18)	.25	-.47
Pre_A_NA	272	20.51(8.38)	.82	.00

Note. SES= Self-esteem; Pre_A = Pre-anticipation induction; SC= State self-compassion; PA = Positive affect; NA = Negative affect.

Table 1.3

Descriptive Statistics for the Study Variables Post-Anticipation Induction

	Anxiously anticipated event				Non-anxiously anticipated event			
Measures	*n*	*M (SD)*	*Skew*	*Kurt*	*n*	*M (SD)*	*Skew*	*Kurt*
Post_A_SC	236	2.61 (.78)	.23	-.13	50	3.23 (.73)	-.85	.95
Post_A_PA	232	21.45 (8.19)	.59	-.56	49	24.14 (8.72)	.59	-.29
Post_A_NA	234	24.23 (8.54)	.39	-.39	47	17.36 (7.62)	1.03	-.16
Post_A_Det	236	13.90 (7.55)	.03	-.63	50	21.54 (5.86)	-.42	-.31

Notes. Post_A = Post Anticipation induction; SC= State self-compassion; PA = Positive affect; NA = Negative affect; Det = Measure of determination.

Assessment of Random Assignment in the Anticipation Conditions

One-way ANOVAs revealed that the two groups did not significantly differ on any of the baseline's measures of self-compassion, social anxiety, self-esteem and positive/negative affect

with all *p*'s > .05. These results indicate that random assignment of participants to each group was successful in creating approximately equivalent groups.

Manipulation Check

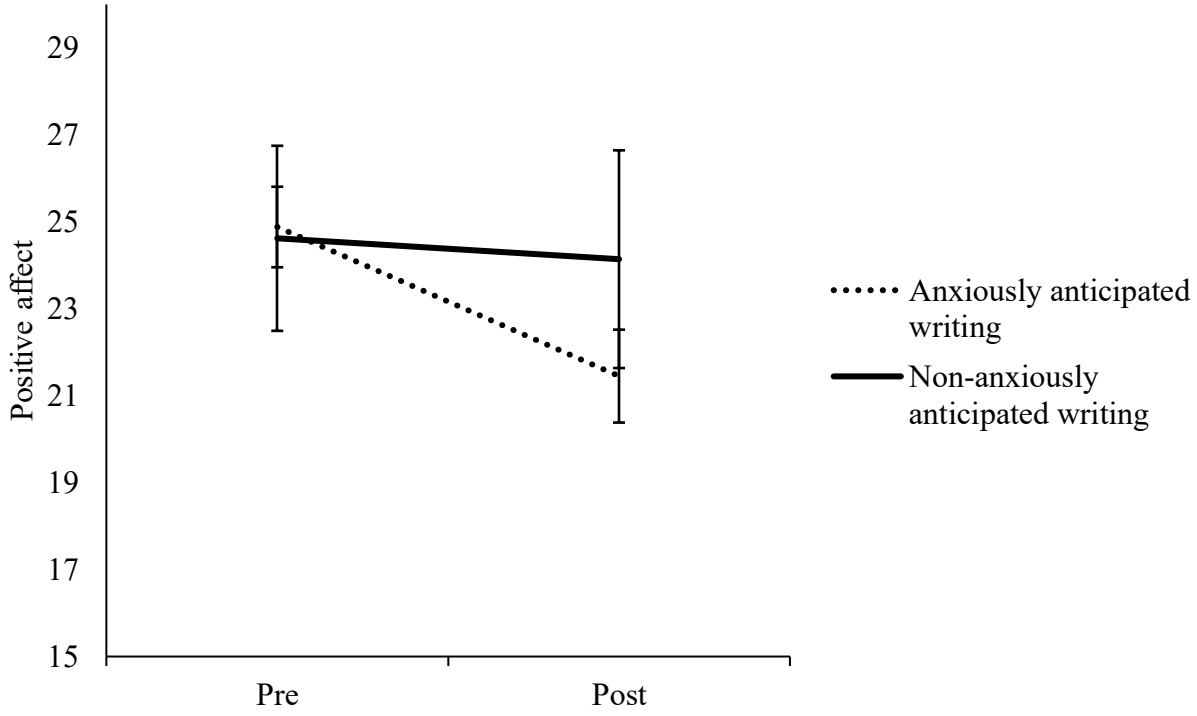
A manipulation check was conducted to examine whether the anticipation induction successfully induced a more negative (and less positive) mood in the anxiously anticipated writing group relative to the non-anxiety event writing group. Two mixed-method ANOVAs were conducted to assess changes in affect across anticipation induction conditions, with positive and negative affect measures as dependent variables, time (pre- versus post-writing) as the within-subject factor and anticipated writing conditions (anxiously anticipated future event vs neutral event) as between-subject factors. The primary interest of this analysis is the interaction effect between time and writing condition. A significant interaction effect between time and participants' writing condition was found for both positive affect, F (1, 275) = 11.99, $p < .001$, $\eta p^2 = .04$ and negative affect, F (1, 268) = 44.20, $p < 0.001$, $\eta p^2 = .14$.

In order to decompose these interaction effects, I examined the estimated marginal means for the two groups using simple effects analysis with Bonferroni adjustment. Compared to positive affect prior to the anticipation induction (M = 24.88), participants in the anxiously anticipated condition reported a significant decrease in positive affect after the anticipation induction (M = 21.45), F (1, 275) = 91.54, $p < .001$, $\eta p^2 = .25$. Those in the non-anxious condition did not report a significant change in positive affect, F (1, 275) = .38, $p = .536$, $\eta p^2 < .01$ from pre-anticipation M = 24.62, to post-anticipation M = 24.14 (see Figure 1.2). Concerning whether anxiously anticipated writing was more effective than non-anxious writing at decreasing positive affect, as expected, individuals in the anxiously anticipated condition (M=

21.45) compared to those in the non-anxious condition (M= 24.14) had significantly lower positive affect F (1, 275) = 4.25, p = .040, ηp^2 = .02.

Figure 1.2

Positive Affect Pre- to Post Anticipation Induction



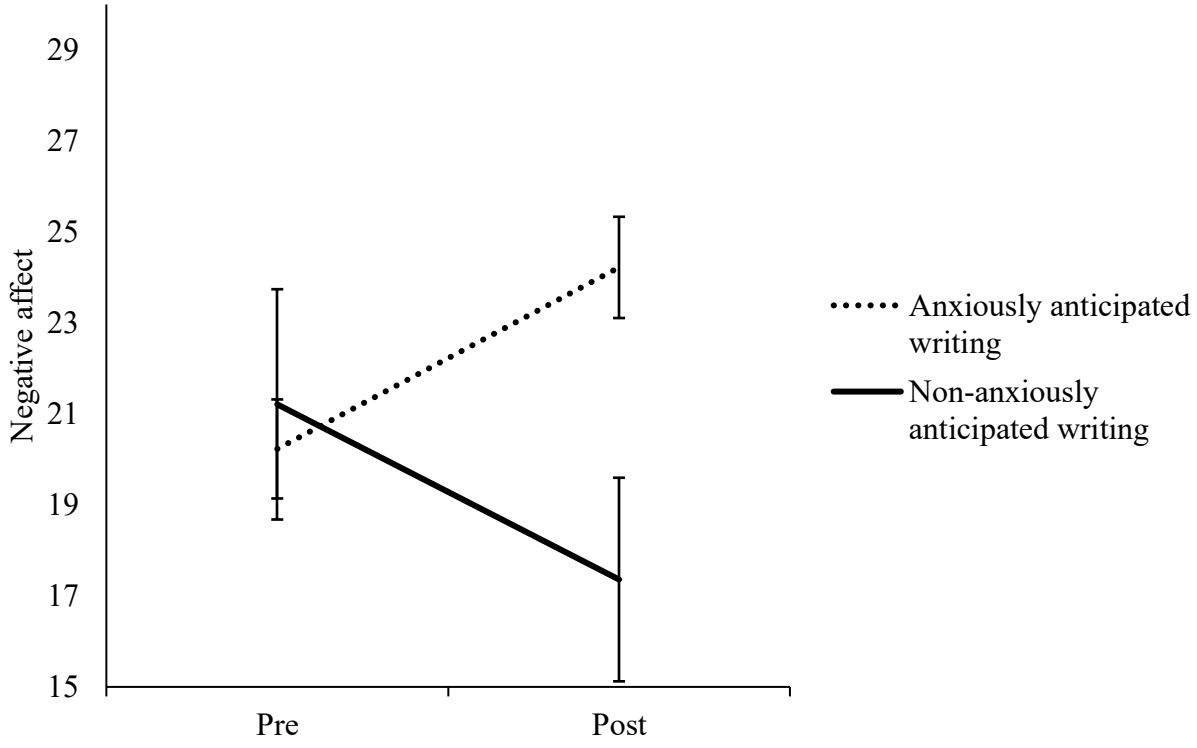
Note. Error bars = 95% confidence intervals that can be used to assess between subject comparisons.

Moreover, as expected, compared to their level of negative affect prior to the anticipation induction (M = 20.23), participants in the anxiously anticipated condition reported a significant increase in negative affect after the anticipation induction (M = 24.22), F (1, 268) = 65.68, p < .001, ηp^2 = .20. Those in the non-anxious condition, on the other hand, reported a significant decrease in negative affect, F (1, 268) = 12.92, p < .001, ηp^2 = .05 from pre-anticipation M = 21.21 to post-anticipation M = 17.36 (see Figure 1.3). Furthermore, individuals in the anxiously

anticipated condition (M= 24.22) compared to those in the non-anxious condition (M= 17.36) had significantly higher negative affect F (1, 268) = 26.48, p < .001, ηp^2 = .09.

Figure 1.3

Negative Affect Pre- to Post Anticipation Induction



Note. Error bars = 95% confidence intervals that can be used to assess between subject comparisons.

Data Preparation and Screening for Writing induction

Before examining the impact of self-compassion writing versus control writing conditions I conducted a number of checks to evaluate participants' adherence to the writing instructions associated with their assigned conditions. A total of 236 participants completed the anxiously anticipated portion of the anticipation induction and were eligible to complete one of the two writing conditions. To evaluate whether participants wrote according to their assigned

condition, two research assistants, who were unaware of the participants' assigned condition, were asked to judge whether participants were assigned to the self-compassion condition, the control condition, neither condition or both conditions based on their written responses. Coders' inter-rater reliability was assessed using Cohen's Kappa to assess the coders' level of agreement, with good agreement (k=.69) found between coders. Consequently, participants whose written responses did not align with their assigned condition, as evaluated by both coders, were deemed to not have written according to the instructions for their condition and were removed from all analyses (n = 12). All 12 participants were in the control condition.

A comparison of the final 224 participants with the 12 dropped participants was conducted to assess for differences between those being removed and kept across post-anticipation induction measures. No significant differences were found in measures of determination and negative affect. Results indicate, however, that those in the control writing condition were more likely to be dropped from the study than those in the self-compassion writing condition X^2 (2) = 16.33, p = <.001, φ = .26 with all 12 participants being removed from the control writing condition. Additionally, the final data set may not be representative of the overall post-anticipation population across self-compassion and positive affect with participants in the control conditioned being removed having higher self-compassion, (M= *3.04), t*(234) = 1.94, p = .054, and positive affect, (M = 26.00) t(230) = 1.99, p = .048 than those being kept (self-compassion M = 2.59; positive affect M = 21.20). Visual inspection of participants' responses along with the coder's ratings suggest that those in the control condition with high trait self-compassion and positive affect were more likely to have been dropped from the study due to not following study protocol, that is, despite being assigned to a control writing condition, some

participants wrote about the upcoming event with some self-compassionate language even if not instructed to do so.

Next, I examined whether the writing condition instructions effectively resulted in more "self-compassionate writing" for those in the self-compassion condition and more "control writing" for those in the control condition. To do so, two coders, who were unaware of the participants' assigned condition, rated participants' writing on items assessing self-compassion (i.e., "to what extent does the paragraph reflect self-compassionate writing) and control writing (i.e., "to what extent does the paragraph reflect controlled writing"). Ratings ranged from 1 (*not at all)* to 7 *(extremely).* Interrater reliability (IRR) was examined using intra-class correlation (ICC) using a fully crossed, two-way model characterized by consistency in rating (Hallgren, 2012). Coders' ICC for both the self-compassionate writing and control writing was excellent, *ICC* = .93 and .80, respectively. Given the high levels of agreement between coders, the mean score of the two coders was then used to assess if participants wrote according to their assigned condition. Independent sample *t*-test results indicate that those in the self-compassion condition were rated as having written significantly more self-compassionately ($M = 5.81$) than those in the control condition ($M = 1.63$), $t(222) = -34.54$, $p < .001$. Furthermore, those in the control condition were rated as having written according to said conditions instructions ($M = 6.07$), compared to those in the self-compassion condition ($M = 2.38$), $t(222) = 34.71$, $p < .001$. These findings, suggest that participants were able to manifest the writing instructions for their respective conditions in their writing.

Prior to hypothesis testing, all remaining variables were checked for normality, homogeneity of variance, random sampling and independence of covariates and treatment effect, with no violations found. One-way ANOVAs revealed that the two groups did not significantly

differ on any post-anticipation induction measures of self-compassion, determination and positive and negative affect with all *p*'s > .05. Accordingly, none of these measures were required as covariates to equalize groups following random assignment to writing condition. See Table 1.4 for descriptive statistics post-anticipation induction and post writing condition.

Table 1.4

Descriptive Statistics for the Study Variables Post-Anticipation and Post-Writing Induction by Writing Condition

		Self-compassion writing				Control writing			
Measures		*n*	*M (SD)*	*Skew*	*Kurt*	*n*	*M (SD)*	*Skew*	*Kurt*
SC									
	Post_A	133	2.66 (.77)	.30	-.05	91	2.50 (.81)	.16	-.53
	Post_W	133	3.44 (.67)	-.34	.20	91	2.72 (.74)	-.27	-.12
PA									
	Post_A	132	22.08 (8.25)	.59	-.53	88	19.89 (8.08)	.81	-.25
	Post_W	132	25.98 (8.87)	.34	-.26	88	19.10 (8.10)	1.13	.75
NA									
	Post_A	129	24.09 (8.64)	.32	-.53	90	24.57 (8.59)	.51	-.22
	Post_W	129	18.27 (7.09)	1.10	.74	90	22.56 (8.51)	.51	-.38
Det									
	Post_A	133	14.28 (7.74)	-.04	-.77	91	13.16 (7.20)	.13	-.27
	Post_W	133	18.66 (7.02)	-.50	-.04	91	13.90 (7.73)	-.04	-.51

Notes. SC= State self-compassion; PA = Positive affect; NA = Negative affect; Det = Measure of determination; A= Anticipation induction; W= Writing induction.

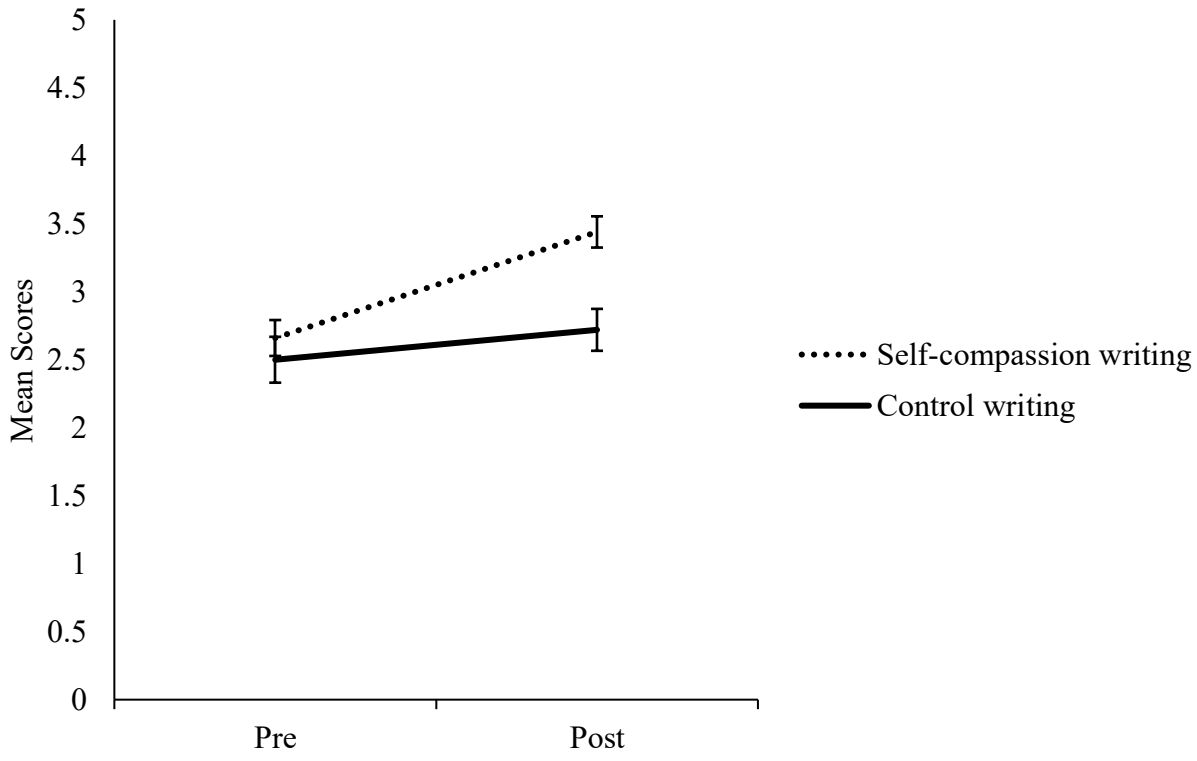
Hypothesis 1

Hypothesis 1 assessed whether a self-compassionate writing induction could effectively increase state self-compassion when based on an anxiously anticipated event. As predicted, self-compassionate writing was effective, above and beyond the impact of writing alone, at increasing state self-compassion. Changes in state self-compassion across writing conditions were first examined, using a mixed method ANCOVA, with self-compassion as the dependent variable, self-esteem as a covariate, time as the within-subject factor and writing condition (self-compassion vs control) as the between-subject factor. Self-esteem was used as a covariate to capture the unique effects associated with self-compassion. As predicted, a significant interaction effect between time and participants' writing condition was found for state self-compassion, F (1, 221) = 38.47, $p < .001$, $\eta p^2 = .15$.

In order to decompose this interaction effect, I examined the estimated marginal means for the two groups using simple effects analysis with Bonferroni adjustment. As expected, compared to participants' state self-compassion prior to the self-compassion induction (M = 2.62), state self-compassion significantly increased after the self-compassion writing induction (M = 3.42), F (1, 131) = 178.16, $p < .001$, $\eta p^2 = .45$. Those in the control writing also reported a significant increase in self-compassion, F (1, 89) = 8.81, $p <.003$, $\eta p^2 = .04$ from pre-writing M = 2.55, to post-writing M = 2.76 (see Figure 1.4). As expected, after writing, individuals in the self-compassion condition (M= 3.42) compared to those in the control condition (M= 2.76) had significantly higher state self-compassion F (1, 221) = 61.73, $p < .001$, $\eta p^2 = .22$.

Figure 1.4

State self-compassion Pre- to Post Writing Induction



Note. Error bars = 95% confidence intervals that can be used to assess between subject comparisons.

Hypothesis 2

Hypothesis 2 assessed whether a self-compassionate writing induction could effectively increase positive affect and decrease negative affect, in the context of an anxiously anticipated event. As predicted, self-compassionate writing was effective, above and beyond the impact of writing alone, at decreasing negative affect. Moreover, when compared to control writing, self-compassionate writing resulted in greater positive affect. Two mixed-method ANCOVAs were conducted to assess changes in affect across writing conditions, with negative and positive affect

measures as dependent variables, self-esteem as a covariate, time (pre- and post-writing) as the within-subject factor and writing condition (self-compassion vs control) as between-subject factors. Self-esteem was used as a covariate to capture the unique effects associated with affect. A significant interaction effect between time and participants' writing condition was found for both dependent variables: negative affect, F (1, 216) = 17.22, $p < .001$, $\eta p^2 = .07$, and positive affect, F (1, 217) = 36.04, $p < .001$, $\eta p^2 = .14$.

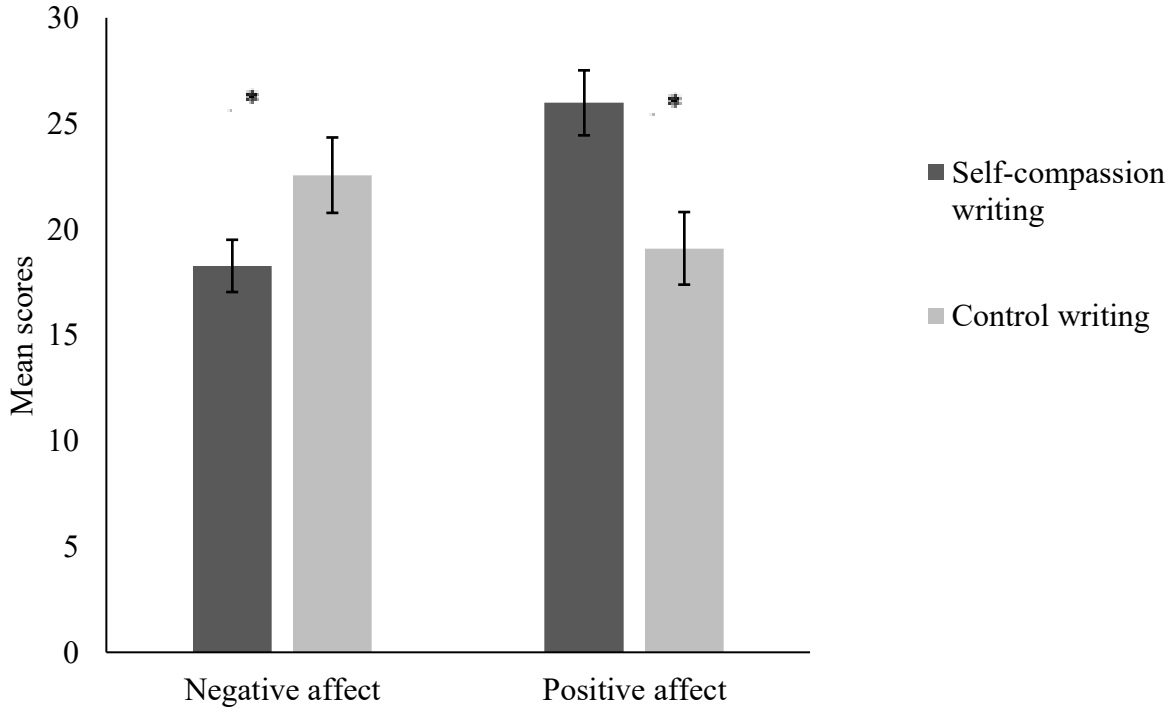
In order to decompose these interaction effects, I examined the estimated marginal means for the two groups using simple effects analysis with Bonferroni adjustment. As expected, compared to their level of negative affect prior to the self-compassion induction ($M = 24.31$), participants in the self-compassion condition reported a significant decrease in negative affect after the writing induction ($M = 18.41$), F (1, 127) = 91.36, $p < .001$, $\eta p^2 = .30$. Those in the control writing, also reported a significant change in negative affect, F (1, 88) = 6.53, $p = .011$, $\eta p^2 = .03$ from pre-writing $M = 24.26$ to post-writing $M = 22.37$. Furthermore, as expected, individuals in the self-compassion condition ($M = 18.41$) compared to those in the control condition ($M = 22.37$) had significantly lower negative affect F (1, 216) = 14.30, $p < .001$, $\eta p^2 = .06$ (see Figure 1.5).

As expected, compared to positive affect prior to the self-compassion induction ($M = 21.85$), participants in the self-compassion condition reported a significant increase in positive affect after the writing induction ($M = 25.70$), F (1, 130) = 64.68, $p < .001$, $\eta p^2 = .23$. Those in the control writing did not report a significant change in positive affect, F (1, 86) = 1.49, $p = .224$, $\eta p^2 < .01$ from pre-writing $M = 20.23$, to post-writing $M = 19.51$. Concerning whether self-compassionate writing was more effective than control writing at increasing positive affect, as expected, individuals in the self-compassion condition ($M = 25.70$) compared to those in the

control condition (M= 19.51) had significantly higher positive affect F (1, 217) = 29.73, p < .001, ηp^2 = .12 (see Figure 1.5).

Figure 1.5

Comparison of Mean Scores in Affect



Note. A comparison of marginal mean scores, by conditions, of positive and negative affect. Error bars represent 95% confidence intervals. * = p < .01.

Hypothesis 3

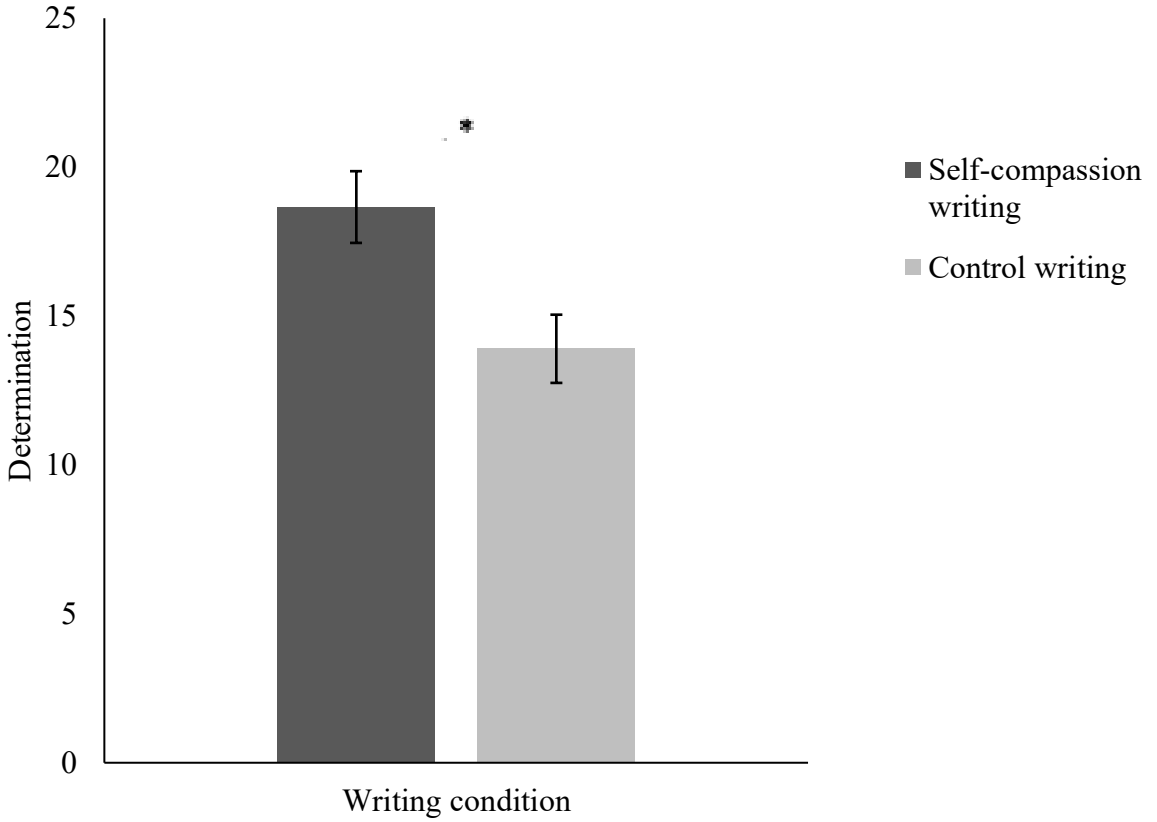
Lastly, hypothesis 3 assessed whether the self-compassion writing induction could effectively increase determination to engage in the anxiously anticipated event compared to control writing. As predicted, self-compassionate writing was effective above and beyond the impact of writing alone at increased determination. A mixed-method ANCOVA was conducted

to assess changes in determination to engage in the anticipated anxiety-inducing event across writing conditions, with determination as the dependent variable, self-esteem as a covariate, time as the within-subject factor and writing conditions (self-compassion vs control) as between-subject factors. A significant interaction effect between time and participants' writing condition was found, F (1, 221) = 40.50, $p < .001$, $\eta p^2 = .16$.

In order to decompose this interaction effect, I examined the estimated marginal means for the two groups using simple effects analysis with Bonferroni adjustment. As expected, compared to their scores prior to the induction ($M = 14.22$), participants in the self-compassion condition reported a significant increase in determination after the writing induction ($M = 18.61$), F (1, 131) = 144.24, $p < .001$, $\eta p^2 = .40$. Those in the control writing, on the other hand, reported no significant changes in determination, F (1, 89) = 2.73, $p = .100$, $\eta p^2 = .01$ with pre-writing $M = 13.25$, and post-writing $M = 13.98$. As expected, when controlling for self-esteem, individuals in the self-compassion condition ($M = 18.61$) compared to those in the control condition ($M = 13.98$) had significantly higher determination F (1, 221) = 21.49, $p < .001$, $\eta p^2 = .09$ (see Figure 1.6).

Figure 1.6

Comparison of the Mean Scores in Determination



Note. A comparison of the marginal mean scores of determination by conditions. Error bars represent 95% confidence intervals. * = $p < .01$.

Study 1 Discussion

There were two primary aims for Study 1. The first, was to examine whether imagining and describing future anxiously anticipated events was sufficient to elicit distress, and if it did, the second was to see if self-compassionate writing would be more effective than control writing in addressing that distress and increasing determination.

As previously mentioned, self-compassion is intended as a way of coping with hardships or when one experiences inadequacy (Neff, 2003a). As such, self-compassionate writing is

typically applied to distressing events or experiences. Much of the research in self-compassion has primarily examined its efficacy in managing distress associated with past negative events, with little research examining its impact on distress associated with anticipated future events. A precondition for evaluating self-compassions efficacy for improving anticipatory distress is to first be able to experimentally elicit such distress. Previous studies have found that recalling a past negative event effectively creates a negative mindset that can be responded to self-compassionately (Leary et al., 2007; Neff et al., 2021). Consequently, writing about a future anxiety-inducing event could also induce a negative mindset. The results of the current study support this idea, as participants who wrote about an anticipated anxiety-inducing event reported significantly more negative affect and less positive affect than those writing about an upcoming neutral event. Moreover, those in the anxiously anticipated condition also reported a significant decrease in positive affect and an increase in negative affect after writing about the anxiety-inducing event. These results suggest that writing about an anxiety-inducing future event is sufficient to elicit a negative mindset that could then be responded to with self-compassion.

Given the effectiveness of the anticipation induction, further analyses were conducted to examine the impact of self-compassionate writing in contrast to control writing for regulating participants' emotional response to the anticipation induction. Analysis of Study 1 first examined the impact of self-compassion writing on state self-compassion. Although previous studies have found that a brief self-compassion-based writing exercise effectively increases state self-compassion, these studies have all been based on first having participants recall a past negative event (Leary et al., 2007; Neff et al., 2021). Nevertheless, given these previous studies, it was hypothesized that self-compassionate writing would effectively increase state self-compassion even when the writing is based on an anticipated anxiety-inducing event. As predicted, self-

compassionate writing was more effective than control writing at increasing state-self-compassion, and it significantly increased state self-compassion pre-to post self-compassionate writing. Of note, both the self-compassion and control writing conditions exposed clients to their feared event. However, the impact of self-compassionate writing was significantly greater than that of control writing. Given the similar writing nature of the two conditions, the stark contrast of the conditions reveals the full magnitude of the benefits of self-compassionate focused writing.

Next, study analyses examined the impact of self-compassionate writing on mood. Consistent with previous studies (Neff et al., 2021), the current results found that those in the self-compassionate writing condition, compared to those in the control writing, reported a significant decrease in negative affect and increase in positive affect. These results suggest that self-compassionate writing based on an anxiety-inducing event is effective, above and beyond the impact of writing alone, at changing participants' perceived moods. These findings are novel and relevant to the self-compassion literature as they demonstrate that the benefits of a brief self-compassion induction are not limited to distress associated with past events but can also improve mood regarding distress about anticipated events, something that has never been examined in the self-compassion literature before.

Lastly, I examined the impact of self-compassionate writing on participants' self-reported determination to engage in their reported anxiety-inducing event. Although previous studies have found self-compassionate writing to be associated with decreased post-event processing and increased willingness to engage in future social situations (Blackie & Kocovski, 2018b), these studies used past event-based mood induction. Consequently, the present study aimed to examine whether writing about an anticipated anxiety-inducing event in a self-compassionate manner

effectively increased participants' willingness and confidence to engage in said event. As predicted, self-compassionate writing was more effective than control writing at increasing participants' reported determination to take part in the upcoming anxiety-inducing event. That is to say, participants who wrote about a feared event in a self-compassionate manner were more likely to report being willing to engage in said event despite their anxiety whereas those who wrote descriptively about their feared event were less willing to engage in it.

Limitations

Although the current results are promising, participants in this study wrote about a desired (rather than undesired) and likely familiar anxiety-inducing event and no data were collected as to whether they subsequently engaged in said event. Thus, further research is needed to examine the impact of self-compassionate writing on an undesired and unfamiliar anxiety-inducing anticipated event and how that writing might impact participation in said event. Additionally, studies have found that writing about feared activities can, by itself, positively impact anxiety (Fracalanza et al., 2014; Goldman et al., 2007). As such, the current results are limited by the absence of a no-writing control condition such that it is not possible to fully differentiate the effects of self-compassion writing from control writing. Lastly, the present study relied entirely on self-report measures. Though self-report measures have been found to be valid within samples of individuals with social anxiety (Kampmann et al., 2018), they can also be prone to biased responses (Baumeister et al., 2007). In particular, the increased self-monitoring and the tendency to perceive interactions as worse than they are, found within socially anxious populations, may result in an underestimation of capabilities and performance (Spence & Rapee, 2016). Consequently, future research needs to include observable outcomes in addition to self-report. These limitations are addressed in Study 2.

Overall, these results indicate that writing about an anticipated anxiety-inducing event in a self-compassionate manner is effective at increasing state self-compassion, determination and positive affect while also decreasing negative affect. In essence, this study supports the use of a self-compassionate writing induction based on a future-based event, a mechanism further explored in Study 2.

Study 2

Study 1 demonstrated that writing about an anticipated anxiety-inducing event in a self-compassionate manner was effective at decreasing distress associated with the event. Nevertheless, it remains unclear if self-compassionate writing specifically tailored to an upcoming feared event could help facilitate actual participation and performance in the feared event itself.

There are several ways in which self-compassion inductions may facilitate approaching and managing feared future events with less anxiety and avoidance and better results. One such factor may be through increased confidence and determination. Bandura's (1994) theory of self-efficacy posits that, individuals who are confident in their capabilities to engage in difficult tasks are more likely to be willing to engage in said tasks and less likely to avoid them. As such, increasing confidence and determination could help individuals face anxiously anticipated activities. Self-compassion may be particularly well suited to increase confidence and determination. Neff et al., (2005) found that within a sample of university students' self-compassion was positively associated with increased self-confidence and perceived competence in academically related goals. Moreover, greater self-compassion has been negatively associated with experiential avoidance and avoidance strategies and positively associated with perceived competence, reduced fear of negative evaluation, accurate self-judgment, enhances resilience,

and greater acceptance and self-forgiveness (Cândea & Szentágotai-Tătar, 2018; Leary et al., 2007; Neff et al., 2005; Smeets et al., 2014; Thompson & Waltz, 2008; Zhang & Chen, 2016). Therefore, the positive aspects of self-compassion may help individuals obtain a more balanced perspective on an anxiously anticipated event, thus resulting in a more positive self-perceptions and confidence in one's abilities.

Furthermore, self-compassion appears to allow individuals to engage in approach-oriented coping strategies (Allen & Leary, 2010). That is, it serves as a protective factor by allowing individuals to deal with threats through acceptance and cognitive restructuring (Allen & Leary, 2010; Zhang & Chen, 2016). Consistent with Neff's (2003a) view that self-compassion helps shift negative self-affect into positive self-affect, Allen and Leary (2010) posit that self-compassion involves a type of cognitive restructuring that allows individuals to reframe distressing incidents into a more positive and self-compassionate context. Bandura (1994) also suggests that individual's mood may influence their belief about their abilities to engage in feared activities. Consequently, self-compassion's positive impact on self-affect could in theory positively increase confidence and determination.

Self-compassion may also facilitate engagement in feared activities by decreasing anxiety, fear of negative evaluation and stress appraisal, all factors that impact social anxiety. Arch et al. (2016) found that a lengthier three-day self-compassion training significantly reduced state anxiety prior to a stressful task. Moreover, in a briefer state self-compassion induction, Arch et al. (2018) found that within a sample of individuals with social anxiety, a self-compassion writing induction significantly decreased state anxiety immediately after a laboratory based social stressors. Long and Neff (2018) for their part, found self-compassion to be associated with decreased fear of evaluation within a student population, and that reduced fear

allowed for greater classroom communication. Lastly, Ewert et al. (2024), found that self-compassion was associated with significantly less overall perceived stress over a month-long period in both a student-based and population-based sample. As such, there are many facets of self-compassion that can positively impact individuals prior to feared events and may subsequently positively impact engagement in said event. Nevertheless, no study to date has specifically examined if having participants write about an imminent anxiety inducing event in a self-compassionate manner can help individuals engage in said event. That is, increasing state self-compassion immediately prior to a stressful task may help reduce self-judgment and negative self-directed thinking, resulting in less fear and anxiety and a greater sense of confidence and determination.

Reduced fear and increased confidence may also enable individuals to engage in the task fully, thus not only performing better but likely perceiving themselves to have performed better after the fact. For instance, Conway (2020) found increases in state self-compassion to predict more adaptive attributions after a failure and better emotional well-being after the fact. Dundas et al. (2017) found that increases in self-compassion were associated with decreased self-judgment and negative self-directed thinking in a sample of students. Whereas Breines and Chen (2012) found that a brief self-compassion induction increased motivation to make amends, avoid transgressions, and spend more time studying after a failure, as well as increasing motivation to change perceived weaknesses. Moreover, in one of the few studies examining the impact of self-compassion on a future scenario, Leary et al. (2007) found that when they asked participants to imagine a future performance-based event in which they ruined the show, those with higher self-compassion predicted that they were less likely to catastrophize the performance, to see the failure as personal and to approach the failure with greater equanimity. Leary et al. (2007) had

participants predict how they would subsequently reflect on a hypothetical negative event in the future. Consequently, it remains unclear if increases in self-compassion would result in actual increases in positive self-perception after a real negative event. Nevertheless, for individuals with social anxiety, perceiving themselves to have succeeded in a feared task may be particularly beneficial in increasing confidence, encouraging future exposures, and reducing avoidance behaviours.

In studies that have looked at the impact of self-compassion inductions in the face of stressful situations, they have been found to be beneficial. For instance, Arch et al. (2016) found that a brief three-day self-compassion training resulted in lower salivary Alpha-Amylase and state anxiety during a stressful evaluative task, compared to attention control and no intervention control groups. Although promising, the length of the self-compassion induction used may not be accessible to many and is not conducive to everyday life during which stressful anxiety inducing situations may arise at a moment's notice. Nevertheless, brief self-compassionate writing inductions have also been found to effectively increase state self-compassion and decrease state anxiety, post-event processing and fear of evaluation, within samples of socially anxious individuals' (Arch et al., 2018; Blackie & Kocovski, 2018b; Cândea & Szentágotai-Tătar, 2018). Blackie and Kocovski (2018b) found that self-compassion after a stressful task was associated with more willingness to engage in future social communication-based scenarios such as group discussion or public speaking. Whereas Harwood and Kocovski (2017) found that participants who first recalled a past negative work event and subsequently wrote about that event in a brief self-compassionate writing task reported reduced anticipatory anxiety for an anticipated presentation. Despite these promising results, both studies had participants engage in self-compassionate writing about a past event and subsequently examined how the self-compassion

induction impacted future anticipated anxiety, leaving an apparent disconnect from the past based writing task to a future predicted outcome. Moreover, both studies examined participants' reported anticipatory anxiety for a future socially related event without evaluating whether self-compassionate writing would help participants engage with the actual feared event. Thus, it remains unclear whether engaging in a self-compassion writing induction tailored to and immediately before a stressful task would impact participants' confidence and determination to engage or their performance on the task. This study aims to address these limitations by having participants write about an upcoming anxiety inducing task in a self-compassionate manner, and subsequently engage in that task.

The combination of the findings mentioned above suggests that a brief self-compassion induction may prove particularly beneficial for individuals with social anxiety who are facing anticipated anxiety-provoking situations. As such, Study 2 aimed to evaluate how effective self-compassion is at reducing anxiety and boosting confidence in approaching and engaging in anxiety inducing tasks. That is, whether having participants write about a specific anxiously anticipated task self-compassionately helped facilitate subsequent engagement in that socially evaluative task. Moreover, the study aimed to assess whether one brief self-compassion induction and exposure had short-term impacts on symptoms associated with SAD and avoidance behaviours in general.

Given that both writing and in-vivo exposures themselves have been shown to be effective in reducing social anxiety (Fracalanza et al., 2014; Goldman et al., 2007; Hofmann & Hay, 2018; Hofmann & Otto, 2017; Kaczkurkin & Foa, 2015; Sloan & Marx, 2019) the decision was made to include two comparison conditions to self-compassionate writing. First, a neutral control writing condition following Neff et al.'s (2021) approach was used to parallel the self-

compassionate writing such that participants in both conditions wrote about the upcoming anxiously anticipated event. Only those in the self-compassion condition, however, were guided to reappraise the upcoming event with a more self-compassionate view. The parallel of the two writing conditions allowed the unique effects of self-compassionate writing to be assessed compared to the effects of neutral, descriptive writing. Second, a no writing control condition was used in which participants did both the imaginal and the in-vivo exposure without any further reflection on their anticipated fears or requirement to write about them; this condition will be referred to as the "no writing condition" going forward. A no-writing condition with exposure only allowed me to control for the effects of writing. Consequently, the focus of the current study was to compare the impact of self-compassionate writing about fears to that of (a) control writing about fears and (b) not writing about fears.

In line with the above findings, several hypotheses are put forth. First, I hypothesize that self-compassionate writing would facilitate confidence and determination to engage in a stressful task compared to control and no writing conditions. Second, self-compassionate writing would result in better objectively evaluated performance on a standardized test compared to control and no writing conditions. Third, self-compassionate writing would result in a greater subjective sense of success than control and no writing conditions. Fourth, a self-compassionate writing task would reduce social anxiety and avoidance behaviours compared to control and no writing conditions. Fifth, state self-compassion, state anxiety, fear of negative evaluation and distress will mediate the relationship between writing conditions and performance outcome measures.

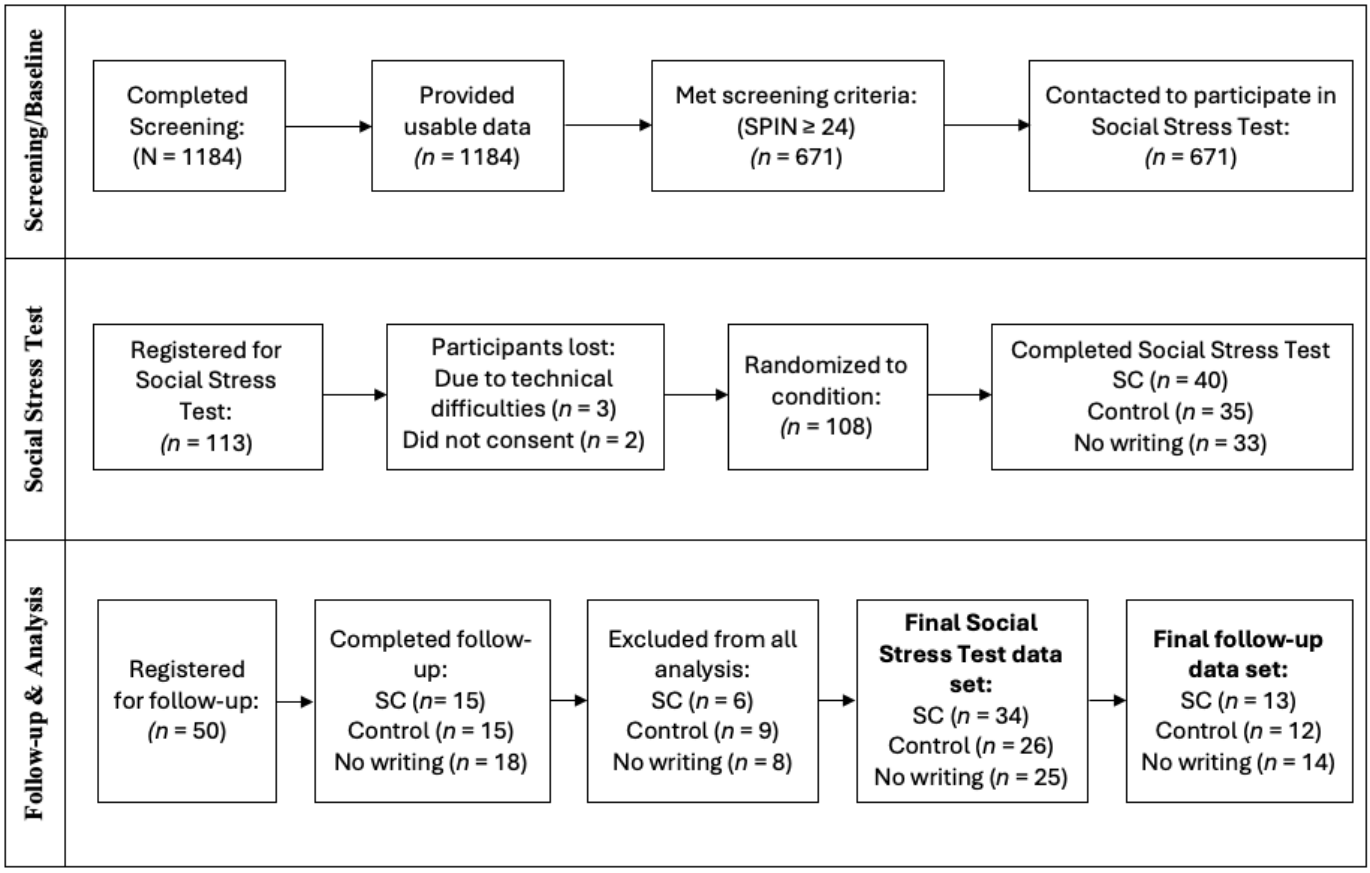
Methods

Participants

Participants in this study consisted of undergraduate students at the University of Manitoba with high levels of social anxiety registered in the Introduction Psychology course. A preliminary online self-report questionnaire was made available on SONA (an online subject pool management system) for all students in Introduction Psychology at the start of the academic school year to recruit individuals with elevated social anxiety. The questionnaires were used to screen for individuals with elevated levels of social anxiety and to gather baseline measures of trait self-compassion, self-esteem, avoidance behaviours and demographic information. Figure 2.1 illustrates the sequence of procedures used to select and test participants throughout the study. A total of 1184 participants signed up for the pre-screen questionnaire and provided baseline data. Of those, 671 scored 24 or higher on the measure of social anxiety (indicating elevated levels of social anxiety; Connor et al., 2000) and were invited to participate in the experimental component of the study. A total of 113 participants subsequently registered for the study. Three participants attended the study but were unable to participate due to technical difficulties, two did not consent to participate, and 23 were removed prior to any data analysis for failing to follow study procedures. This left 85 participants (80% female, 18% male, 2% other, 55.3% eighteen years of age, 38% white, 17% Filipino, 14% African American/Black, 63.5% English as a first language) who provided usable data. All participants who completed the experimental component of the study were invited to participate in the one-month follow-up.

Figure 2.1

Study 2 Participant Flow Chart



Note. SPIN= Social Phobia Inventory; SC = Self-compassion Writing condition

All participants received partial course credit for participating in each component of the study (i.e., pre-screen, experimental, follow-up). In addition to partial course credit, and in order to reduce attrition and encourage complete data collection at follow-up, participants who completed the experimental portion and follow-up were entered for a chance to win one of three gift cards valued at $100 each. The Office of Human Research Ethics approved all procedures of this study at the University of Manitoba.

Procedures and Measures

All components of the study were completed between September 2022 and March 2023. All study components that took place on a computer (i.e., self-report measures and writing tasks) were created and administered via Qualtrics. Participants in the pre-screen were asked to provide their email addresses so they could be contacted to participate in the subsequent experimental portion of the study. Consent to participate was obtained at each of the study's three phases: the screening/baseline phase, the experimental social stress phase and the follow-up. The procedures, measures and interventions that have not previously been described in Study 1 are described below. See Table 2.1 for a summary of the measures and procedures.

Table 2.1

Summary of Procedures, All Phases – Study 2

Phase	Measures, manipulations, interventions	Mode
Screening/Baseline	SPIN K-GSADS-A-Mod SCS RSE Demographics	Individually online via SONA and Qualtrics

Pre-Social Stress	Psychoeducation on SA TSST Instructions (Brief) Imagined poor performance Manipulation check Writing tasks (Self-compassion/Control/No writing) TSST speech instructions and selection of topic Words of encouragement 3-minute preparation STAIS-5 SFNE Stress Appraisal SSCS-S Measure of Determination Measure of Confidence	In groups of 2-4, via Zoom and Qualtrics
Social Stress	TSST-G Speech and Math tasks	In groups of 2-4 on Zoom
Post-Social Stress	MPSP SSS Manipulation check Psychoeducation about SAD Measure of determination	In groups of 2-4 via Zoom and Qualtrics

	Provision of a list of events Debrief- Partial Mental health resources	
Follow-up	SSS SCS K-GSADS Mod. SPIN Final Debriefing	Individual, online using Qualtrics

Note. SPIN = Social Phobia Inventory; K-GSADS Mod. = Modified Kutcher Generalized Social Anxiety Disorder Scale for Adolescents; SCS= Trait Self-Compassion Scale; RSE = Rosenberg Self-Esteem Scale; TSST= Trier Social Stress Test; SSCS-S = State self-compassion short; STAIS-5 = State-trait Anxiety Inventory- Short; SFNE = State Fear of Negative Evaluation; MPSP = Modified Perception of Speech Performance; SSS= Subject sense of Success; SAD= Social anxiety disorder.

Screening/Baseline Phase

At the start of the academic school year, a link to the preliminary questionnaire was made available to all students in the Introduction Psychology class via the University of Manitoba SONA system. By clicking the link, students were brought to a consent form describing the purpose of the measures (i.e., participating in this study may make you eligible for a follow-up study; see Appendix A). Participants who consented to proceed completed baseline measures of social anxiety (SPIN), trait self-compassion (SCS), self-esteem (RSE), avoidance behaviours (K-GSAD-Mod) and demographics. Measures were presented in a partially randomized order, with

demographics being presented last every time. After completing the demographic questions, participants were given the opportunity to provide their email addresses so they could be contacted for the follow-up study. Participants were informed that only those who were eligible based on the completed measures would be contacted. Participants were also informed that their email would be used to link their responses across surveys and deleted once all surveys had been merged.

Social Phobia Inventory (SPIN). See Study 1 for detailed description. The internal consistency in the SPIN for the overall sample was high (α = .93).

Self-Compassion Scale (SCS). Since 2003, self-compassion, conceived as a trait-like self-attitude, has predominantly been measured using the SCS (Neff, 2003a) to measure all components of self-compassion. The SCS is a 26-item scale designed to measure individuals' levels of trait self-compassion (Neff, 2003a). Participants are asked to reflect on how they typically act towards themselves and rate each item on a 5-point Likert scale from 1 (*almost never*) to 5 (*almost always*). The scale measures six core components of self-compassion: common humanity (e.g., "When things are going badly for me, I see the difficulties as part of life that everyone goes through"), self-kindness (e.g., "I try to be loving towards myself when I'm feeling emotional pain"), mindfulness (e.g., "When something upsets me I try to keep my emotions in balance"), 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") self-judgment (e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"), and over-identification (e.g., "When I'm feeling down I tend to obsess and fixate on everything that's wrong"). Despite consisting of six distinct core components, studies have found all six components to interact together to contribute to individuals' overall sense of self-compassion (Dreisoerner et al., 2021; Neff et al., 2018;

Phillips, 2019). Consistent with Neff et al. (2019), an overall self-compassion score was calculated by first reverse coding negative items and averaging scores across all items. Higher scores indicated high overall self-compassion. The SCS is a valid measure of overall self-compassion (Neff et al., 2019) and has been shown to have good internal reliability (α = .92; Neff, 2003a). Moreover, the SCS has also been shown to have good reliability within samples of socially anxious students, with Cronbach alphas ranging from .89 to .96 (Blackie & Kocovski, 2018a; Werner et al., 2012). The internal consistency for the SCS in the current study was excellent at baseline and follow-up (α = .91 & .95, respectively).

Rosenberg Self-Esteem Scale (RSE). See Study 1 for detailed description. The internal consistency of the RSE in the current study was good (α = .88).

Kutcher Generalized Social Anxiety Disorder Scale for Adolescents – Modified (K-GSAD-mod). The original K-GSAD-A is a clinician-rated instrument designed to assess social anxiety and avoidance in adolescents (Brooks & Kutcher, 2004). The measure consists of three distinct sections. In the first section, participants rate their level of discomfort and avoidance on 18 behaviour-related statements (e.g., "asking a stranger for directions") ranging from 0 (*never*) to 3 (*severe/total avoidance*). In section two, clinicians and participants identify the three most distressing situations, and section three measures affect and somatic distress. The original K-GSAD-A-Mod has good internal consistency (α =.96) and is sensitive to changes in avoidance (Brooks & Kutcher, 2004; Tulbure et al., 2012).

This study used a modified version of the K-GSAD-A geared towards university students. The modified K-GSAD-A (henceforth called K-GSAD-Mod.) is based on the first section of the original measure and was adapted by O'Brien (2017). O'Brien (2017) modified the measure by removing items that were less relevant to university students (e.g., "attending

overnight group activities such as camp, school trips, etc.") and adding more relevant items (e.g., "speaking with professors/instructors in your class"). The measure consists of 20 self-report items that assess individuals' distress/anxiety/discomfort and avoidance level in response to behaviour-related statements (O'Brien, 2017). Participants first rated how much distress/anxiety/discomfort they felt in response to the 20 items on a 4-point scale ranging from 1 (*never*) to 4 (*severe*), followed by how much they avoided each item, 1 (*never*) to 4 (*total avoidance*). Consequently, the K-GSAD-Mod provides two distinct measures of distress (K-GSAD-Mod-Dis) and avoidance (K-GSAD-Mod-Avo). The sum of the scores was calculated to indicate levels of distress and avoidance behaviours. Both measures of the K-GSAD-Mod have good internal consistency ($\alpha > .81$; Brais, 2020; O'Brien, 2017). The internal consistency for the K-GSAD-Mod-Dis in the current study was good at baseline and follow-up ($\alpha = .84$ & $.84$, respectively). The internal consistency for the K-GSAD-Mod-Avo in the current study was also good at baseline and follow-up ($\alpha = .83$ & $.77$, respectively).

Demographics. Participants completed demographic questions consisting of age, gender, year of university, ethnicity and spoken language.

Pre-Social Stress Phase

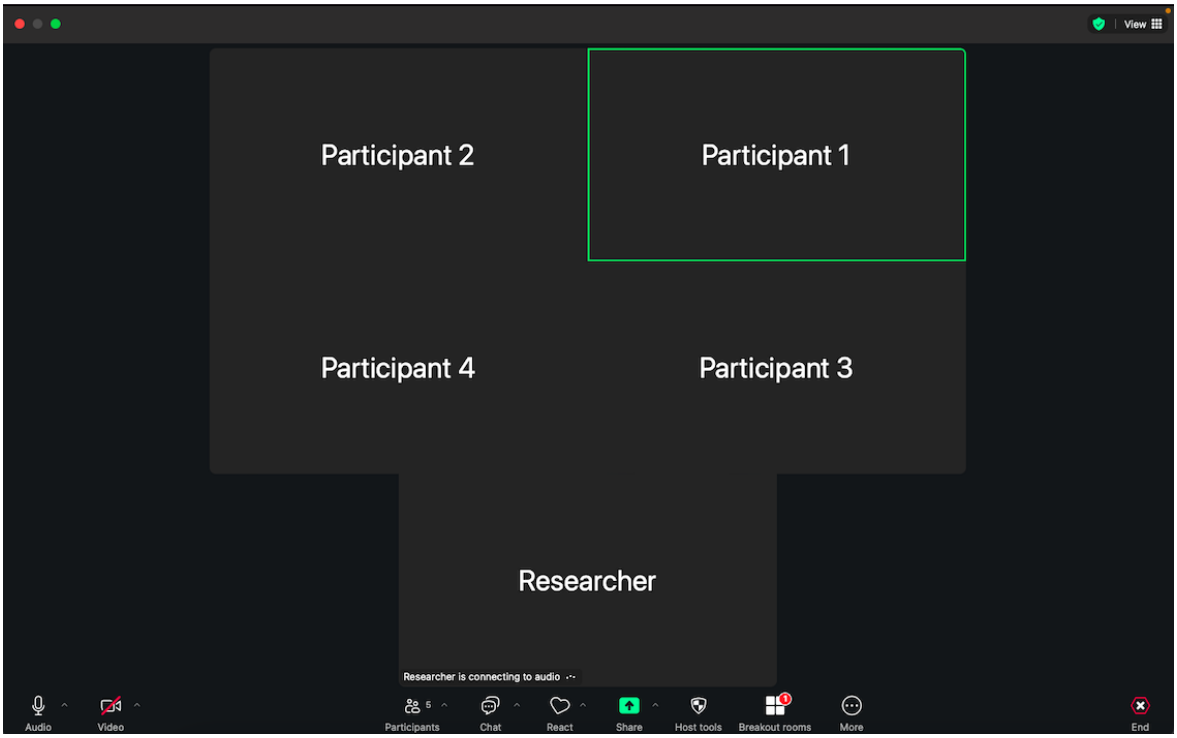
This phase occurred online via Zoom and Qualtrics approximately one to six weeks after the baseline measures. Participants who completed baseline data, scored 24 or higher on the SPIN, and consented to be contacted for a follow-up study were emailed and invited to participate in the social stress phase of the study. Participants were given an invitation code to sign up via SONA for available time slots. Up to four participants were able to sign up for the same time slot. Each Zoom session included between two and four participants. If only one

participant registered for a timeslot, they were rescheduled to another time with other participants.

Zoom Session Procedures. Throughout the study, participants were instructed to remain on Zoom and to toggle between the survey window to complete questionnaires and the Zoom window to receive instructions and complete the Trier Social Stress Test (TSST; Kirschbaum et al., 1993; see Appendix D for complete study manual). Upon joining the Zoom meeting, all participants completed a technical check to ensure that their cameras and sound were functioning and were asked to put their Zoom into the gallery mode to ensure they could see all participants and the primary investigator (see Figure 2.2). Participants were then introduced to the study (i.e., this study has three phases, you will be asked to complete questionnaires, writing exercises and a speech and arithmetic task (see Appendix D for complete introduction), and provided with the survey link. Participants were then asked to click the link, which brought them to the study consent page (see Appendix E). After providing consent, participants were provided with preliminary psychoeducation on social anxiety, the benefits of exposure and perseverance (see study manual in Appendix D).

Figure 2.2

Participant View When Joining Zoom



Note. Participants and primary investigator's (researcher) cameras were on for the study.

Imagined Poor Performance on TSST. In order to induce anticipatory anxiety towards the upcoming performance task (necessary to set the stage for the subsequent experimental evaluation of different responses to the anxiety) participants were given the following instructions regarding the TSST. "In a few minutes, you will be asked to give a 2-minute presentation and complete an arithmetic task in front of 2 judges who will evaluate your performance." All participants were then asked to engage in an imagined poor performance task by taking 5-10 minutes to imagine and write about doing so poorly on the TSST that their worst fears come true. Following written exposure guidelines, participants were instructed to write about their deepest thoughts and feelings about their worst TSST performance fears. This was done to help participants focus and immerse themselves into their worst fears regarding the

TSST. To deepen the impact of the imagined poor performance, participants were asked to write in the first person, present tense, and to describe the circumstances leading up to their performance on the task and the consequences (see Appendix F for the full instructions; Goldman et al., 2007). To ensure participants completed the imagined poor performance exercise as instructed, participants were asked to answer two manipulation check questions (I.e., "I was able to imagine and write about my thoughts and fears related to this upcoming task" and "I felt fearful of the upcoming task") on a scale from 1 (*not at all*) to 7 (*completely)*.

Assignment to Experimental Conditions. Participants were then assigned to one of three conditions: self-compassionate writing, control writing, or no writing condition.

Self-Compassionate Writing Condition. Consistent with Neff et al. (2021), participants in the self-compassion condition were then told, "we would now like to you to take part in a brief exercise to see if it is helpful in dealing with this difficult anticipated situation." Participants were then asked to reflect on and write about their thoughts and emotions, particularly uncomfortable emotions, such as feeling stressed, ashamed, sad, or anxious regarding the TSST (mindfulness), how others may share similar feelings (common humanity), and words of support/encouragement (self-kindness). Participants were informed that their responses would remain anonymous and confidential. A minimum of 100 words was required for every writing prompt in order to progress to the next segment. Upon completing the self-compassionate writing, participants were encouraged to take a moment to review and reflect on what they had written (See Appendix G for full instructions given to participants).

***Control Writing Condition*.** In the control writing condition, participants were told "we would now like to you to take part in a brief exercise to see if it is helpful in dealing with this difficult anticipated situation." Participants were then asked to respond to three prompts further

describing the anticipated event; describe what they anticipated happening in the TSST, describe who is involved and write what they believe may be said by themselves and others. Participants were informed that their responses would remain anonymous and confidential. A minimum of 100 words was required for every writing prompt in order to progress to the next segment. Upon completing the control writing, participants were encouraged to take a moment to review what they had written (See Appendix G for full instructions given to participants).

***No writing Condition*.** The no writing condition participants completed the imagined poor performance writing but were not given any further writing instructions. They completed all subsequent study measures and components, including the TSST-G. They received the same psychoeducation as the other writing conditions but did not receive any further instructions to write about the TSST in any way.

TSST Procedure and Measures. Following the writing tasks, all participants were given the final instructions for the TSST (see study manual in Appendix D for complete instructions). Participants were told they would be assigned one of four topics on which they were to prepare and present a brief presentation on in front of two judges who had been trained to pay attention to non-verbal behaviours. They were also told they would be completing a math task as the second part of the experiment. Participants were then instructed to include their name, where they are from and their program of study in university in their speech. They were informed that their speech and math task would be recorded for further evaluation on verbal and non-verbal presentation style. Participants were informed that they could decline the recording. They were then reminded of the benefits of engaging in feared activities. Participants were than randomly assigned one of four potentially controversial speech topics: capital punishment, cloning, space colonization, or religion in schools (O'Brien, 2017). Participants were then given three minutes

to mentally prepare for the upcoming task. Following the three minutes of preparation, participants in all three conditions were encouraged to apply what they wrote about throughout the study to the upcoming task (e.g., "You may also find it helpful to try and apply what you have written about today to the upcoming questionnaires and task."). Participants completed several brief stress appraisal questionnaires. Given the fragile nature of an induced psychological state (Quattrone, 1985), only brief measures were used. Measures included state social anxiety, fear of negative evaluation, self-reported distress, and a measure of state self-compassion. Participants also completed preliminary outcome measures of confidence and determination (see below for a description of all measures).

State-Trait Anxiety Inventory-Short (STAIS-5). The original Spielberger State-Trait Anxiety Inventory (STAI) consists of 40 self-report items that measure both state and trait anxiety. The measure has been used to measure both state and trait anxiety independently; as such, only the state measure of anxiety was used (Harwood & Kocovski, 2017; Zsido et al., 2020). Moreover, to attain measures quickly and to reduce the number of questions participants need to complete, only the brief 5-item version (STAIS-5) was used to assess individuals' level of state anxiety (Zsido et al., 2020). Participants are asked to reflect on how they are feeling "right now, at this very moment" and to rate five items (e.g., I feel upset) on a 4-point scale ranging from 1 (*not at all*) to 4 (*very much so*). The original STAI has good internal validity and is sensitive to changes in both state and trait anxiety (Barnes et al., 2002; Harwood & Kocovski, 2017; Spielberger et al., 1983). The STAIS-5 has been found to correlate highly with the original STAI (r = .86) and to have good reliability (α = .91; Zsido et al., 2020). The internal consistency for the STAIS-5 in the current study was acceptable (α = .70)

State Fear of Negative Evaluation (SFNE). A modified state fear of negative evaluation scale based on the Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983) was used (Brais, 2020). The original BFNE is a 12-item self-report questionnaire that measures global fear of negative evaluation (Leary, 1983). The scale was modified by removing 4 reversed scored items that have been shown to reduce the validity and reliability of the measure (Rodebaugh et al., 2004; Weeks et al., 2005). Two additional items (i.e., "sometimes I think I am too concerned with what other people think of me; When I am talking to someone, I worry about what they may be thinking about me") are removed as they do not reflect a state mindset. The modified scale consists of six self-report items, such as "I am afraid others will not approve of me." Participants were asked to reflect on the upcoming task and to rate each item on a 5-point scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). The six items were then summed for an overall score. The SFNE has been found to have good internal consistency ($\alpha >$ 91; Brais, 2020). The internal consistency for the SFNE in the current study was good ($\alpha = .84$)

Stress Appraisal – (Speech stress and Math stress). Participants were asked to rate, on a 7-point scale from 1 (*not at all*) to 7 (*extremely*), six statements regarding how stressful, difficult and threatening they expect each of the two tasks to be (e.g., "How stressful do you expect the speech task to be;" Blascovich & Tomaka, 1996; O'Brien, 2017). These items have been used in previous studies to assess threats associated with the TSST and are sensitive to change post-intervention (Blascovich & Tomaka, 1996; Creswell et al., 2005; O'Brien, 2017). The internal consistency was acceptable ($\alpha = .75$) for the speech stress questions and good for the math stress questions ($\alpha = .88$).

State Self-Compassion-Short (SSCS-S). See Study 1 for detailed description. The internal consistency of the SSCS-S in the current study was acceptable ($\alpha = .66$).

Measures of Determination and Confidence. The final measures prior to the TSST were preliminary outcome measures. A careful review of the literature found no pre-existing questionnaires that assess individuals' determination to persevere in a difficult task or their confidence in the anticipated task. As such, two separate 4-item measures were created to assess participants' determination to persevere in the task and their confidence level regarding their performance. To assess determination, participants were asked the following four questions on a scale of 0 (*not at all*) to 10 (*absolutely*)*;* 1) Would you continue with the task if your worst-case scenario came true; 2) Would fear or other unpleasant feelings cause you to avoid engaging in the task; 3) Despite elements of the task looking like your worst-case scenario, how confident are you that you will be able to succeed on the task; and 4) How confident are you that you can persist in the task even if it gets very stressful. To assess confidence, participants were asked the following four questions on a scale of 0 to 100 %: 1) I am confident that I can speak for the entire 2 minutes; 2) I am confident that I will be able to speak clearly and confidently; 3) I am confident that I will be able to look towards the camera/computer screen; and 4) I am confident that I can make it through this task with minimal fidgeting). Principal-component analyses were performed on both measures to ensure they represented a single-factor measure. Both the determination and confidence measures yielded one component with Eigenvalues > 1 each. The Measure of Determination (MoD) accounted for 55.3% of the variance in the item scores, while the Measure of Confidence (MoC) accounted for 67.9% of the variance. Accordingly, the mean of the items was used to capture MoD and MoC. In the current study, the internal consistency for determination was acceptable (α= .72) and good (α= .84) for confidence.

Social Stress Phase

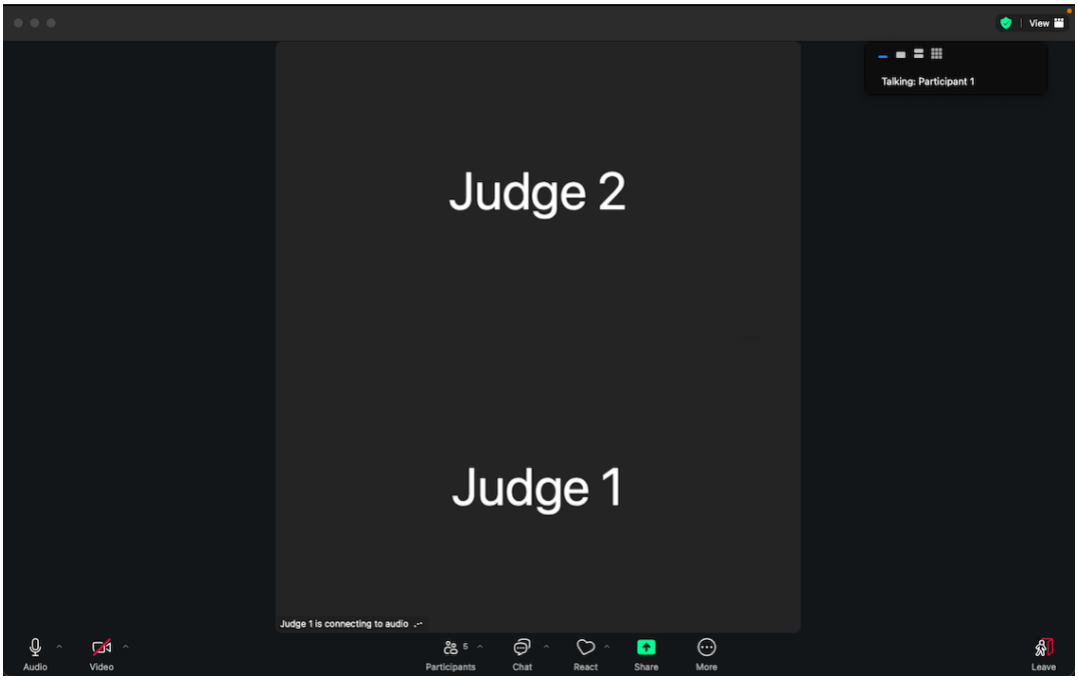
Upon completing the questionnaires and returning to the Zoom window, all participants were placed into a breakout room where two judged were waiting to complete the virtual Trier Social Stress Test -Group (TSST-G). A Zoom breakout room was used to facilitate transitioning participants from the questionnaire/instruction phases of the study to the TSST. Using a breakout room allowed the principal investigator and the judges to remain on the Zoom throughout the entirety of the study without being visible to participants until the appropriate time. Moreover, having participant join a breakout room where two judges are already present, parallels the in-person procedures of having participant go into a separate room to complete the TSST with two judges (Kirschbaum et al., 1993).

Virtual Trier Social Stress Test- Group (TSST-G). The TSST-G was used as a social evaluative threat and an exposure exercise for this study. The original TSST has been shown to be a valid and standardized method to induce stress within a lab setting (Dickerson & Kemeny, 2002; Labuschagne et al., 2019; Narvaez Linares et al., 2020). Moreover, it has also been used to assess varying stress-buffering effects such as self-affirmation, social support, and exercise (Kudielka et al., 2007; O'Brien, 2017; von Dawans et al., 2010). Online versions of the TSST have effectively induced stress and increased cortisol response in both men and women (Eagle et al., 2021; Meier et al., 2022). Additionally, the TSST-G has been shown to effectively induce stress and be more time-efficient (Childs et al., 2006; von Dawans et al., 2010). Given the effectiveness of the TSST in both virtual and group formats and due to the 2019 COVID pandemic and subsequent university protocols that were put in place to ensure participants' safety, the decision was made to complete the TSST for the present study via a virtual group format.

The TSST-G protocol for the present study was adapted from the study protocols used by O'Brien (2017) and Meier et al. (2022) (see Appendix D for the complete TSST-G protocol). The task consists of three phases: 1) introduction and preparation, 2) public speaking, and 3) a math task. In this study, participants were asked to give a two-minute speech on one of four controversial and likely anxiety-provoking topics: capital punishment, cloning, space exploration and religion in school. Participants were also told they had to perform an arithmetic task and were not provided with any further information until the start of the task. After being randomly assigned a topic, participants were given three minutes to mentally prepare. Participants were then put into a breakout room where two professionally dressed evaluators, one male and one female, were already waiting. Three separate pairs of judges were used for this study. All judges were trained to administer the TSST and evaluate participants' performance. Practice sessions were conducted with all judges to ensure consistency across parings. Participants were informed that the evaluators were trained to evaluate non-verbal behaviours. Participants were instructed to adjust their Zoom setting so that they could only see the two judges and not the other participants or themselves (see Figure 2.3).

Figure 2.3

Participants Zoom when Completing TSST



Note. Judge's cameras were on throughout the TSTT.

Judge 1 then provided participants with the final speech instructions and asked them to present in a random order. All participants were reminded that they had two minutes for their presentation. If participants stopped talking prior to the two minutes, judge 1 prompted them with, "You still have __ amount of time left." If participants stopped a second time, evaluators did not provide any more prompts, and the length of the speech was noted. Judge 1 also noted if participants remembered all components of the task (i.e., name, program of study, and where they are from). Throughout the task judge 2, rated participants on warmth and eye contact (see below for description).

After every participant had completed the speech task, judge 1 instructed participants to do the math task. Participants were asked to count backwards from a number by 13, out loud and as quickly as possible for 90 seconds. If participants made a mistake, they were asked to restart

at the original number. Given the group format of the TSST-G, all participants within a timeslot received a different starting number to prevent learning effects.

The original TSST posits that evaluators need to maintain disapproving faces and use admonishments (e.g., "keep talking; go faster") to increase stress (Kirschbaum et al., 1993). However, more recent studies have found that evaluators who maintain neutral faces and do not admonish participants are sufficient to increase stress within socially anxious populations (Crişan et al., 2016; Kudielka et al., 2007; O'Brien, 2017; Price & Anderson, 2011). As such, for this study, evaluators maintained neutral faces and did not provide any admonishing statements during the tasks.

Behavioural Performance. Participants' performance on the TSST-G was rated across five different measures: a) eye contact, b) perceived warmth/friendliness, c) mental math score, d) number of required items remembered and e) length of the speech (O'Brien, 2017). During the speech, only judge 2 provided a subjective rating of participants' eye contact on a visual analogue scale, ranging from 0 (*none/inadequate*) to 100 (*ample/excellent*). Similarly, they provided a subjective rating of participants' perceived warmth from 0 (*cool/distant*) to 100 (*warm/personable*) (see Appendix H). Given the subjective nature of this evaluation and that only one judge per pair (i.e., three coders in total) each only rated 1/3 of the participants, the principal investigator randomly evaluated a subset of participants for each judge to check consistency across judge ratings. Inter-rater reliability was assessed using a two-way mixed, consistency, average measure Interclass Correlation (ICC) for both eye contact and warmth. The ICC was excellent for eye contact and warmth, respectively (ICC = 0.95; ICC = 0.88; Hallgren, 2012). The high level of agreement across raters with the principal investigators ratings suggests that judges' ratings on warmth and eye contact were similar across all three coders. Given these

results, judges' single rating of participants' warmth and eye contact were deemed suitable for hypothesis testing.

Mental math scores were calculated by counting how many times participants were successfully able to subtract 13 from their starting number; 4878, 3850, 3842, and 4834, with different starting numbers used to prevent learning effects. At the start of each speech, judge 2 noted how many of the required items each participant remembered to include in their speech for a speech number of elements score. Lastly, although each participant was asked to talk for 2 minutes and prompted to continue the first time they stopped talking, participants who stopped a second time were allowed to stop. As such, participants' length of speech was also measured as an outcome variable.

Post-Social Stress Phase

After completing the TSST-G, participants returned to the main Zoom room and completed subjective measures of success (MSPS; SSS described below) and a manipulation check. Once all participants had completed the measures, they were provided with a review of the social anxiety psychoeducation, highlighting the benefits of exposure and drawbacks of avoidance. Participants were then given a list of possible low-cost or free social activities (on campus or in Winnipeg) that they may wish to participate in in the coming months. After reviewing the list, they were asked to complete measures of determination to engage specific to those social activities (see below). Participants were then given a partial debriefing about the purpose of the study and provided with mental health resources before leaving Zoom (see Appendix I for study debriefing).

Modified Perception of Speech Performance Questionnaire (MPSP). The MPSP is a 12-item measure designed to assess an individual's self-performance evaluation on global (e.g.,

"generally spoke well") and local (e.g., "Kept eye contact") aspects of speaking performance (Cody & Teachman, 2011). In the original MPSP, participants were asked to rate how they felt the experimenter thought they had performed based on provided feedback (Cody & Teachman, 2011). For this study, participants were asked to reflect on their speech and rate each item on a 5-point scale from 0, (*not at all*), to 4, (*very much*), based on how they felt they did, regardless of their perception of the judges. The MPSP has been shown to be a valid measure within a sample of socially anxious individuals and to be sensitive to changes in perceived performance (Cody & Teachman, 2011). The internal consistency for the MPSP in the current study was good (α = .85).

Subjective Sense of Success (SSS). In addition to the MPSP, all participants were asked to rate two items on a scale of 0 (*not at all*) to 100 (*very much*), indicating how successful they felt they were in the speech and the math tasks separately (Brown & Stopa, 2007; Shalom et al., 2015). Participants were also asked to rate the extent to which they felt they could persist in the task despite feelings of stress. Principal-component analyses were performed to ensure the three items represented a single-factor measure. Results indicated a single component with an Eigenvalue > 1. This component accounted for 59.6% of the variance in the SSS item scores. Accordingly, the mean of the items was used to capture participants' subjective sense of success. In the current study, the internal consistency of SSS was adequate (α = .66).

Measures of Determination Post TSST. Participants were asked four questions to rate their level of determination to engage in the suggested actives that were provided to them. They were first asked on a scaled of 0 (*not at all*) to 10 (*absolutely*), 1) Will you engage in these activities; 2) Would fear or other unpleasant feelings cause you to avoid engaging in the activities. The were then asked, on a scale of 0 (*not at all confident*) to 10 (*completely confident*),

3) How confident are you that you will be able to engage in these activities; and 4) How confident are you that you can persist in some of these activities even if it got stressful. Principal-component analyses were performed to ensure the measure represented a single-factor measure. The four items yielded one component with an Eigenvalue > 1. The Measure of Determination accounted for 53.95% of the variance in the item scores. Accordingly, the mean of the items was used to capture measure of determination post TSST. The internal consistency for this measure of determination was acceptable (α= .70).

Manipulation Check. To check if participants completed their assigned writing condition, participants completed a manipulation check question. Adapted from Neff et al.'s (2021) manipulation check, participants were asked, "Regarding what you wrote about your worst fears coming true during the presentation and math tasks, were you asked to: A) Write about your feelings in an accepting and validating way, consider how stress and anxiety related to the task is part of being human, write to yourself like a supportive friend; B) Write about the situation and try to figure out how to get out of it; C) Write the details of the situation, who is involved and what was said with as much detail as possible; or D) You were not asked to do any additional writing." Participants in the self-compassion condition were expected to select (a), those in the control condition (c), and those in the no writing condition (d) as a manipulation check.

Follow-up

One month after completing the social stress component of the study, participants were emailed a link to a Qualtrics survey inviting them to participate in the follow-up. Participants who chose to participate in this phase of the study completed measures of self-compassion (SCS), avoidance behaviours (K-GSAD-Mod.) and social anxiety (SPIN). Additionally,

participants were asked to reflect on their performance on the TSST-G and complete a measure of their subjective sense of success (SSS). Participants were also given the list of the low-cost or free social activities they had been provided at the end of the TSST-G and asked to indicate which events they had participated in. If participants indicated having participated in an event, they were subsequently asked to rate on a scale from 0 (*not at all*) to 10 (*totally*), how glad they were to have participated and if they regretted participating in the event. Once participants completed the questionnaires, they received a final debriefing and mental health resource (See Appendix I). Participants were then given a chance to enter their email to win one of the 3 $100 gift cards.

Attention Checks. At Baseline one attention check question was embedded in both the self-compassion and self-esteem scale respectively. At follow-up, one attention check question was embedded into the self-compassion scale. On these items, participants were asked to "please select 'almost always' on this item." Attention checks were used to assess for inattentive response patterns.

Data Preparation and Screening

Prior to data analysis, several steps were taken to ensure the quality of the data collected by removing participants who did not adhere to instructions. First, to ensure that participants wrote about their worst fear coming true in the TSST task, two research assistants were instructed to read participants' written worst case scenarios and to judge whether participants endorsed having fears/worries regarding the TSST presentation or did not endorse fears/worries in their written responses (see Appendix J). Coders' inter-rater reliability was assessed using Cohen's Kappa, with substantial agreement (k=.94) found between coders. Consequently, when both coders' judgments agreed that a participant's written responses did not align with the

instructions for writing about the upcoming task, that participant's data were removed from all analyses (n = 23).[2] Moreover, among those who did adhere to the instructions for writing about the upcoming task, their manipulation check questions, asking them to rate if they were able to imagine and write about their thoughts and fears related to the upcoming task, showed that all participants were able to imagine the upcoming task. Two participants reported no fear for the upcoming tasks, while all others reported some fear for the upcoming task on a 7-point scale. The two participants who reported no fear were retained for the study as they had indicated being able to write about the fears and worries on the first question and were rated as having written about the fears/worries by the research assistants.

Next, to ensure that those participants who were assigned to one of the two writing conditions wrote according to the instructions they were given in their experimental conditions, the research assistants, who were unaware of the participants' assigned condition, were asked to judge whether participants were assigned to the control writing, the self-compassion writing, neither condition, or both conditions based on their written responses. Coders' inter-rater reliability was assessed using Cohen's Kappa, with substantial agreement (k = .79) found between coders. All participants' written responses were found to have aligned with their assigned condition with at least one coder accurately identifying all participants' assigned condition based on their written responses.

Additionally, coders rated participants' written responses, from the self-compassionate and control writing conditions, on two items assessing their level of self-compassionate (i.e., "to what extent does the paragraph reflect self-compassionate writing) and control writing (i.e., "to

[2] Results for Study 2 did not differ even when participants who failed to write as instructed (n = 23) were retained in the analyses.

what extent does the paragraph reflect controlled writing"). Ratings ranged from 1 (*not at all*) to 7 (*extremely*). Interrater reliability was assessed via intra-class correlation using a fully crossed, two-way model (Hallgren, 2012). The intra-class correlation was excellent for self-compassion, *ICC* =.91, and control writing *ICC* = .87, suggesting that coders had a high level of agreement when judging participants' writing. The mean of the coders' scores was then used as participants' overall self-compassion or control writing score. Independent sample *t*-tests were then conducted to assess if participants wrote according to their assigned conditions. The results suggest that participants did write according to their assigned condition. Individuals in the self-compassion condition were rated as significantly higher in self-compassion on their writing ($M = 6.21$, $SD = .64$) compared to those in the control condition ($M = 1.33$, $SD = 65$), $t(58) = 29.10$, $p < .001$. Additionally, those in the control condition were rated as having objectively described the anticipated presentation ($M = 5.85$, $SD = .78$) better than those in the self-compassion condition ($M = 1.43$, $SD = .51$) $t(58) = -26.13$, $p < .001$. These results were further supported by an independent sample *t*-test assessing participants state self-compassion after the writing task. Individuals in the self-compassion writing condition reported higher state self-compassion ($M = 3.07$, $SD = .68$) compared to those in the control writing condition ($M = 2.55$, $SD = .67$), $t(58) = 3.01$, $p = .004$.

Attention check items which had been embedded into the study scales were also assessed. Four participants were found to have failed one of the attention check questions embedded within the self-compassion or self-esteem scale at baseline. An additional 3 failed the attention checks at follow-up embedded in the self-compassion scale. Participants' responses were visually inspected for any further response bias, and there was no further indication of response

bias. Given that no single participant failed more than one attention check, no participants were removed.

Lastly, after the TSST, participants were asked to indicate which writing condition they had been assigned to as a final manipulation check. Participants in all three groups appeared to struggle to accurately identify their assigned groups with a low Cohen's Kappa (k= .25; see Appendix K). Given these results and that the research assistants coding indicated that participants did write according to their assigned condition, it was decided to disregard this manipulation check. Overall, the above steps resulted in a final data set of 85 individuals: 34 in the self-compassionate writing, 26 in the control writing and 25 in the no writing condition.

A comparison of the final 85 participants with the 23 dropped participants was conducted to examine differences between those being removed and kept across baseline measures and conditions. The results show no significant differences between groups in either demographics or baseline measures; see Table 2.2 for comparisons. Moreover, participants did not significantly defer across writing conditions X^2 (2) = 1.53, p = .467, φ = .12.

Table 2.2

Comparison of Dropped vs. Kept Participants Study 2

Demographic Variables	X^2	p
Age	12.26	.344
Gender	.27	.875
Ethnicity	2.03	.154
Language	1.86	.172
Study Variables	t	p
SPIN	-.02	.987

SCS	-1.74	.084
K-GSAD-Mod- Dis	-.41	.681
K-GSAD-Mod-Avo	-.30	.767
SES	-.53	.599

Note: SPIN= Social anxiety; SCS= Trait Self-compassion; K-GSAD-Mod-Dis= Measure of distress; K-GSAD-Mod-Avo= Measure of avoidance; SES= Self-esteem.

Results

Dummy coding was used throughout the Study 2 analysis to contrast the self-compassion writing condition (coded as 0 on both code variables) with the other two conditions, where each was coded as 0 then 1 and the other condition as 1 then 0 on the two code variables. Prior to data analysis, all variables were checked for accuracy of data entry, missing values, outliers and violation of the assumptions of linear regression, including ANOVA and mediation models, namely, normality, homogeneity of variance, independence and random sampling were assessed (Field, 2017). In dealing with missing data, the goal was to retain as many participants as possible. For participants with less than 20% of their data missing, missing data were addressed using mean replacement. Two participants were found to have only one missing data point each on the baseline trait self-compassion scale, which was subsequently replaced with a mean substitution. One participant had more than 20% of their data missing on the K-GSAD-Mod measure at both baseline and follow-up and was consequently removed from all analyses involving those measures.

Univariate outliers were assessed using boxplots and a three-standard deviation cut-off. Several outliers were found across the measures of avoidance (*n=1*), confidence (*n=1*), number of correct math responses (*n=2*), and warmth (*n=1*). A visual inspection of participants' data

showed no further indication of response biases across other measures. Consequently, all scores were Winsorized to the nearest non-outlier score plus one. A visual inspection of histograms, Q-Q plots, skewness and kurtosis were conducted to ensure normality in the data. The measures of state fear of negative evaluation, speech number of elements and participants' speech length were skewed such that they violated the assumption of normality. Reflected and square root transformations normalized the measures of negative evaluation and speech time. Attempts were made to try and transform the measure of speech number of elements however, the measure continued to violate the assumption of normality. Consequently, this measure was not used in any analyses. All other values for skewness and kurtosis were smaller then 1.96 suggesting relatively normality in the date. See Tables 2.3, 2.4 and 2.5 for descriptive statistics of the study variables. The assumption of homogeneity of variance was not violated as assessed using residual score scatter plots of the dependent variable and Levene tests.

Table 2.3

Descriptive Statistics for the Study Baseline Variables

Measure	Possible Range	Actual Range	*n*	*M*	*SD*
SPIN	0-68	24-65	85	36.60	9.03
SCS	1-5	1.46-4.23	85	2.60	.62
K-GSAD-Mod- Dis	20-80	33-73	84	49.82	9.22
K-GSAD-Mod-Avo	20-80	30-73	84	47.43	9.22
SES	10-40	12-38	85	25.16	5.54

Note. SPIN= Social anxiety; SCS= Trait Self-compassion; K-GSAD-Mod-Dis= Measure of distress; K-GSAD-Mod-Avo= Measure of avoidance; SES= Self-esteem.

Table 2.4

Descriptive Statistics for the Study Outcome Variables at the Social Stress Phase

			Condition					
			Self-compassion		Control		No writing	
Outcome Variables	Possible Range	Actual Range	*M*	*SD*	*M*	*SD*	*M*	*SD*
			n =34		*n* =26		*n* =25	
MoC	0-100	1 - 83	43.98	22.44	32.78	19.27	46.95	15.75
MoD	0-10	.75 - 9.5	5.10	2.06	4.79	1.97	5.43	2.15
Eye contact rating	0-100	8 - 90	56.53	19.86	41.81	20.86	60.40	21.58
Warmth	0-100	14 - 100	63.38	16.88	64.35	19.94	61.00	25.22
Speech elements	0-3	0 - 3	1.38	1.21	1.77	1.18	1.64	1.15
Speech length (T)	0-120	52 -120	2.86	2.05	2.82	2.32	2.99	2.37
Correct math response	0-40	0 - 14	4.56	3.07	6.15	2.95	5.48	3.45
SSS	0-100	1.67-88.33	42.84	24.70	40.51	20.24	44.23	21.98
MPSP	0-4	0.25 - 3.42	1.48	.84	1.26	.61	1.72	.63
SSCS-S	1-5	1 - 4.33	3.07	.68	2.54	.67	3.29	.62
SFNE (T)	1-5	1 - 4.69	2.55	.97	2.19	.87	2.58	.74
Speech stress appraisal	1-7	1 - 7	4.41	1.38	4.62	1.17	4.16	.93
Math stress appraisal	1-7	1 - 7	4.25	1.58	4.29	1.52	3.99	1.65
STAI	5-20	6 - 20	13.26	3.14	14.96	2.60	12.96	2.99

Note. MoC= Measure of Confidence; MoD= Measure of Determination; Speech length (T)= Speech length transformed; SSS= Subject sense of Success; MPSP = Modified Perception of Speech Performance; SSCS-S = State self-compassion short; SFNE (T) = Transformed State Fear of Negative Evaluation; STAI = State-trait Anxiety Inventory- Short.

Table 2.5

Descriptive Statistics for the Study Outcome Variables at Follow Up

			Condition					
			Self-compassion		Control		No writing	
Follow up variables	Possible Range	Actual Range	*M*	*SD*	*M*	*SD*	*M*	*SD*
			n = 13		*n* = 12		*n* = 14	
SPIN	0-68	14-58	32.85	14.01	38.33	9.94	33.43	9.60
SCS	1-5	1.27-4.27	2.57	.84	2.45	.52	2.88	.74
K-GSAD-Mod- Dis	20-80	24-61	44.75	9.72	49.75	7.66	50.07	8.91
K-GSAD-Mod-Avo	20-80	29-59	47	7.73	46.92	8.93	43.93	7.26
SSS	0-100	.67-81.33	38.85	23.43	32.86	22.87	49.33	21.75

Note. SPIN = Social Phobia Inventory; SCS= Trait Self-Compassion Scale; K-GSADS Mod. = Modified Kutcher Generalized Social Anxiety Disorder Scale for Adolescents; SSS= Subject sense of Success.

Assessment of Random Assignment

ANOVAs revealed that the three groups did not significantly differ on any of the baseline's measures of self-compassion, social anxiety, avoidance, distress and self-esteem with all *p's*> .05. These results indicate that participants' random assignment to each group was successful in creating approximately equivalent groups at baselines. Given these results, none of

these variables were subsequently used as covariates. Lastly, the design of the study is such that participants' responses were independent of each other, thus meeting the assumption of independence.

Hypothesis Testing

Hypothesis 1

Hypothesis 1 examined if self-compassionate writing would facilitate confidence and determination to engage in a stressful task compared to control and no writing conditions. As predicted, higher levels of confidence were observed in the self-compassionate, relative to the control writing condition. Specifically, an ANOVA showed a significant effect of writing condition on levels of confidence, $F(2, 82) = 3.77$, $p = 0.027$, $\eta 2 = 0.08$. Planned, non-orthogonal contrasts revealed that those who wrote about the event in a self-compassionate manner (M =43.98, SD = 22.44) had higher confidence levels compared to those in the control writing (M=32.78, SD = 19.27), $t(82) = -2.18$, $p = 0.032$, d = -.57, but no significant difference in confidence compared to those in the no writing condition (M =46.95, SD = 15.75), $t(82) = .57$, $p = 0.569$, d = 0.15. Furthermore, contrary to the hypothesis, self-compassion did not have a significant effect on levels of determination compared to control writing or no writing conditions. An ANOVA showed that writing condition did not significantly affect participants' determination to engage in the TSST, $F(2, 82) = 0.62$, $p = 0.540$, $\eta 2 = 0.02$.

Hypothesis 2

Hypothesis two examined whether self-compassionate writing would result in better behavioural performance as reflected in greater eye contact, higher warmth ratings, more correct math responses and greater speech length, on the TSST compared to control and no writing conditions. As predicted greater eye contact was observed in the self-compassionate, relative to

the control writing, condition. Specifically, an ANOVA showed a significant effect of writing condition on levels of eye contact (see Table 2.6). Planned, non-orthogonal contrasts with revealed that those who wrote about the event in a self-compassionate manner had greater eye contact compared to those in the control writing $t(82) = -2.73$, $p = 0.008$, d = -.71, but no significant difference compared to the no writing condition $t(82) = .72$, $p = 0.481$, d = 0.19. Furthermore, contrary to the hypothesis, self-compassion did not have a significant effect on warmth ratings, correct math responses and length of speech compared to control writing or no writing conditions. Means, standard deviations, *F* scores, *p* values and effect sizes for behavioural performance outcomes measures are shown in Table 2.6.

Hypothesis 3

Hypothesis three examined if self-compassionate writing would result in a greater subjective sense of success than control and no writing conditions immediately after the TSST and at a one-month follow-up. Contrary to expectations, participants' writing condition had no effect on their perception of how they did on the TSST (MPSP) or their subjective sense of success immediately after the TSST or at a one-month follow-up. Results from the ANOVAs with non-orthogonal planned contrasts are presented in Table 2.6.

Table 2.6

Means (Standard Deviations) and Effect of Condition for Behaviour Performance variables and subjective sense of success

Outcome variables	Self-compassion *M (SD)*	Control *M (SD)*	No writing *M (SD)*	*F*	*p*	η^2
Eye contact rating	56.53 (19.86)$_a$	41.81 (20.86)$_b$	60.44 (21.58)$_a$	5.92	.004	.13
Warmth rating	63.38 (16.88)	64.35 (19.94)	61.00 (25.22)	0.18	.836	.00
Correct Math response	4.56 (3.07)	6.15 (2.95)	5.48 (3.45)	1.94	.151	.05
Speech length (transformed)	2.86 (2.05)	2.82 (2.32)	2.99 (2.37)	0.04	.962	.00
MPSP	1.48 (.84)	1.26 (.61)	1.72 (.63)	2.63	.078	.06
Subjective sense of success (post TSST)	42.84 (24.70)	40.51 (20.24)	44.23 (21.98)	0.17	.835	.00
Subjective sense of success (follow-up)	38.85 (23.43)	32.86 (22.87)	49.33 (23.12)	1.78	.184	.09

Note. Means with different subscripts than the self-compassion condition were significant at the $p = .05$ level.

Hypothesis 4

Hypothesis four examined if the brief self-compassion induction would reduce social anxiety and avoidance behaviours at follow-up compared to control and no writing conditions. Overall and contrary to expectations no benefits of self-compassionate writing relative to control writing or no writing were found. Specifically, an ANOVA showed no significant effect of condition on levels of social anxiety at follow-up, $F(2, 36) = 0.88$, $p = .426$, $\eta 2 = 0.05$. Avoidance behaviours were assessed with two separate measures, the K-GSAD-Mod-Avo and by examining the number of events participants reported engaging in throughout the month.

Contrary to expectations, no significant effect of writing conditions was found for either the K-GSAD-Mod-Avo, $F(2, 35) = .64$, $p = 0.533$, $\eta 2 = 0.04$ or the number of events attended, $F(2, 36) = 0.13$, $p = 0.878$, $\eta 2 = 0.01$.

Hypothesis 5

Mediation analyses were conducted using the PROCESS procedure for SPSS Version 4.2 (Hayes, 2022) to examine the hypothesized indirect effects of condition on performance outcomes via third variables: state self-compassion, self-reported speech and math distress, fear of negative evaluation and state anxiety. Six separate mediation analyses were performed, each examining a specific performance outcome measure: eye contact, warmth, correct math response, speech length, participants' perception of how they did on the TSST (MPSP) and their subjective sense of success (SSS) immediately after the TSST. Parallel mediation analysis was used in which all mediators were entered into the model simultaneously. Bootstrap samples (10000) were used to calculate 95% confidence intervals (CI). As per Hayes (2022) and Field (2017), if the parameter of the CI includes 0, then the indirect effect is not supported. Across all six mediation models, no relative indirect effects for self-compassion vs control and self-compassion vs no writing were found for any of the mediation variables (see Table 2.7).

Table 2.7

Indirect Effects of Conditions Through Mediating Variables on Behaviour Performance Variables

Outcomes Variables		Mediators									
		SSCS-S		SpeDis		MaDis		SFNE		STAI	
		IE	95% *CI*	*IE*	95% *CI*	IE	95% *CI*	*IE*	95% *CI*	*IE*	95% *CI*
Eye contact	SC Vs. Ctrl	-1.02	[-6.08, 3.95]	-.67	[-3.91, 1.96]	.15	[-2.50, 3.22]	-1.71	[-4.69, .67]	1.22	[-2.68, 6.74]
	SC Vs. Expo	.41	[-1.72, 3.53]	.83	[-1.29, 4.45]	-.79	[-3.73, 2.21]	.14	[-1.99, 3.00]	-.22	[-3.12, 1.89]
Warmth	SC Vs. Ctrl	-1.23	[-6.67, 2.96]	-1.21	[-6.08, 2.42]	.07	[-1.40, 1.91]	.46	[-1.38, 3.29]	1.91	[-2.68, 8.14]
	SC Vs. Expo	.50	[-1.37, 3.69]	1.50	[-2.10, 6.02]	-.34	[-2.39, 1.49]	-.04	[-1.30, 1.54]	-.34	[-3.57, 2.58]
Correct Math	SC Vs. Ctrl	.37	[-.33, 1.21]	-.06	[-.56, .24]	-.01	[-.36, .35]	.16	[-.17, .67]	-.26	[-1.15, .38]
	SC Vs. Expo	-.15	[-.77, .14]	.07	[-.26, .54]	.08	[-.23, .56]	-.01	[-.35, .26]	.05	[-.33, .61]
Speech Length	SC Vs. Ctrl	.37	[-.33, 1.21]	-.06	[-.56, .24]	-.01	[-.36, .35]	.16	[-.17, .67]	-.26	[-1.15, .38]
	SC Vs. Expo	-.15	[-.77, .14]	.07	[-.26, .52]	.08	[-.23, .56]	-.01	[-.35, .26]	.05	[-.33, .61]
MPSP	SC Vs. Ctrl	-.08	[-.26, .06]	-.02	[-.18, .05]	.00	[-.04, .06]	-.03	[-.17, .05]	-.05	[-.23, .10]
	SC Vs. Expo	.03	[-.03, .16]	.03	[-.07, .14]	-.01	[-.07, .06]	.00	[-.07, .06]	.01	[-.08, .11]
SSS	SC Vs. Ctrl	-1.65	[-6.75, 2.99]	.37	[-2.53, 3.02]	-.08	[-2.08, 2.11]	-.22	[-3.60, 1.98]	-2.38	[-8.40, 2.34]
	SC Vs. Expo	.67	[-1.41, 3.66]	-.46	[-4.38. 1.41]	.41	[-1.26, 3.68]	.02	[-1.66, 1.32]	.43	[-2.28, 4.86]

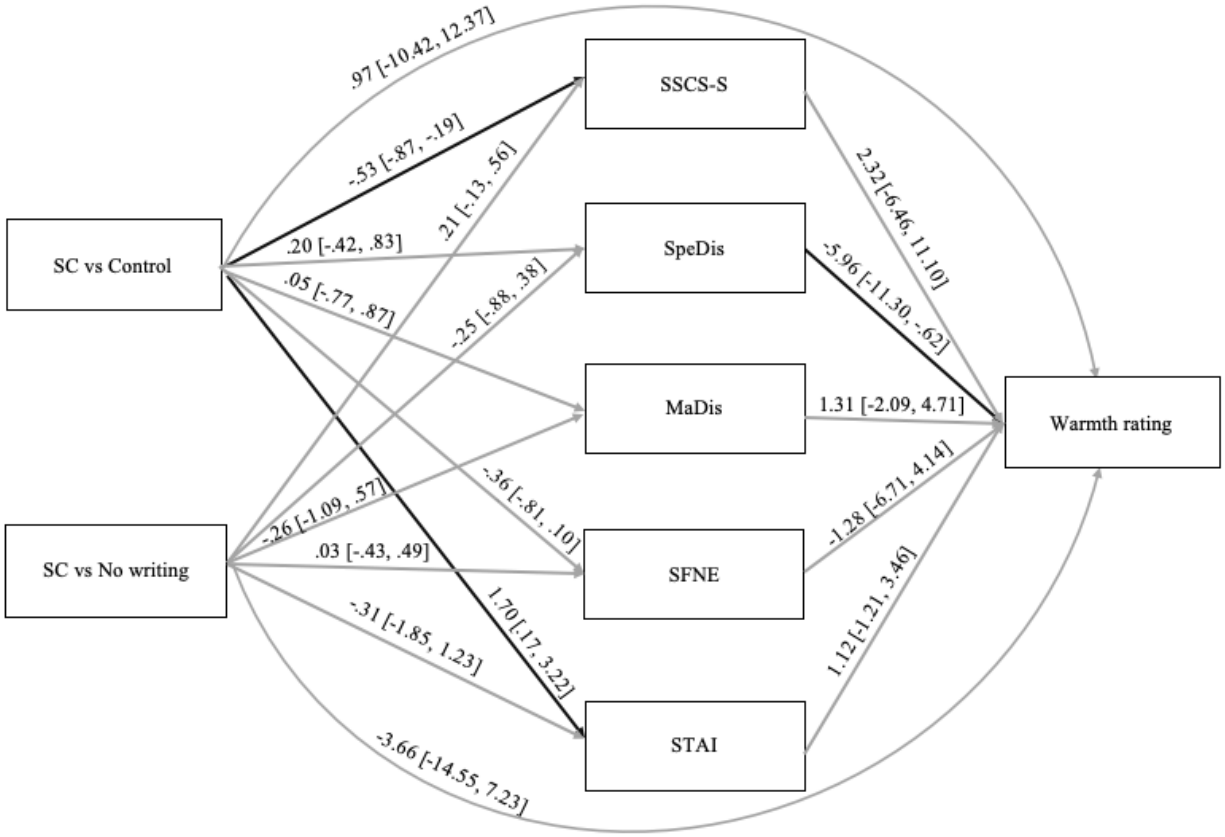
Notes. PROCESS (Hayes, 2022) a bootstrapping computational model using 10000 bootstrap samples. IE= Indirect effect; SC= Self-compassionate writing condition; SSCS-S= State Self-Compassion Scale; SpeDis =

Speech related distress; MaDis = Math related distress; SFNE = State Fear of Negative Evaluation; STAI = State Anxiety; MPSP = Modified Perception of Speech Performance; SSS= Subject sense of Success.

Nevertheless, some results of interest were found when specific paths in the above models were examined. First, regarding the paths from each of the two contrasts (SC versus Control writing and SC versus no writing) to the mediator, results indicated that self-compassionate writing resulted in significantly higher state self-compassion compared to control writing ($t(82) = -3.08$, $p = .003$, $r = .32$) but not compared to no writing ($t(82) = 1.23$, $p = .224$, $r = .13$). Similarly, self-compassionate writing resulted in significantly lower state anxiety compared to control writing ($t(82) = 2.22$, $p = .029$, $r = .24$) but not compared to no writing ($t(82) = -.39$, $p = .695$, $r = .04$). Moreover, in the portion of the model examining the mediators' impact on the dependent variable(s), results showed that participants' level of speech distress was negatively associated with warmth rating such that participants in the same condition that differ by one unit on speech distress will differ by -5.96 units on warmth ratings $t(77) = -2.22$, $p = .029$, $r = .25$. See Figure 2.4 for an example of the mediation model with warmth as the outcome variable. For the mediator state fear of negative evaluation, a negative association was found with length of speech such that participants in the same condition that differ by one unit on the state fear of negative evaluation measure will differ by -.63 units on speech length $t(77) = -2.17$, $p = .033$, $r = .24$. No other mediators were found to predict change in outcomes variables across any of the other models.

Figure 2.4

Mediation Model Mediating the Effect of Writing Condition on Warmth Ratings



Notes. Group coding: Self-compassion = 0; all other conditions = 1. Unstandardized betas are presented with 95% CIs. Bold lines represent statistically significant ($p < .05$) specified paths, and grey lines represent not statistically significant paths ($p < .05$). SSCS-S= State Self-Compassion Scale; SpeDis = Speech related distress; MaDis = Math related distress; SFNE = State Fear of Negative Evaluation; STAI = State Anxiety.

Exploratory Analyses

Given the limited impact of writing conditions on outcome variables, several exploratory analyses were conducted to gain a better understanding of the results. Due to the large number of un-hypothesized analyses being conducted in an exploratory fashion, results must be interpreted

with caution and be replicated. The purpose of these analyses is to better understand some of the underlying mechanisms that may have contributed to the limited impact of the self-compassionate writing exercise found in this study.

Mediation analyses

First, mediation analyses were conducted to examine the indirect effects of condition on performance outcomes via state self-compassion and state anxiety separately. Although both of these mediators were included in the parallel mediation conducted for Hypothesis 5, it is possible that, given the large number of correlated parallel mediators, their effects were suppressed, or the model lacked sufficient power to detect an effect even if one existed. The decision was made to examine only state self-compassion and state anxiety, as they were the only two mediators to vary within conditions in hypothesis 5. Also, state self-compassion is of particular interest as a focal mediation analysis may indicate whether between group differences on outcomes were due in part to their differential effects on state self-compassion, a key element in the overall hypothesized causal chain.

For each mediator six separate mediation analyses were performed, each examining a specific performance outcome measure: eye contact, warmth, correct math response, speech length, participants' perception of how they did on the TSST (MPSP) and their subjective sense of success (SSS), immediately after the TSST. Bootstrap samples (10000) were used to calculate 95% confidence intervals (CI). As per Hayes (2022) and Field (2017), if the parameter of the CI excludes 0, then the indirect effect is supported.

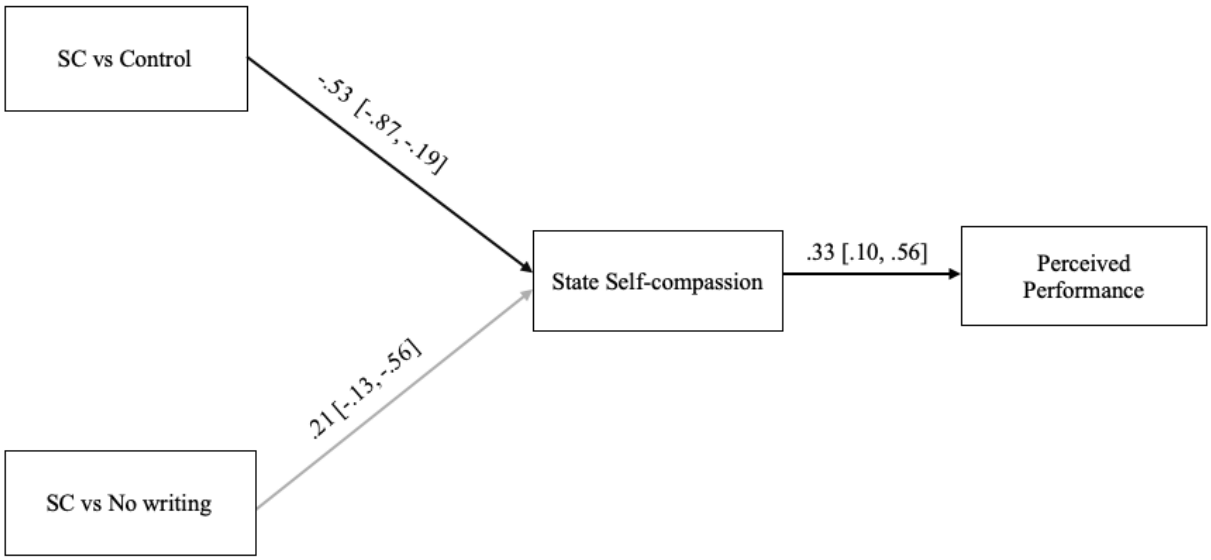
The analyses indicated that one of the two comparisons of experimental conditions, namely the contrast between the two writing conditions (i.e., self-compassion versus control writing) indirectly influenced two of the outcome variables, namely participants' perception of

their task performance and their subjective sense of success, through its effect on state self-compassion. Because a similar pattern of effects was found on participants' perception and subjective sense of success, for the sake of brevity only the results for participants' perception are presented here (mediation results for subjective sense of success are presented in Appendix L).

As shown in Figure 2.5, participants who wrote descriptively about their task-related worries reported less state self-compassion than those who wrote self-compassionately about their worries (-0.53) and participants who had higher state self-compassion evaluated their performance on the task more positively (0.33). The 95% bootstrap confidence interval for the indirect effect (-.17) based on 10,000 samples was entirely below zero (-.04, to -.36). There was no indirect effect of experimental condition on perception of task performance when the no writing condition was contrasted with the self-compassionate writing condition (.07, 95% CI [-.04, .21]). Finally, there was no evidence that the difference between the two writing conditions influenced perception of task performance independent of its effect on state self-compassion (-.04, p = .823).

Figure 2.5

Mediation Model of State Self-compassion Mediating the Effect of Writing Condition on Perceived Performance



Notes. Group coding: Self-compassion = 0; all other conditions = 1. Unstandardized betas are presented with 95% *CI*s. Bold lines represent statistically significant ($p < .05$) specified paths, and grey lines represent not statistically significant paths ($p < .05$).

Similar results were found when state anxiety's role as a mediator was examined. A relative indirect effect of writing condition on participants' perception of how they performed through state anxiety was observed. The relative indirect effect from the contrast of self-compassion vs control writing was supported (indirect effect = -.14, 95% CI [-.30, -.01]), such that compared to control writing, those in the self-compassion condition had lower self-reported state anxiety, and those with lower state anxiety reported higher perceived performance. There was no evidence that the difference between the two writing conditions affected perception of task performance independent of its effect on state anxiety (-.08, *p* .660). However, these results only account for part of the difference between groups on perceived performance as the indirect

effect of self-compassion vs. no writing was not supported (indirect effect = .02, 95% CI [.11, .16]).

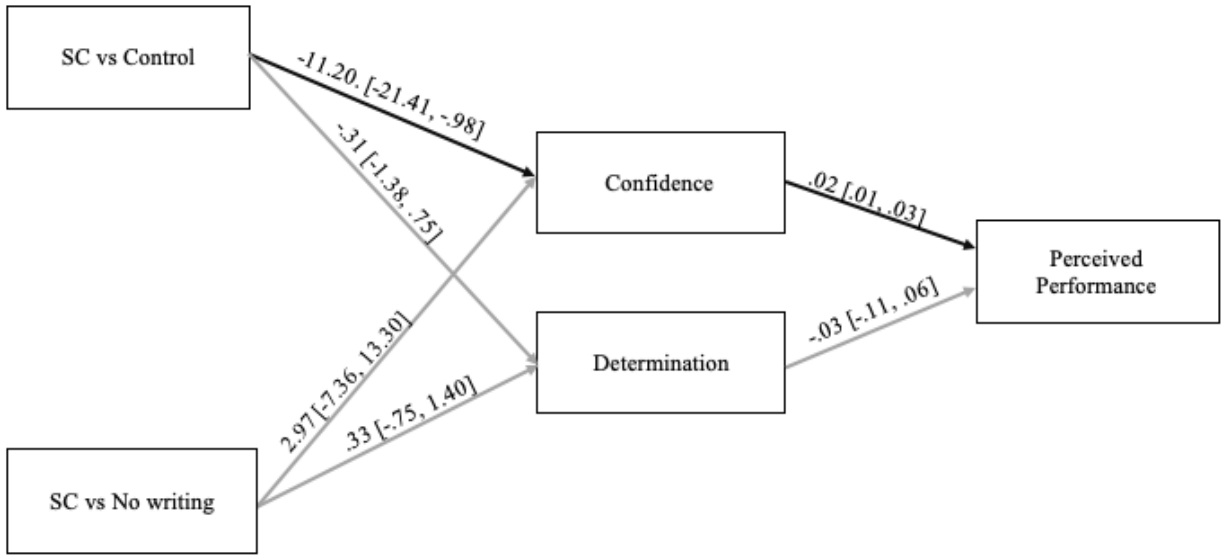
No relative indirect effects of state self-compassion or state anxiety for self-compassion vs control and self-compassion vs no writing were found for the outcome variables, eye contact, warmth, math score and speech length. Moreover, no relative indirect effect of state anxiety for all writing conditions were found for subjective sense of success.

Next, mediation analyses were conducted to examine the indirect effects of condition on performance outcomes via confidence and determination. Six separate mediation analyses were performed, each examining a specific performance outcome measure: eye contact, warmth, correct math response, speech length, participants' perception of how they did on the TSST (MPSP) and their subjective sense of success (SSS) immediately after the TSST. Parallel processing mediation analysis was used in which both mediators were entered into the model simultaneously. Bootstrap samples (10000) were used to calculate 95% confidence intervals (CI). As per Hayes (2022) and Field (2017), if the parameter of the CI includes 0, then the indirect effect is not supported. Relative indirect effects of writing condition on participants' perception of how they performed through confidence were partially supported (see Figure 2.6). The relative indirect effect of self-compassion vs control writing was supported (indirect effect = -.25, 95% CI [-.61, -.02]), such that compared to control writing, those in the self-compassion condition had greater confidence which subsequently predicted greater perceived performance. However, these results only account for part of the difference between groups on perceived performance as the indirect effect of self-compassion vs. no writing was not supported (indirect effect = .07, 95% CI [-.17, .30]). Moreover, determination was also not found to mediate the relationship between writing condition and perceived performance. Confidence, however, was

positively associated with perceived performance, such that participants in the same condition who differ by one unit in confidence will differ by .02 unit on perceived performance ($t(80) = 5.07$, $p < .001$, $r = .49$). No relative indirect effects of confidence or determination for self-compassion vs control and self-compassion vs no writing were found for the outcome variables, eye contact, warmth, math score, speech length and subjective sense of success, and so results are not presented here.

Figure 2.6

Mediation Model Mediating the Effect of Writing Condition on Perceived Performance



Notes. Group coding: Self-compassion = 0; all other conditions = 1. Unstandardized betas are presented with 95% *CI*s. Bold lines represent statistically significant ($p < .05$) specified paths, and grey lines represent not statistically significant paths ($p < .05$).

Determination and Trait Self-compassion Analyses

Two ANOVAs were conducted to examine the impact of writing conditions on measures of determination post-TSST and trait self-compassion at follow-up. Writing conditions did not significantly affect participants' determination to engage in future events, $F(2, 82) = 0.42$, $p =$

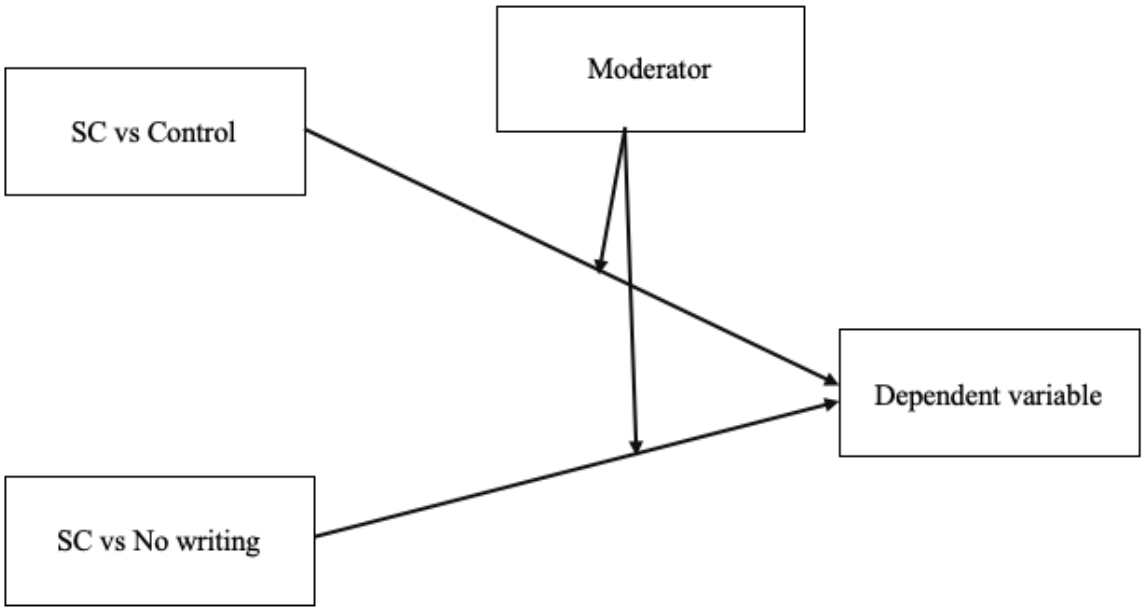
0.656, η2 = 0.01. Moreover, results indicate that writing condition did not significantly impact participants' levels of trait self-compassion at follow-up, $F(2, 36) = 1.27$, $p = 0.294$, η2 = 0.07.

Moderation Analyses

Lastly, moderation analyses were conducted to assess the impact of third variables, namely trait self-compassion, trait social anxiety and self-reported fear of the upcoming task, on the relationship between writing condition and several outcome measures (i.e., eye contact, warmth, math score, speech length, MPSP, SSS, state self-compassion, state anxiety and fear of negative evaluation). Each moderation model consisted of one moderator and one outcome variable (see Figure 2.7 for the conceptual diagram), resulting in 33 moderation analyses. The goal of the moderation analyses was to identify potential relationships between variables that may be important to confirm in future research. Given the large number of moderation analyses conducted, only significant or near-significant results are reported when trait self-compassion and self-reported fear are used as moderators. The decision was made to include near-significant results given the exploratory nature of these analyses. Of note, trait social anxiety was not found to moderate any of the relationships between writing condition and outcomes, and so no results are presented here for those moderation models.

Figure 2.7

Theoretical Moderation Model



Trait Self-compassion. A moderation analysis examined the influence of writing condition and trait self-compassion, as measured at baseline, on participants' determination. First, the overall moderation model was examined to assess for an interaction effect. Results indicate that participants' trait self-compassion did moderate the effect of writing condition on determination, $F(79, 2) = 3.50$, $p = .035$, $R^2 = .07$. That is to say, the impact of being in the control writing condition relative to self-compassion writing condition is an increase of 2.07 units of determination with each increase of 1 unit in trait self-compassion, $b = 2.07$, $t(79) = .2.17$, $p = .033$. Similarly, the impact of being in the no writing condition relative to the self-compassion writing condition is an increase of 1.62 units of determination with each increase of

1 unit in trait self-compassion, b= 1.62, $t(79) = 2.06$, $p = .043$. The interaction effect was then further investigated using trait self-compassion mean and +-1 SD (as represented on the X-axis of Figure 2.8). This was done to better understand the interaction by examining the moderation effect at relatively low, moderate and high levels of trait self-compassion. Despite the significant interaction effects found above, omnibus F-tests found no significant difference between groups at any of the three levels of the moderator: relatively low: $F(2, 79) = 1.94$, $p = .149$, moderate: $F(2, 79) = .01$, $p = .965$ and relatively high: $F(2, 79) = 1.73$, $p = .178$ (see Figure 2.8). Consequently, a Johnson-Neyman analysis was conducted to identify where participants significantly differ. Results indicate that self-compassionate writing and control writing were significantly different only at high levels of trait self-compassion (scores of 4.04 or higher; $t(79) = -2.0$, $p = .050$). Moreover, the Johnson-Neyman approach did not find any significant differences between self-compassion writing and no writing, thus suggesting that any potential interaction would fall outside of the scope of the trait self-compassion measure.

Figure 2.8

Moderating Effect of Trait Self-compassion on Writing Condition and Determination

Self-reported Fear. Significant moderation effects were also found when participants' self-reported fear of the upcoming task was used as a moderator variable. Participants' self-reported fear of the described event was initially assessed as a manipulation check completed immediately after the written exposure. Participants were asked to rate on a 7 point-scale how fearful they felt about the upcoming task. Participants' single rating was used as the moderator variable to examine if levels of fear impacted the effect of writing conditions. Interaction effects were found on participants' confidence, determination, and perceived performance on the TSST (MPSP). Moreover, an interaction effect was also found with fear moderating the effect of writing condition on participants' state self-compassion, anxiety and fear of negative evaluation immediately prior to the TSST.

Similar patterns were found across confidence, determination and perceived performance (see Figures 2.9-2.11); as such only results for the confidence moderations are presented here. Results indicate that participants' fear of the upcoming task did moderate the effect of writing

condition on confidence, $F(77, 2) = 4.90$, $p = .009$, $R^2 = .10$. That is, the effects of control writing compared to self-compassion writing differs by 6.40 units between two participants who differ by one unit in fear, $b = 6.40$, $t(77) = 1.93$, $p = .056$. Similarly, the effect of no writing compared to self-compassion writing differs by 10.01 units between participants who differ by one unit in fear, $b = 10.01$, $t(77) = 3.06$, $p = .003$. The interaction effect was then further investigated, using the mean of fear and +/-1 SD (as represented on the X-axis of Figures 2.9-2.14), to better understand the interaction be examining the moderation effect at relatively low, moderate and high levels of trait self-compassion. See Figure 2.9 for a visual representation of the interaction effects. Results indicate that at low and moderate levels of fear, self-compassion writing significantly improved confidence compared to control writing (low: $b = -20.01$, $t(77) = -2.70$, $p = .009$; moderate: $b = -10.37$, $t(77) = -2.13$, $p = .037$). However, at high levels of fear for the upcoming task self-compassionate writing was no more effective than control writing ($b = -73$, $t(77) = -.11$, $p = .910$). In contrast, self-compassionate writing was no more effective than no writing at low and moderate levels of fear (low: $b = -11.89$, $t(77) = -1.80$, $p = .076$; moderate: $b = 3.19$, $t(77) = .64$, $p = .522$) and significant less effective than no writing at high levels of fear ($b = 18.28$, $t(77) = 2.48$, $p = .015$). As such, self-compassionate writing appears most beneficial for those with lower fear for the upcoming task however, as fear of the task increases the benefits of self-compassionate writing decrease and become no more effective than control writing and significant less effective than no writing.

Figure 2.9

Moderating Effect of Fear on Writing Condition and Confidence

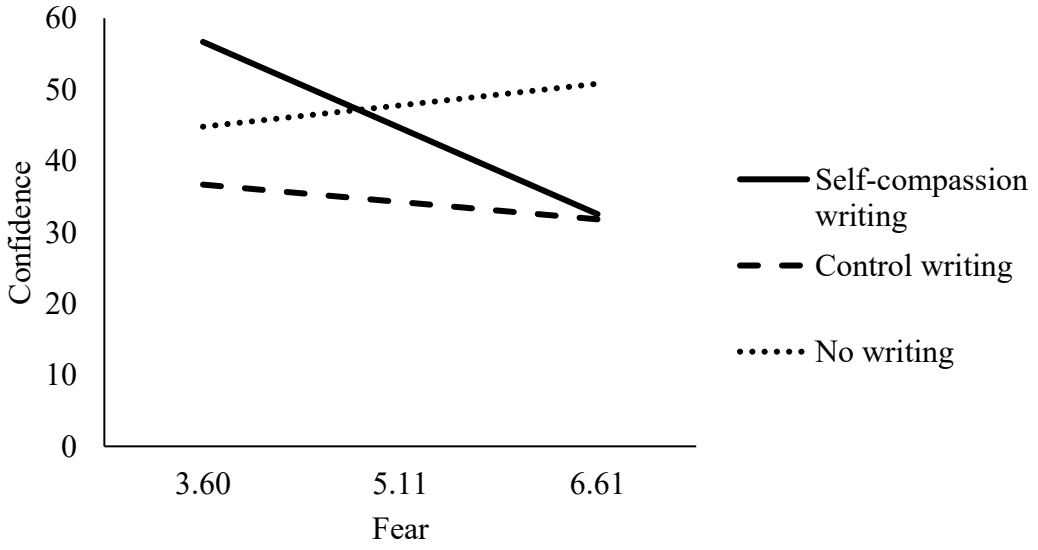


Figure 2.10

Moderating Effect of Fear on Writing Condition and Determination

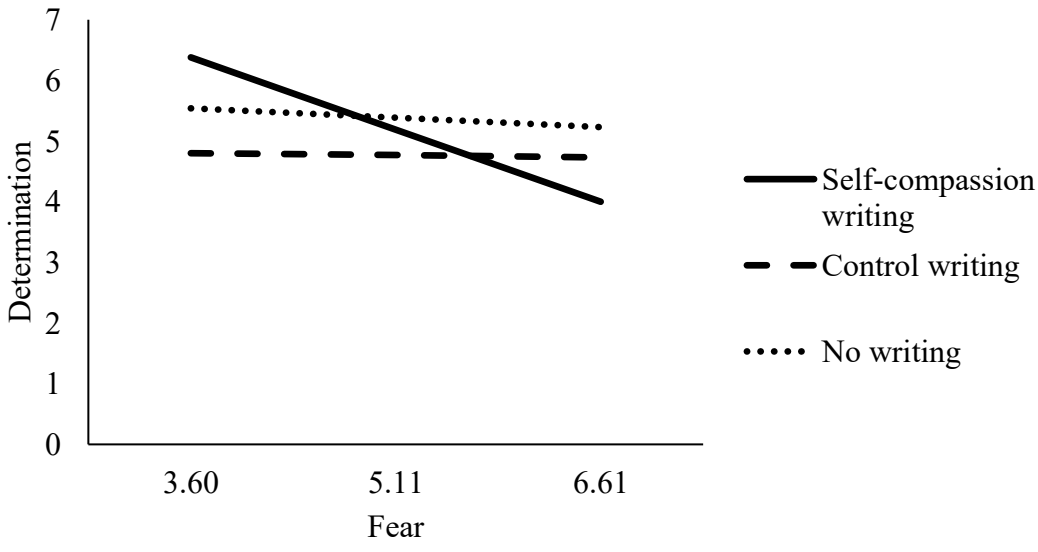
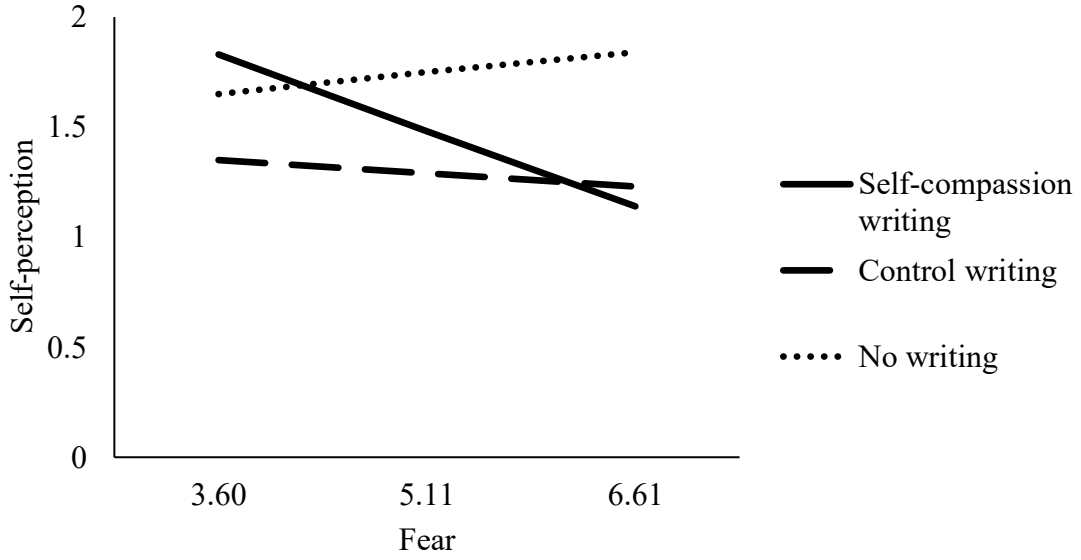


Figure 2.11

Moderating Effect of Fear on Writing Condition and Self-perception



Lastly, moderation analyses were used to examine the influence of writing condition and fear on participants' state self-compassion, state anxiety and fear of evaluation prior to the TSST and whether fear moderated the relationship between writing condition and the dependent variables. Similar patterns were found for all three outcome variables (see Figures 2.12-2.14); as such only results for state anxiety moderation are presented here. Results indicate that participants' fear of the upcoming task did moderate the effect of writing condition on state anxiety, $F(77, 2) = 3.98$, $p = .023$, $R^2 = .07$. The effects of control writing compared to self-compassion writing differs by -1.28 units between two participants who differ by one unit in fear, $b = -1.28$, $t(77) = -2.82$, $p = .006$. The interaction effect of self-compassion vs no writing however was not significant $b = -.55$, $t(77) = -1.22$, $p = .226$. The interaction effect was than further investigated, using the mean of fear and +-1 SD, to better understand the interaction at relatively low, moderate and high levels of fear. Results indicate that at low and moderate levels

of fear, participants in the self-compassion writing had significantly lower state anxiety compared to control writing (low: b= 3.52, t(77) = 3.47, p = .001; moderate: b= 1.60, t(77) = 2.40, p = .019) but not compared to no writing (low: b= 1.04, t(77) = 1.15, p = .253; moderate: b= .22, t(77) = .32, p = .750). However, at high levels of fear for the upcoming task self-compassionate writing was no more effective than control writing (b= -.32, t(77) = -.36, p = .717) and no writing (b= -.61, t(77) = -.60, p = .550). The pattern of self-compassionate writing becoming increasingly similar in its effects on outcomes to control writing was also found for state self-compassion and fear of negative evaluation. Consequently, self-compassionate writing appears most beneficial for those with lower levels of fear for the upcoming task; however, as fear of the task increases, the benefits of self-compassionate writing decrease and become no more effective than control writing and no writing.

Figure 2.12

Moderating Effect of Fear on Writing Condition and State Anxiety

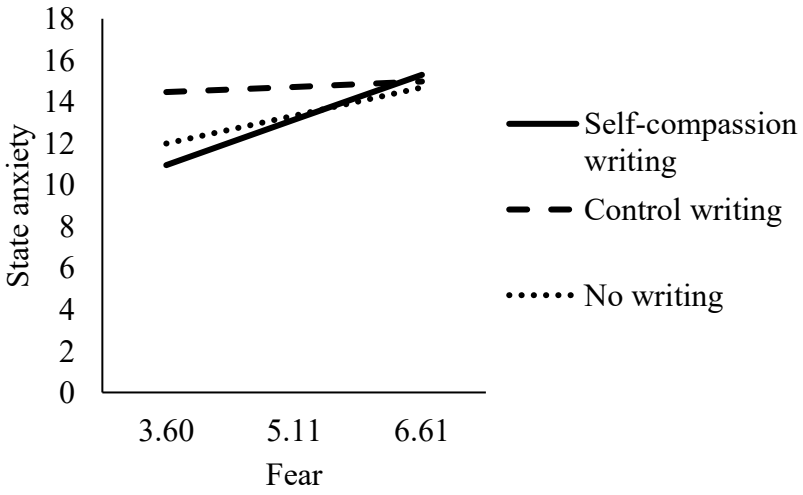


Figure 2.13

Moderating Effect of Fear on Writing Condition and State Self-compassion

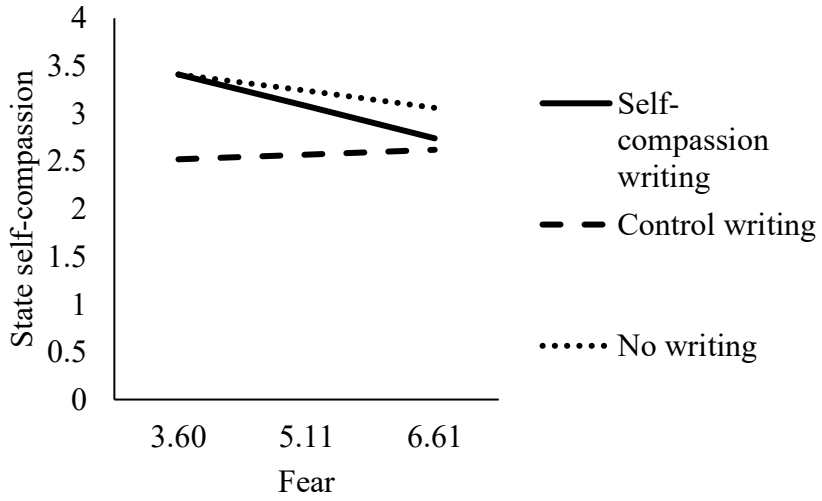
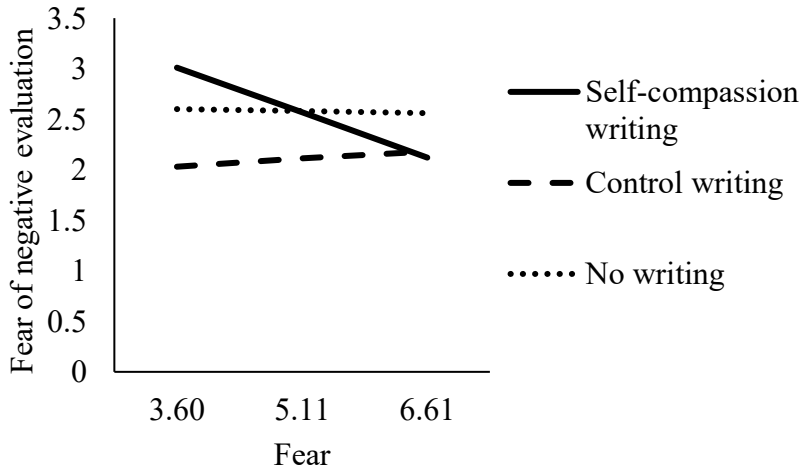


Figure 2.14

Moderating Effect of Fear on Writing Condition and Fear of Negative Evaluation



Study 2 Discussion

The aim of Study 2 was to expand on the findings from Study 1 by evaluating whether writing about an anxiously anticipated task (i.e., the TSST) in a self-compassionate manner would help facilitate engagement in the TSST and a sense of success after the TSST. Several key

design enhancements in Study 2 are worth mentioning. First, using the TSST, a standardized and well-researched socially demanding task, presented participants with an unfamiliar and challenging social situation, which allowed me to examine the impact of self-compassion writing on an actual feared situation and not just an imagined future event. The design of the TSST also allows for objective and subjective measures of performance to be assessed. Second, the addition of a no-writing control group allowed for the comparison of self-compassion writing to both control writing and no-writing conditions. Lastly, the addition of one-month follow-up measures provided a means to assess the possible duration of any effects of self-compassion writing and examine its possible impact in the greater world outside of a laboratory setting.

As previously mentioned, self-compassion is positively associated with perceived competence, accurate self-judgment, enhanced resilience and self-forgiveness whereas negatively associated with experiential avoidance and fear of negative evaluation (Cândea & Szentágotai-Tătar, 2018; Leary et al., 2007; Neff et al., 2005; Smeets et al., 2014; Thompson & Waltz, 2008; Zhang & Chen, 2016). Moreover, increases in self-compassion have been associated with increased state self-compassion and decreased anxiety, post-event processing and stress appraisal (Arch et al., 2018; Blackie & Kocovski, 2018b; Cândea & Szentágotai-Tătar, 2018). The many positive aspects of self-compassion are well suited to help individuals maintain a more balanced perspective when faced with an anxiously anticipated task. Moreover, self-compassion, associated with perceived competence and positive self-perceptions, lends itself to increasing confidence and determination and enabling individuals to perform better and to perceive themselves as having performed well after the fact. The TSST is well suited to assess the possible benefits of self-compassion given its social evaluative nature.

The present study focused on comparing self-compassionate writing to two distinct contrasting conditions, control writing and no writing, to assess the unique effects of self-compassionate writing. Recall that participants in all three conditions first described their anticipated worst-case scenario in the upcoming TSST task in writing. Those in the no-writing condition were not asked to process their worst-case scenario any further and indeed wrote no more about it. Those in the two writing conditions were prompted to further process their anticipated worst-case scenario. Those in the control-writing condition did so by elaborating on the worst-case scenario by describing (a) what they anticipated happening in the TSST, (b) who is involved, and (c) what may be said by themselves and others. Those in the self-compassion writing condition were asked to reappraise the worst-case scenario self-compassionately by describing how they can respond to their feelings by (a) mindfully acknowledging their feelings, (b) perceiving them as part of shared common humanity, and (c) responding to them with self-kindness. I hypothesized that writing self-compassionately about a worst-case scenario would prove beneficial on a variety of measures relative to either (a) not elaborating on a worst-case scenario (no writing condition), or (b) elaborating on a worst-case scenario in the absence of self-compassion (control writing condition).

As hypothesized, significant differences were found on several outcome variables that favoured the self-compassionate writing condition over the control writing condition. Contrary to hypotheses, however, no significant differences were found on outcomes between participants in the self-compassionate writing condition and those in the no writing condition. This pattern of mixed support for the hypotheses calls for careful analysis and interpretation. Here, I will consider the findings in light of the specific methods and hypotheses of Study 2. Later, in the

general discussion, I will revisit the Study 2 findings alongside those of Study 1 to provide a fuller account of their meaning.

In Study 2, the findings supported the hypothesized superiority of self-compassionate writing relative to control writing in managing the effects of anxious anticipation on participants' state self-compassion, confidence pre-TSST, and degree of observed eye-contact during the TSST. These findings, while requiring replication, suggest that it is possible to enhance the process by which individuals appraise anxiously-anticipated events through the use of a self-compassion induction. This is noteworthy given that participants were selected for being chronically socially anxious. Anxious individuals are vulnerable to engaging in a variety of attentional biases and cognitive distortions that may deepen their anxiety and reduce their confidence in their ability to cope with impending threats (Jefferies et al., 2020). Consequently, these positive findings suggest there is merit in further exploring the potential of self-compassionate writing for helping anxious individuals learn to reduce their fears, and face challenges with greater self-compassion, perspective, and optimism.

Study 2 also showed that contrary to hypothesis, the self-compassionate writing condition showed no differences to the control writing condition on measures of determination, performance on the TSST math and speech tasks, and on follow-up tasks of engaging in social activities. Similarly, no differences were observed relative to the no writing condition on any of the study 2 measures.

One conclusion that might be drawn from these mixed results is that while there is evidence for the efficacy of self-compassionate writing, in the present study, it is limited. Perhaps this should not surprise us when one considers how self-compassionate writing was operationalized as a single induction for managing an impending social stressor in a socially

anxious population. However, a competing interpretation might be that the self-compassion condition only looked positive because of the weakness of the control writing condition, and that relative to the no writing condition, the self-compassion condition was no better. From this perspective, the self-compassion writing was ineffective. This interpretation, however, must also contend with a competing alternative explanation, namely that the performance of those in the control condition was surprisingly strong and that this may be indicative of a deeper problem in its composition.

Researchers have long noted conceptual and practical challenges to creating the optimal control condition for experimental intervention research (Blackwell et al., 2017; Mohr et al., 2009). These considerations, along with the surprising performance of the no writing controls, prompted me to reflect on the composition of the no writing condition. In doing so, I discovered within it a previously unnoticed difference from the writing conditions that makes it different from them in more than one respect. Specifically, the no writing control differs from the writing conditions not only in the absence of writing, but also for the lack of a second exposure to the feared worst-case TSST performance. That is, whereas those in the no writing control only considered their worst-case scenario once, those in the writing conditions encountered it twice. In retrospect, a better no-writing control condition, one that would have been otherwise similar to the two writing conditions, would have had participants re-engage with their worst-case scenario a second time. For instance, this might have been accomplished by re-reading what they initially wrote and re-imagining it for a few minutes, but without additional written elaboration on it. Ideally, this second exposure would have been for a duration equivalent to the amount of time those in the writing conditions spent writing about the event. The upshot of this is that those in the writing conditions faced a more difficult emotional stimulus than those in the no-writing

condition. From this perspective the fact that the outcomes of the self-compassion writing condition were approximately equal to those of the no writing condition suggests that the self-compassionate writing condition may well have been effective but that this was masked by the (in retrospect) unfair contrast with the no writing condition. Although the inherent ambiguity created by the no writing control condition means it will not be possible to draw firm conclusions from between-condition comparisons, nonetheless, in what follows, I draw upon theory and previous research to suggest some tentative interpretations.

One way to understand both the surprising strength of the no writing condition and the significance of its single versus double exposure is through the lens of Gross's (2015) model of emotion regulation. In his model, Gross notes there is a broad consensus that emotional episodes develop over time, commencing with an emotion-eliciting situation, which may be either an external event or the internal representation of an event. Subsequently, whether the event is internal or external, attention is directed toward the event and the meaning of it is appraised in terms of one's currently active goals. Gross's (2015) process model of emotion regulation builds on the temporal unfolding of emotions and proposes that emotion regulation can occur at various points along this temporal sequence. Thus, one may first attempt to regulate an emotional experience by acting on the emotion-eliciting situation (e.g., by physically exiting it, or mentally attending to a different situation). Within a given situation one may regulate emotion by modifying the situation (e.g., by externally engaging with, or internally attending to, one aspect of it more than another). When engaged with a particular aspect of a situation one may regulate one's emotional response to it by assigning different meanings to it through appraisal. Finally, once an emotional response is underway, one may use response modulation to directly alter

various aspects of the emotional response (e.g., behavioural, experiential, or physiological components).

Using the process model to examine Study 2, we see that all participants were initially assigned a common emotion-eliciting situation (i.e., being told they would complete the TSST) and instructed to modify the situation in a similar way (i.e., by writing about their worst fears coming true when carrying out the TSST), which presumably deepened the emotional responses for all participants. Subsequently, however, participants were assigned to different experimental conditions which likely influenced which emotion regulation strategies were most available to them. Those in the no writing condition, who were not asked to further process the situation, were free to use distraction by deploying their attention to a pleasant alternative. Although there is no information about how the no-writing control subjects psychologically responded to their (single) exposure to their worst-case scenario, it is plausible that they used distraction to regulate their distress because, when emotion intensity is high, people exhibit a preference for distraction (Sheppes et al., 2011; 2014, as cited in Gross, 2015), and because distraction is an effective emotion regulation strategy (Webb et al., 2012).

In contrast to those in the no-writing condition, participants in the control writing condition were instructed to (a) re-engage with their worst-case scenario and (b) deepen their attention to the situation by following prompts to elaborate in writing on their worst-case description of the TSST. Arguably, both elements contributed to greater concentration on the emotional situation. In their meta-analysis of the effectiveness of emotion regulation strategies, Webb et al. (2012) found that concentration on the emotion-eliciting event was negatively associated with emotion regulation. Although we have no information about whether Study 2 participants' affect changed from before to after the writing intervention, given Webb et al.'s

findings, it is conceivable that having to attend to the worst-case scenario a second time and by deepening their engagement with it through control-writing may have increased participants' negative affect relative to their baseline (though see the General Discussion for an alternative view). That is, either the second exposure, or the written processing, or the combination of both, may have had the effect of amplifying the impact of the emotional situation on the control-writing participants relative to those in the no writing control condition.

Lastly, let us consider the self-compassion writing condition. Like those in the control writing condition (and unlike those in the no writing condition), those in the self-compassion writing condition were instructed to re-engage with their worst-case scenario. Thus, already from the perspective of Gross's model, they are at greater risk of a negative outcome given the additional exposure to the emotional stimulus relative to the no writing controls. From the perspective of Gross's model, self-compassion may be considered a form of cognitive reappraisal that regulates emotion through its key components of common humanity, self-kindness, and mindfulness (Finlay-Jones, 2017). Research on cognitive reappraisal demonstrates that it is an effective emotion regulation strategy (Webb et al., 2012). This provides some explanation for self-compassion's superiority over the control writing condition. Also, (and more tentatively owing to the inherent ambiguity) it may be argued that the fact that those in the self-compassion condition achieved a comparable outcome to those in the no writing control, despite having had an additional exposure to their worst-case scenario, offers conceptual support for the efficacy of the self-compassion condition relative to the no writing condition. Obviously, this interpretation calls out for clarification through another study using a stronger no-writing control condition before any conclusions can be drawn.

Having considered the overall pattern of results from a high-level perspective of design issue and theory, I now turn to a more granular discussion of the Study 2 findings at the level of specific outcome variables. The present study aimed to expand on previous findings by assessing the impact of self-compassionate writing on confidence and determination. Importantly, in the present study, confidence was assessed by asking participants how confident they were in performing on the TSST (e.g., speak for the 2 minutes, look at the camera), while determination assessed participants' willingness to persevere despite challenges. The findings indicate that participants who wrote about their worst fears coming true during the TSST and subsequently wrote about the TSST in a self-compassionate manner had greater self-reported confidence in their abilities to perform than those in the control writing condition. These results align with previous studies that have found that when participants first engage in a stressful task and subsequently write about it in a self-compassionate manner, they report more willingness to engage in future hypothetical social situations (Blackie & Kocovski, 2018b). Moreover, higher levels of self-compassion have been associated with more positive self-prediction of future behaviours (Leary et al., 2007). As such, self-compassionate writing may help individuals with social anxiety increase their perceived ability to engage in future hypothetical situations, thus increasing their confidence. Nevertheless, contrary to expectation, self-compassionate writing was no more effective than no writing at increasing confidence possibly for the reason of the double versus single exposure described above.

Contrary to hypothesis, self-compassionate writing did not increase determination relative to either control writing or no writing. There are several reasons why the self-compassion induction may not have impacted determination. The unique design of the present study, in which the self-compassionate induction was based on the writing of a worst-case

scenario for an anxiously anticipated task that would subsequently have to be completed, may have elicited too negative of a mind state for self-compassionate writing to be effective. Neff (2003a) posit that self-compassion is most effective in times of distress, and though this has been supported in several studies when self-compassion is done after a stressful task (Arch et al., 2018; Blackie & Kocovski, 2018b), no study to date has examined the impact of writing about an anxiously anticipated event in which they would immediately engage. Consequently, the prospect of doing the TSST in the immediate near future may have been too overwhelming for the benefits of self-compassionate writing to be realized. Exploratory analyses found that as participants' fear of the upcoming task increased, the effectiveness of self-compassionate writing on determination decreased. Moreover, despite the psychoeducation on social anxiety and the benefits of exposure exercises, it is conceivable that the demanding nature of the TSST was such that participants did not have a strong desire to engage in the task, thus reducing their determination. It stands to reason that if individuals are not motivated or desire to engage in a feared activity, they may not be overly determined to complete it if it becomes difficult. Consequently, further research is needed to evaluate the role of fear for an upcoming event and how it impacts the possible benefits of self-compassion, including its impact on mood. That is to say, would these results hold if participants were asked to engage in an anxiously anticipated desired event rather than an undesired event?

The present study also aimed to expand on previous research examining the benefits of a brief self-compassion induction for enhancing objective indicators of performance. Self-compassionate writing has been found to be beneficial after stressful tasks, decreasing state anxiety and negative affect and increasing state self-compassion, positive affect and participants' hypothetical willingness to engage in future social interactions (Arch et al., 2018; Blackie &

Kocovski, 2018b). However, what is less clear is whether or not self-compassionate writing about an imminent anxiously anticipated task helps observable performance on the task and helps individuals perceive themselves to have done better on it. Results from the present study examining objectively observable performance measures on the TSST, found that participants' eye contact significantly differed between self-compassionate writing and control, suggesting that self-compassionate writing may help individuals maintain eye contact during a computer-based social interaction. However, self-compassion was no more effective than control writing or no writing for warmth ratings, math score and length of speech. Nevertheless, Vatheuer et al. (2021) found that decreased eye contact during the TSST is associated with high stress responses, as assessed by cortisol levels, suggesting that it is plausible that self-compassion writing may be beneficial at a physiological level, even if not evident at an observable performance level. Moreover, results from the present study examining self-perception of performance on the TSST suggest that even though participants in the self-compassionate writing may have had greater confidence prior to the task, they do not perceive themselves as having done any better than those in the control or no writing condition. As such, it does not appear that self-compassionate writing about a stressful task immediately prior to said task has any direct impact on improving performance or perceived performance outside of eye contact.

The current research also aimed to provide further insight into our understanding of how state self-compassion, state anxiety, fear of negative evaluation, and speech and math distress may provide a mechanism through which self-compassion influences performance and self-perception of performance. Mediation analyses in the present study found that participants who completed the self-compassionate writing had higher state self-compassion and lower state anxiety compared to participants in the control writing. However, despite these associations,

writing conditions did not influence performance through state self-compassion or state anxiety, as no indirect effects were found between writing conditions for any of the mediating variables and the outcome measures when all mediators were run in parallel. Exploratory analysis, however, examining the mediation effect of state self-compassion and state anxiety independently, did find indirect effects of self-compassion writing on perceived performance on the TSST compared to control writing. Moreover, exploratory analysis found an indirect effect of self-compassionate writing through confidence on perceived performance on the TSST compared to control writing. Taken together, these results, suggest that the impact of self-compassionate writing on perceived performance may result from changes in state self-compassion, state anxiety and confidence. Due to the exploratory nature of these analyses further research is needed to further explore mechanisms through which self-compassionate writing may impact performance.

There are several reasons why a main effect of self-compassion induction on performance may not have been found. First, although self-compassionate writing did show an effect relative to control writing, the possible impacts of self-compassionate writing on performance may not have been large enough for a main effect to be detected or as previously mentioned, the impact of self-compassion may have been masked by the no writing condition. Second, despite reporting higher state self-compassion, those in the self-compassion writing conditions may have struggled to make effective use of self-compassion (Gilbert et al., 2011; Pauley & McPherson, 2010). In their study, Pauley and McPherson (2010) found that though individuals with anxiety may be able to recognize and describe self-compassion, they struggle to fully engage in it. Gilbert et al. (2011) posit that for individuals with elevated social anxiety, engaging in self-compassion for the first time may be particularly difficult and is often met with doubt, fear and resistance. Moreover,

completing one brief self-compassionate exercise may not be sufficient to displace the entrenched negative self-view associated with social anxiety. Consequently, it is possible that changes in state self-compassion are not strong enough to be sustained in the face of an anxiety-inducing task. Further research is needed to examine the possible impact of more in-depth self-compassion exercises or more frequent writing inductions on future engagement and performance on a stressful task.

Exploratory analyses shed further light on possible mechanisms that may have impacted self-compassionate writing's influence on performance. In particular, fear of the upcoming task significantly moderated the effect of self-compassionate writing on self-perception, state self-compassion, state anxiety and fear of negative evaluation such that individuals who reported lower levels of fear obtained greater benefits from self-compassion than those who reported higher levels of fear. Consequently, a single self-compassion-based writing induction may be beneficial in improving outcomes at lower levels of fear but may lose its effectiveness if participants' fears become too elevated. Given the exploratory nature of these findings, further research is needed to confirm if the effectiveness of self-compassionate writing varies across levels of perceived fear. Furthermore, as previously mentioned, participants were told they would be completing the TSST, which was likely not a desired anxiety-inducing activity. Having participants engage in a desired social activity that causes them some distress may be an effective strategy to mitigate fear and thus better understand the impact of self-compassionate writing on performance and engagement.

The present study's final goal was to examine the short-term impact of the brief self-compassion induction on trait social anxiety and avoidance behaviours. Analyses of the follow-up measures taken one month after the completion of the TSST showed no significant impact of

self-compassionate writing compared to control writing or no writing on measures of social anxiety and avoidance behaviours. There are a number of reasons why self-compassionate writing may not have impacted trait social anxiety and avoidance. As previously mentioned, it is possible that a single self-compassion induction may not be sufficient to change entrenched beliefs in socially anxious individuals. Johnson and O'Brien (2013) found increases in trait self-compassion two weeks after participants completed self-compassionate writing three times within one week. Consequently, it is plausible that more consistent and frequent engagement in self-compassion writing may be needed for enduring effects to appear. Moreover, though a single self-compassion induction may impact state self-compassion in the moment, it remains unclear if that state of self-compassion can remain throughout a stressful task for the known benefits of self-compassion to be realized in the long run. For instance, Friis et al. (2017) found that in a sample of university students, self-compassion was not found to have any buffering effect on mood after participants received critical feedback about their flossing. Though a direct comparison of their study to mine cannot be made as they had participants first recall a past shame event prior to the self-compassion induction and measured health behaviours, their results suggest that the benefits of increased state self-compassion may not have the strength to withstand negative feedback. It is, therefore, conceivable that in the present study, possible changes in state self-compassion may not have been maintained throughout the TSST. This would, in turn, impact any possible longer-term benefits of the self-compassion induction. Future studies need to take measures of state self-compassion both pre-and post-TSST to assess changes in state self-compassion.

Additionally, the lingering impacts of the 2019 COVID pandemic on social engagement and the study's virtual nature may have impacted participants' subsequent exposure to social

activities. Although this study took place after the major lockdowns had ended, lingering fears associated with re-engaging in everyday social interactions may have impacted participants' willingness to engage in social activities (Tsimirikas & Tragantzopoulou, 2025). Additionally, although psychoeducation on the benefits of exposure exercises to decrease social anxiety was provided verbally prior to the TSST, due to the virtual nature of the study, participants were simply provided with the information as part of the Qualtrics survey after the TSST. As such, it is possible that prior to the task, participants were too anxious to take in any of the psychoeducation, while after the TSST, participants may have skipped over or not spent sufficient time reading this component of the study for adequate learning of the material to occur. Given the current study's design, it is impossible to know for certain what impact the psychoeducation may or may not have had. Future studies should further explore the possible role of psychoeducation on the possible long-term impacts of self-compassion inductions.

General Discussion

The present study examined the impact of a self-compassion writing induction on university students with elevated levels of social anxiety. Self-compassion, which comprises self-kindness, common humanity and mindfulness, is characterized by a healthy way of interacting with oneself in response to distress (Neff, 2003b) and has been associated with many positive benefits, including higher levels of optimism, positive affect, accurate self-judgment, enhanced resilience, and lower levels of negative affect (Leary et al., 2007; Long & Neff, 2018; MacBeth & Gumley, 2012; Neff, 2003b). Self-compassion has also been associated with many of the mechanisms associated with social anxiety, including reduced catastrophizing, personalizing, greater equanimity, more accurate self-judgment, greater perceived competence and reduced self-presentation concerns (Leary et al., 2007; Long & Neff, 2018; Neff et al.,

2005). Social anxiety among university students is an essential facet of mental health to study as it has been associated with decreased quality of life, difficulties holding conversations, increased likelihood of dropping out of school, fewer friends and lower satisfaction with the quality of friendships (Jefferies et al., 2020), all of which could impact a student's ability to succeed in university. Moreover, studies have found that nearly half of young adults endorse elevated levels of social anxiety (Jefferies et al., 2020), results which were further supported in the current study with 54.7% of those who completed baseline measure endorsing high levels of social anxiety in Study 1 and 56.7% in Study 2.

Given the many benefits of self-compassion, there is a growing interest in mechanisms through which self-compassion may be increased. Brief writing inductions, which encourage individuals to write about a distressing event in a self-compassionate manner, have been found to be particularly effective at increasing state self-compassion (Leary et al., 2007; Neff et al., 2021). Moreover, these brief inductions have been associated with increased motivation, greater acceptance and self-forgiveness and reduced anxiety, negative affect, post-event-processing, shame and depression (Arch et al., 2018; Blackie & Kocovski, 2018b; Breines & Chen, 2012; Johnson & O'Brien, 2013; Zhang & Chen, 2016). Despite these benefits, questions remain as to the effectiveness of a self-compassion induction for individuals with social anxiety.

Few studies to date have tried to promote self-compassion within samples of socially anxious individuals. Those that have primarily examined the impact of self-compassion in response to a negative feeling or difficult situation after the fact (Arch et al., 2018; Blackie & Kocovski, 2018b). Moreover, those who have examined the impact of self-compassion prior to a difficult situation have either used imagined future scenarios and future-based predicted behaviours (Breines & Chen, 2012; Harwood & Kocovski, 2017) or have used longer self-

compassion-based inductions (Arch et al., 2016). One study that used a brief self-compassion induction (i.e., a 20-minute self-kindness audio and 5-minute self-compassionate writing) prior to the TSST did not find any benefits of a single induction on subject distress and cortisol levels prior to and after the TSST (Ketay et al., 2013). As such, it remained unclear if brief self-compassion inductions immediately prior to a task would help individuals engage in said task.

Furthermore, all studies to date that have used a self-compassion-based writing induction have first had participants write about a past negative event or a weakness in order to induce a negative mind state that can then be responded to with self-compassion. Though this approach makes sense when assessing the impact of self-compassionate writing on past-based psychological factors such as shame and depression, it leaves a disconnect between the self-compassion induction and outcomes when the focus is on difficulties associated with future-oriented distress (i.e., anxiety). A result of this approach is that most of the research on self-compassion has focused on examining its benefits associated with past-oriented distress, hence the need for research examining the impact of self-compassion on future-related distress. As such, the goals of the current studies were to first establish if writing about an anxiously anticipated event in an imaginal exposure style could elicit a negative mind state that could then be beneficially addressed with self-compassionate writing and second to examine if writing about an anxiously anticipated event could help promote positive engagement in that event. Results from Study 1 indicated that writing about an anxiously anticipated event did decrease positive affect and increase negative affect. Moreover, subsequently writing about the anxiously anticipated event in a self-compassionate manner significantly increased state self-compassion, positive affect and determination while decreasing negative affect relative to their levels prior to self-compassionate writing and relative to the levels achieved by those in the control writing

condition. These results suggest that writing about anticipatory distress is effective at creating a negative mind state to which self-compassion can be beneficially applied. Consequently, Study 2 was designed to examine the impact a brief self-compassionate writing induction may have on an anxiously anticipated event itself.

As discussed in detail in the Study 2 discussion, compared to a control writing condition, a future-based self-compassion writing induction resulted in greater confidence to engage in a stressful task measured beforehand, though it did not significantly improve participants' actual performance or self-perceived performance when measured immediately after the task relative to those in the no writing or control writing conditions. Moreover, self-compassionate writing had no more impact than control writing or no writing on social anxiety and avoidance behaviours at a 1-month follow-up. Despite the mixed findings in studies 1 and 2, there are a number of key findings in the present research that are novel and worth drawing attention to. First, results from Study 1 indicate that a brief self-compassion writing induction based on an anticipatory anxiety-inducing event is effective at increasing state self-compassion and decreasing negative mood and anxiety within a socially anxious population. To my knowledge, no previous study has ever examined the feasibility of a future-based self-compassion induction. The possible implications of these results are discussed in the clinical implication section below.

Second, despite the lack of direct impact on performance, the relative indirect effect of confidence on perceived performance highlights the importance of not underestimating the value of confidence prior to a stressful task. First, there is little to no downside to increasing confidence. That is to say, though performance did not improve with increased confidence, it also did not decrease. Additionally, Bandura’s (1994) theory of self-efficacy posits that confidence, in and of itself, can help individuals engage in distressing tasks and reduce

avoidance. As such, though it may not improve performance, confidence may still help an individual bring themselves to engage in feared activities despite their fears. Greater engagement in feared activities could prove particularly beneficial for those with social anxiety as many of their worries often do not transpire, and greater engagement increases the chances for that realization to take hold.

Third, the results from the present studies provide further support for the feasibility of increasing state self-compassion within samples of socially anxious individuals. Werner et al. (2012) found that individuals with elevated social anxiety tend to have lower levels of self-compassion. Moreover, questions have arisen regarding the effectiveness and feasibility of increasing self-compassion among socially anxious individuals (Gilbert et al., 2011; Pauley & McPherson, 2010). Combined with previous findings (Arch et al., 2018), the present results suggest that it is feasible to increase state self-compassion. However, what remains less clear is whether socially anxious individuals are able to translate said increases in state self-compassion to more broad trait self-compassion that may subsequently impact social anxiety and avoidance behaviours. Although the full impact of self-compassionate writing may be masked in Study 2 by the no-writing control conditions lower threat level, it is possible that a single brief self-compassion writing induction is insufficient to translate improved state self-compassion into improved performance and self-perceived performance on a stress-inducing task. Nevertheless, it is possible that multiple brief self-compassion inductions as done by Johnson and O'Brien (2013), may help consolidate gains in state self-compassion into more impactful changes in performance and self-perceptions in the moment and changes in social anxiety and avoidance at follow-up.

Fourth, though the present results suggest that writing about an anxiously anticipated event does increase determination to engage in a desired anxiously anticipated event, as found in Study 1, Study 2 did not support these findings when self-compassionate writing was associated with a mandated socially anxiety-inducing task. These findings draw into question the potential situations in which self-compassionate writing may be most helpful. Exploratory results from Study 2 suggest that it is possible that self-compassion has more of an impact when there is lower anticipatory fear. Bandura (1994) notes that more positive moods are associated with increased determination to engage in difficult tasks. Study 1 found that writing about a desired anxiously anticipated event in a self-compassionate manner effectively improves positive affect and decreases negative affect. Though not assessed in Study 2, it is possible that fear of the TSST further prevented the benefits of self-compassion on mood, subsequently impacting determination. As such, further research is needed to examine if self-compassionate writing effectiveness may vary by context and intensity of anxiously anticipated events (i.e., a desired anxiously anticipated event vs. an undesired anxiously anticipated event).

Lastly, the results from Study 2 raise an important issue regarding the interpretation of findings from the control writing and no writing control groups in comparison to those from the self-compassion writing condition. As previously mentioned, results from Study 2, which indicate equivalent outcomes for the no writing and self-compassion writing conditions, but superiority of self-compassion writing to control writing on some outcomes, are open to differing interpretations. One interpretation is that the equivalence of outcomes in the no writing and the self-compassion writing conditions suggests that the apparent superiority of the self-compassion condition relative to the control condition is due to the weakness of the control writing condition, not the superiority of the self-compassion writing condition. Opposing that interpretation is the

explanation that the possible benefits of the self-compassion writing condition may have been masked by unexpectedly strong results from the no-writing control condition that occurred due to that condition only having one exposure to participant's worst-case scenario vs the two exposures that occurred in the writing conditions.

Importantly, these interpretations must be made with caution as it is not possible to say for certain whether the control conditions created or enhanced the differences with self-compassion writing without taking pre-to-post measures. That is, it is possible that differences between control writing and self-compassion writing were due to favourable changes from self-compassionate writing, rather than to unfavourable changes from control writing. Recall that pre-to-post results from Study 1 support the benefits of self-compassionate writing. In Study 1, participants who completed the self-compassion writing condition had increased state self-compassion, positive affect, and decreased negative affect relative to before writing. These findings make it plausible that the self-compassion induction may have similarly, increased self-compassion and enhanced affect, in Study 2 but that these benefits may have been obscured owing to an unanticipated limitation in the no writing condition that made that condition easier for participants and so enhanced their emotional state. From the perspective of Gross's emotion regulation framework, the no writing condition was not neutral, but rather due to only having a single exposure to the worst-case scenario, may have allowed participants to redirect or dilute attention to the stimulus, thereby alleviating distress. Insofar as fear appears to interfere with state self-compassion, no writing control participants may have experienced a consequent boost to self-compassion as a result. Second, in Study 1, participants who completed the control writing condition after writing about an anxiously anticipated event also had increased state self-compassion and decreased negative affect (like those in the self-compassion condition),

suggesting that, at the very least, control writing is not necessarily detrimental in the context of an imagined anxiously anticipated event. Though it is possible that the impact of control writing may vary based on the stimulus being appraised by participants (e.g., real vs imagined), these results do provide some support for the interpretation that self-compassion writing was beneficial, but that its benefits were limited by the unfair contrast with a no-writing condition that proved equally beneficial. Future self-compassion induction studies should implement the use of better no-writing control conditions, as posited in study 2 and should consider the use of pre-to-post-state measures to better understand and confirm changes resulting from self-compassionate writing and control conditions.

Strengths

Several strengths of this study should be highlighted. First, the experimental design of both studies 1 and 2, with random assignment of participants to groups, allowed me to isolate the specific effects of self-compassionate writing and its effects on outcome variables. Having a control writing condition enabled me to distinguish between re-engaging with a feared scenario with and without the benefit of a self-compassionate lens in both studies. Moreover, few studies to date examining the impact of self-compassion writing inductions have included a no writing control condition alongside the standard control writing condition. Consequently, having a no writing control condition in Study 2, was an original contribution of the present research. Additionally, the use of multi-methods, both self-report measures and observational data, in Study 2 is a clear strength of this research. Having participants complete self-report measures provided insight into possible internal, non-observable changes that could have been occurring as a result of the study's manipulations. At the same time, observational data allowed for performance information to be gathered while avoiding the possible biases associated with self-

report measures. Lastly, the use of manipulation checks (coders' ratings of writing responses) in both studies 1 and 2 is a strength as it ensured that participants wrote according to their assigned conditions.

Limitations

There are several limitations to this study that should be taken into account. First, both studies were not preregistered. Second, the relatively modest sample size during the TSST portion of Study 2 and the small sample size at follow-up means that Study 2 may have been underpowered to find effects. Consequently, findings should be replicated with larger samples. Moreover, though efforts were made to maintain equal sample sizes across groups using Qualtrics random group assignment, more participants were randomly assigned to the self-compassion condition in both studies. Review of the Qualtrics coding did not provide any insight into why more participants were assigned to the self-compassion condition. Nevertheless, future studies should strive to ensure equal group sizes. Additionally, the flaw in the no writing control condition that made it differ from the writing conditions on two separate counts (number of exposures to the worst-case scenario and presence/absence of writing) prevented firm conclusions from being drawn when comparing between conditions, resulting in some ambiguity in the interpretation of the results. The single administration of self-compassion writing was also a limitation as it was likely not sufficient to have a significant beneficial impact on participants with elevated levels of social anxiety. Future research should implement multiple brief interventions to further increase the possible impact of self-compassionate writing. Moreover, several measures used in these studies were newly developed for this study and previously untested. Though principal-component analyses were performed to ensure items represented a single-factor measure, further research is needed to confirm the validity of the measures.

Another limitation is the sample population selected for this study. University students were selected for this research due to their known elevated levels of social anxiety. Nevertheless, recruiting university students with high social anxiety limits the generalisability of the current findings in several ways. First, as only those with high self-reported social anxiety were recruited for both studies 1 and 2, results may not generalize to other populations, including the greater university population. Second, though the SPIN is a valid measure of social anxiety, it is not a diagnostic tool. As such, participants in this study can be said to have elevated social anxiety but cannot be said to have a social anxiety disorder. Accordingly, results may not generalize to individuals with clinical levels of social anxiety. Third, despite efforts to recruit a balanced sample, the final sample for both studies 1 and 2 consisted primarily of female participants. As previous studies have found that social anxiety impacts both females and males equally (Hofmann & Otto, 2017; Jefferies et al., 2020), current results may not generalize across genders. Fourth, comparisons of drop vs kept participants in Study 1 did find differences within ethnicity, with participants from ethnic minority groups being likely to be dropped. Consequently, the results of study 1 may not generalize across ethnicity. Given the limits of the generalizability of the studies, further research is needed with more balanced samples across various populations.

Another possible limitation is the virtual nature of the study, and the group format of the TSST used in the present study. Though previous studies have validated the use of the TSST within a socially anxious population (Arch et al., 2016; O'Brien, 2017), in a group format (O'Brien, 2017) and the virtual TSST's format (Eagle et al., 2021; Meier et al., 2022), no study to date has examined the impact of a group virtual TSST within a socially anxious population. Though the present results suggest that participants experienced anticipated anxiety for the

TSST, no measures were taken during or after the TSST to assess arousal and distress in the moment. As such, further research is needed to validate the use of a group virtual TSST within socially anxious populations.

Moreover, the virtual nature of the study may also have impacted outcomes. It is unclear how the virtual implementation of the self-compassion induction and subsequent TSST may have impacted outcomes. Completing a self-compassionate writing exercise in the comfort of one's home significantly differs from doing so in a lab setting. Though increases in state self-compassion and coders rating of the self-compassion condition suggest that the induction was effective, it is possible that writing at home could result in more distraction and less engagement in the writing exercise. This may, in turn, potentially impact the writing inductions. Accordingly, results should be replicated within lab settings to reduce possible distractibility. The group format of the TSST may also have proved overwhelming for participants already struggling with elevated social anxiety. Future studies may choose to examine the impact of self-compassionate writing on an individual format of the TSST.

Clinical Implication and Future Directions

There are several possible clinical implications for the present study. First, the current studies establish that a self-compassionate induction based on an anxiously anticipated event can effectively increase state self-compassion. As mentioned, all previous studies using a brief self-compassion writing induction have always had participants recall a past event and subsequently see how it impacts hypothetical future situations, leaving an apparent disconnect between the writing task and the upcoming task. The current result suggests that in studies in which researchers are interested in behaviours associated with future feared events, participants can effectively write about the actual feared event in a self-compassionate manner to increase state

self-compassion. The research also supports the use of a future based self-compassionate writing inductions to reduce state anxiety and negative affect and increase positive affect and confidence. As this was the first study to use this approach, more research is needed to examine how these benefits may impact future behaviours and outcomes.

Second, results from the present study draw to light possible factors that may impact the benefits of self-compassion, namely levels of fear and desire to engage in an anxiously anticipated event. Study 1 found an increased determination to engage in a self-reported desired, anxiously anticipated event. Whereas Study 2 found no effect of self-compassionate writing on determination. One possible explanation is the difference between engaging in a task that one desires and one that you are told to do. It is possible that self-compassion writing may have varying impacts in different settings. Moreover, the exploratory analysis findings that fear moderated the impact of self-compassionate writing should not be dismissed. These results suggest that self-compassions impacts may vary based on a fear appraisal of upcoming events. It is conceivable that self-compassion would be more impactful when associated with a desired activity vs an undesired one. Future research could have participants engage in self-compassionate writing prior to engaging in desired socially anxiety-inducing events to help mitigate levels of fear and enhance the impact of self-compassionate writing.

Additionally, many of the studies looking at self-compassion and social anxiety use a neutral control group where participants write about a "neutral event." However, whether a “neutral control” is achievable is presently unresolved. Studies have found that neutral event writing often positively impacts mood due to distraction (Fracalanza et al., 2014; Goldman et al., 2007). The present findings are ambiguous as to whether the control groups employed served in a facilitative or neutral fashion (no writing) or neutral or debilitating fashion (control writing).

Further research that includes pre-post measures may help clarify the impact of control conditions. Moreover, future research should implement no writing control conditions that better parallel the writing conditions, such that participants re-engage with the exposure a second time. Lastly, though more research is needed, the current study supports the use of a virtual group TSST as a socially anxiety-inducing exposure.

Conclusion

Overall, the present studies support the application of self-compassion to anxiously anticipated events as a means of increasing state self-compassion and positive affect and decreasing negative affect. There are some exciting new and relevant findings in this study that provide original contributions to the literature on self-compassion and social anxiety. First, the idea of tailoring a self-compassionate writing induction to an anxiously anticipated event as opposed to a past negative event was new and, to my knowledge, had never been done before. Second, this research was unique as it examined the impact of self-compassionate writing inductions on an individual's participation and performance in an actual stressful task. Research in self-compassion and social anxiety has primarily looked at the effects of brief self-compassion exercises after the fact, and very rarely has it looked at the possible benefits of self-compassion before a stressful task. Moreover, when it has looked at the impact of self-compassion on future socially related tasks, it has either been based on longer self-compassion inductions or reported willingness to participate and actual subsequent participation has never been assessed. Though more research is needed, the current findings suggest that self-compassionate writing may have a role not only after difficult situations but also prior to difficult situations.

References

Adams, C. E., & Leary, M. R. (2007). Promoting self-compassionate attitudes towards eating among restrictive and guilty eaters. *Journal of Social and Clinical Psychology, 26*(10), 1120-1144. doi:10.1521/jscp.2007.26.10.1120

Alden, L. E., Buhr, K., Robichaud, M., Trew, J. L., & Plasencia, M. L. (2018). Treatment of Social Approach Processes in Adults With Social Anxiety Disorder. *Journal of Consulting and Clinical Psychology, 86*(6), 505–517. https://doi.org/10.1037/ccp0000306

Allen, A., & Leary, M. R. (2010). Self-Compassion, Stress, and Coping. Social and Personality Psychology Compass, 4, 107-118. https://doi.org/10.1111/j.1751-9004.2009.00246.x

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, DC: American Psychiatric Association.

Antony, M. M., Coons, M. J., McCabe, R. E., Ashbaugh, A., & Swinson, R. P. (2006). Psychometric properties of the social phobia inventory: Further evaluation. *Behaviour Research and Therapy, 44*(8), 1177–1185. https://doi.org/10.1016/j.brat.2005.08.013

Arch, J. J., Brown, K. W., Dean, D. J., Landy, L. N., Brown, K. D., & Laudenslager, M. L. (2014). Self-compassion training modulates alpha-amylase, heart rate variability, and subjective responses to social evaluative threat in women. *Psychoneuroendocrinology,* 42, 49–58. https://doi.org/10.1016/j.psyneuen.2013.12.018

Arch, J. J., Landy, L. N., & Brown, K. W. (2016). Predictors and moderators of biopsychological social stress responses following brief selfcompassion meditation training. *Psychoneuroendocrinology,* 69, 35–40. https://doi.org/10.1016/j.psyneuen.2016.03.009.

Arch, J. J., Landy, L. N., Schneider, R. L., Koban, L., & Andrews-Hanna, J. R. (2018). Self-compassion induction enhances recovery from social stressors: Comparing adults with

social anxiety disorder and healthy controls. *Anxiety, Stress and Coping*, *31*(5), 594–609. https://doi.org/10.1080/10615806.2018.1504033

Arimitsu, K., & Hofmann, S. G. (2017). Effects of compassionate thinking on negative emotions. *Cognition and Emotion*, *31*(1), 160–167. https://doi.org/10.1080/02699931.2015.1078292

Bailis, D. S., Single, A. N., Brais, N. J. J. R., & Schellenberg, B. J. I. (2023). Going for broke: Self-compassion, risky decision-making, and differences in problem gambling severity among undergraduates. *Self and Identity*, *22*(3), 379–407. https://doi.org/10.1080/15298868.2022.2104363

Bandelow, B., & Michaelis, S. (2015). Epidemiology of anxiety disorders in the 21st century. *Dialogues in Clinical Neuroscience, 17*(3), 327–335.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego: Academic Press, 1998).

Barnard, L. K., & Curry, J. F. (2011). Self-Compassion: Conceptualizations, correlates, & interventions. *Review of General Psychology,* 15, 289-303. https://doi.org/10.1037/a0025754

Barnes, L. L. B., Harp, D., & Jung, W. S., (2002). Reliability generalization of scores on the Spielberger State-Trait Anxiety Inventory. *Educ. Psychol. Meas*. 62, 603–618. https://doi.org/10.1177/0013164402062004005.

Barrera, T., Szafranski, D., Ratcliff, C., Garnaat, S., & Norton, P. (2016). An experimental comparison of techniques: Cognitive defusion, cognitive restructuring, and in-vivo exposure for social anxiety. *Behavioural and Cognitive Psychotherapy*, *44*(2), 249–254. https://doi.org/10.1017/S1352465814000630

Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the science of self-reports and finger movements: Whatever happened to actual behavior? *Perspectives on Psychological Science, 2*(4), 396–403. https://doi.org/10.1111/j.1745-6916.2007.00051.x

Blackie, R., & Kocovski, N. L. (2018a). Examining the relationships among self-compassion, social anxiety, and post-event processing. *Psychological Reports, 121*(4), 669–689.

Blackie, R., & Kocovski, N. (2018b). Forgive and let go: Effect of self-compassion on post-event processing in social anxiety. *Mindfulness*, *9*(2), 654–663. https://doi.org/10.1007/s12671-017-0808-9

Blackwell, S. E., Woud, M. L., & MacLeod, C. (2017). A question of control? Examining the role of control conditions in experimental psychopathology using the example of cognitive bias modification research. *The Spanish Journal of Psychology*, *20*, E54–E54. https://doi.org/10.1017/sjp.2017.41

Blascovich, J., & Tomaka, J. (1996). The biopsychosocial model of arousal regulation (Vol. 28, pp. 1–51). San Diego, CA: Academic Press.

Bouchard, S., Dumoulin, S., Robillard, G., Guitard, T., Klinger, É., Forget, H., Loranger, C., & Roucaut, F. X. (2017). Virtual reality compared with in vivo exposure in the treatment of social anxiety disorder: a three-arm randomised controlled trial. *British Journal of Psychiatry*, *210*(4), 276–283. https://doi.org/10.1192/bjp.bp.116.184234

Brais, N. (2020). *The effects of self-compassion on avoidant behaviours among individuals with social anxiety.* (Unpublished Masters thesis). Retrieved from http://hdl.handle.net/1993/34931

Breines, J. G., & Chen, S. (2012). Self-Compassion Increases Self-Improvement Motivation. *Personality & Social Psychology Bulletin, 38*(9), 1133–1143. https://doi.org/10.1177/0146167212445599

Brooks, S., & Kutcher, S. (2004). The Kutcher Generalized Social Anxiety Disorder Scale for Adolescents: Assessment of its Evaluative Properties Over the Course of a 16-week Pediatric Psychopharmacotherapy Trial. *Journal of Child and Adolescent Psychpharmacology*, 14, 273–286.

Brown, M., & Stopa, L. (2007). Does anticipation help or hinder performance in a subsequent speech? *Behavioural and Cognitive Psychotherapy, 35*(2), 133–147. https://doi.org/10.1017/S1352465806003481

Cândea, D. M., & Szentágotai-Tătar, A. (2018). The impact of self-compassion on shame-proneness in social anxiety. *Mindfulness*, *9*(6), 1816–1824. https://doi.org/10.1007/s12671-018-0924-1

Chartier-Otis, M., Perreault, M., & Bélanger, C. (2010). Determinants of barriers to treatment for anxiety disorders. *Psychiatric Quarterly*, *81*(2), 127–138. https://doi.org/10.1007/s11126-010-9123-5

Childs, E., Vicini, L. M., & De Wit, H. (2006). Responses to the Trier Social Stress Test (TSST) in single versus grouped participants. *Psychophysiology, 43*(4), 366–371. https://doi.org/10.1111/j.1469-8986.2006.00414.x

Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. Heimberg, M. Liebowitz, D. A. Hope, & F. Scheiner (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 69–93). New York: Guilford Press.

Cody, M. W., & Teachman, B. A. (2011). Global and Local Evaluations of Public Speaking Performance in Social Anxiety. *Behavior Therapy, 42*(4), 601–611. https://doi.org/10.1016/j.beth.2011.01.004

Connor, K. M., Davidson, J. R. T., Churchill, L. E., Sherwood, A., Foa, E., & Weisler, R. H. (2000). Psychometric properties of the Social Phobia Inventory (SPIN). *British Journal of Psychiatry*, *176*(04), 379–386. https://doi.org/10.1192/bjp.176.4.379

Conway, T. (2020). *Self-compassion helps preserve emotional well-being when experiencing failure by promoting more adaptive causal attributions*. (Unpublished doctoral dissertation). Retrieved from https://mspace.lib.umanitoba.ca/

Craske, M. G., Niles, A. N., Burkland, L. J., Wolitsky-Taylor, K. B., Vilardaga, J. C. P. . . . Lieberman, M. D. (2014). RCT of CBT and ACT for social phobia: outcomes and moderators. *Journal of Consulting and Clinical Psychology,* 82, 1034–1048. http://dx.doi.org/10.1037/a0037212

Creswell, J. D., Welch, W. T., Taylor, S. E., Sherman, D. K., Gruenewald, T. L., & Mann, T. (2005). Affirmation of personal values buffers neuroendocrine and psychological stress responses. *Psychological Science*, *16*(11), 846–851. https://doi.org/10.1111/j.1467-9280.2005.01624.x

Crişan, L. G., Vulturar, R., Miclea, M., & Miu, A. C. (2016). Reactivity to Social Stress in Subclinical Social Anxiety: Emotional Experience, Cognitive Appraisals, Behavior, and Physiology. *Frontiers in Psychiatry, 7*, 5–5. https://doi.org/10.3389/fpsyt.2016.00005

Dickerson, S. S., & Kemeny, M. E. (2002). Acute stressors and cortisol reactivity: A meta-analytic review. *Psychosomatic Medicine*, *64*(1), 105–105.

Dimitra, A., Eirini, K., Christos, P., Agathi, L., & Anastassios, S. (2020). Self-Compassion in Clinical Samples: A Systematic Literature Review. *Psychology*, *11*, 217–244. https://doi.org/10.4236/psych.2020.112015

Dreisoerner, A., Junker, N. M., & van Dick, R. (2021). The relationship among the components of self-compassion: A pilot study using a compassionate writing intervention to enhance self kindness, common humanity, and mindfulness. *Journal of Happiness Studies*, *22*(1), 21–47. https://doi.org/10.1007/s10902-019-00217-4

Dundas, I., Binder, P.-E., Hansen, T. G. B., & Stige, S. H. (2017). Does a short self-compassion intervention for students increase healthy selfregulation? A randomized control trial. *Scandinavian Journal of Psychology, 58*(5), 443–450. https://doi.org/10.1111/sjop.12385.

Eagle, D., Rash, J. A., Tice, L., & Proeschold-Bell, R. J. (2021). Evaluation of a remote, internet-delivered version of the Trier Social Stress Test. *International Journal of Psychophysiology*, *165*, 137–144. https://doi.org/10.1016/j.ijpsycho.2021.03.009

Ewert, C., Buechner, A., & Schröder-Abé, M. (2024). Stress perception and coping as mediators of the link between self-compassion and affective well-being? Evidence from two longitudinal studies. *Mindfulness*, *15*(2), 372–388. https://doi.org/10.1007/s12671-023-02295-1

Ewert, C., Vater, A., & Schröder-Abé, M. (2021). Self-Compassion and Coping: a Meta-Analysis. *Mindfulness*, *12*(5), 1063–1077. https://doi.org/10.1007/s12671-020-01563-8

Fernandez, E., Salem, D., Swift, J. K., & Ramtahal, N. (2015). Meta-Analysis of Dropout From Cognitive Behavioral Therapy: Magnitude, Timing, and Moderators. Journal of *Consulting and Clinical Psychology, 83*(6), 1108–1122. https://doi.org/10.1037/ccp0000044

Ferrari, M., Hunt, C., Harrysunker, A., Abbott, M. J., Beath, A. P., & Einstein, D. A. (2019). Self-Compassion Interventions and Psychosocial Outcomes: a Meta-Analysis of RCTs. *Mindfulness*, *10*(8), 1455–1473. https://doi.org/10.1007/s12671-019-01134-6

Field, A. P. (2017). Discovering statistics using IBM SPSS statitstics (5th edition). Sage.

Finlay-Jones, A. L. (2017). The relevance of self-compassion as an intervention target in mood and anxiety disorders: A narrative review based on an emotion regulation framework. Clinical Psychologist., 21(2), 90–103. https://doi.org/10.1111/cp.12131

Fracalanza, K., Koerner, N., & Antony, M. M. (2014). Testing a procedural variant of written imaginal exposure for generalized anxiety disorder. *Journal of Anxiety Disorders, 28*(6), 559–569. https://doi.org/10.1016/j.janxdis.2014.05.011

Friis, A. M., Johnson, M. H., & Consedine, N. S. (2017). Paradoxical Effects of Self-Compassion on Mood and Teeth Flossing Behavior in an Experimental Setting. *Mindfulness*, *8*(1), 150–158. https://doi.org/10.1007/s12671-016-0585-x

Gilbert, P. (2001). Evolution and social anxiety: The role of attraction, social competition, and social hierarchies. *The Psychiatric Clinics of North America, 24*(4), 723–751.

Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment, 15*(3), 199–208. https://doi.org/10.1192/apt.bp.107.005264

Gilbert, P., McEwan, K., Matos, M., & Rivis, A. (2011). Fears of compassion: Development of three self-report measures. *Psychology and Psychotherapy: Theory, Research and Practice, 84*(3), 239–255. https://doi.org/10.1348/147608310X526511

Gnambs, T., Scharl, A., & Schroeders, U. (2018). The Structure of the Rosenberg Self-Esteem Scale: A Cross-Cultural Meta-Analysis. *Zeitschrift Für Psychologie, 226*(1), 14–29. https://doi.org/10.1027/2151-2604/a000317

Goldman, N., Dugas, M. J., Sexton, K. A., & Gervais, N. J. (2007). The Impact of Written Exposure on Worry: A Preliminary Investigation. *Behavior Modification, 31*(4), 512–538. https://doi.org/10.1177/0145445506298651

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, *26*(1), 1–26. https://doi.org/10.1080/1047840X.2014.940781

Hallgren, K. (2012). Computing inter-rater reliability for observational data: An Overview and tutorial. *Tutorials in Quantitative Methods for Psychology, 8*(1), 23–34. https://doi.org/10.20982/tqmp.08.1.p023

Hans, E., & Hiller, W. (2013). Clinical psychology review A meta-analysis of nonrandomized effectiveness studies on outpatient cognitive behavioral therapy for adult anxiety disorders. *Clinical Psychology Review*, *33*(8), 954–964. https://doi.org/10.1016/j.cpr.2013.07.003

Harwood, E. M., & Kocovski, N. L. (2017). Self-Compassion induction reduces anticipatory anxiety among socially anxious students. *Mindfulness*, *8*(6), 1544–1551. https://doi.org/10.1007/s12671-017-0721-2

Hayes, A. F. (2022). *Introduction to mediation, moderation and conditional process analysis: A regression based approach.* The Guilford Press.

Hofmann, S., & Hay, A. C. (2018). Rethinking avoidance: Toward a balanced approach to avoidance in treating anxiety disorders. *Journal of Anxiety Disorders,* 55, 14–21. https://doi.org/10.1016/j.janxdis.2018.03.004

Hofmann, S. G., & DiBartolo, P. M. (2014). *Social Anxiety: Clinical, Developmental, and Social Perspectives, Third Edition*. Elsevier Science & Technology.

Hofmann, S. G., & Otto, M. W. (2017). *Cognitive Behavioral Therapy for Social Anxiety Disorder: Evidence-Based and Disorder-Specific Treatment Techniques* (2nd ed.). Routledge. https://doi.org/10.4324/9781315617039

Jefferies, P., Ungar, M., & Lincoln, S. H. (2020). Social anxiety in young people: A prevalence study in seven countries. *PloS One, 15*(9), e0239133–e0239133. https://doi.org/10.1371/journal.pone.0239133

Johnson, E., & O'Brien, K. (2013). Self-compassion soothes the savage ego-threat system: effects on negative affect, shame, rumination, and depressive symptoms. *Journal of Social and Clinical Psychology*, *32*(9), 939–963. https://doi.org/10.1521/jscp.2013.32.9.939

Kaczkurkin, A. N., & Foa, E. B. (2015). Cognitive-behavioral therapy for anxiety disorders: an update on the empirical evidence. *Dialogues in Clinical Neuroscience, 17*(3), 337–346.

Kampmann, I. L., Emmelkamp, P. M. G., & Morina, N. (2018). Self-report questionnaires, behavioral assessment tasks, and an implicit behavior measure: do they predict social anxiety in everyday life? *PeerJ (San Francisco, CA), 6*, e5441–e5441. https://doi.org/10.7717/peerj.5441

Kessler, R., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Wittchen, H.-U. (2012). Twelve-month and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States. *International Journal of Methods in Psychiatric Research*, *18*(2), 69–83. https://doi.org/10.1002/mpr

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National

Comorbidity Survey replication. *Archives of General Psychiatry*, *62*(6), 593. https://doi.org/10.1001/archpsyc.62.6.593

Ketay, S., Beck, L. A., & Dajci, J. (2023). Self-compassion and social stress: Links with subjective stress and cortisol responses. *Self and Identity*, *22*(3), 486–505. https://doi.org/10.1080/15298868.2022.2117733

Kirby, J., Tellegen, C., & Steindl, S. (2017). A meta-analysis of compassion-based interventions: current state of knowledge and future directions. *Behavior Therapy*, *48*(6), 778–792. https://doi.org/10.1016/j.beth.2017.06.003

Kirschbaum, C., Pirke, K. M., & Hellhammer, D. H. (1993). The Trier Social Stress Test - A tool for investigating psychobiological stress responses in a laboratory setting. *Neuropsychobiology*, *28*(1–2), 76–81.

Kross, E., & Ayduk, O. (2011). Making Meaning out of Negative Experiences by Self-Distancing. *Current Directions in Psychological Science*, *20*(3), 187–191. https://doi.org/10.1177/0963721411408883

Kudielka, B. M., Hellhammer, D. H., & Kirschbaum, C. (2007). Ten years of research with the trier social stress test (TSST) - revisited. In: Harmon-Jones, E., Winkelman, P. (Eds.), Social Neuroscience: Integrating Biological and Psychological Explanations of Behaviour. Guilford Press, New-York, pp. 56–83.

Labuschagne, I., Grace, C., Rendell, P., Terret, G., & Heinrichs, M. (2019). An introductory guide to conducting the trier social stress test. *Neurosci. Biobehav. Rev*. 107, 686–695. https://doi.org/10.1016/j.neubiorev.2019.09.032.

Lathren, C., Bluth, K., & Park, J. (2019). Adolescent self-compassion moderates the relationship between perceived stress and internalizing symptoms. *Personality and Individual Differences*, *143*, 36–41. https://doi.org/10.1016/j.paid.2019.02.008

Leary, M. R. (1983). A Brief Version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin*. https://doi.org/10.1177/0146167283093007

Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, *92*(5), 887–904. https://doi.org/10.1037/0022-3514.92.5.887

Leichsenring, F., & Leweke, F. (2017). Social anxiety disorder. *The New England Journal of Medicine*, 2255–2264. https://doi.org/10.1056/NEJMcp1614701

Long, P., & Neff, K. D. (2018). Self-compassion is associated with reduced self-presentation concerns and increased student communication behavior. *Learning and Individual Differences*, *67*(August), 223–231. https://doi.org/10.1016/j.lindif.2018.09.003

MacBeth, A., & Gumley, A. (2012). Exploring compassion: a metaanalysis of the association between self-compassion and psychopathology. *Clinical Psychology Review, 32*(6), 545–552. https://doi.org/10.1016/j.cpr.2012.06.003.

Marks, I., & Mathews, A. (1979). Brief standard self-rating for phobic patients. *Behaviour Research and Therapy, 17*(3), 263–267. https://doi.org/10.1016/0005-7967(79)90041-X

Mcmanus, F., Sacadura, C., & Clark, D. M. (2008). Why social anxiety persists : An experimental investigation of the role of safety behaviours as a maintaining factor. *Journal of Behavior Therapy and Experimental Psychiatry*, *39*, 147–161. https://doi.org/10.1016/j.jbtep.2006.12.002

McMillan, D., & Lee, R. (2010). A systematic review of behavioral experiments vs. exposure alone in the treatment of anxiety disorders: A case of exposure while wearing the emperor's new clothes? *Clinical Psychology Review, 30*(5), 467–478. https://doi.org/10.1016/j.cpr.2010.01.003

Meier, M., Haub, K., Schramm, M.-L., Hamma, M., Bentele, U. U., Dimitroff, S. J., Gärtner, R., Denk, B. F., Benz, A. B. E., Unternaehrer, E., & Pruessner, J. C. (2022). Validation of an online version of the trier social stress test in adult men and women. *Psychoneuroendocrinology*, 142, 105818–105818. https://doi.org/10.1016/j.psyneuen.2022.105818

Mohr, D. C., Spring, B., Freedland, K. E., Beckner, V., Arean, P., Hollon, S. D., Ockene, J., & Kaplan, R. (2009). The selection and design of control conditions for randomized controlled trials of psychological interventions. *Psychotherapy and Psychosomatics*, *78*(5), 275–284. https://doi.org/10.1159/000228248

Narvaez Linares, N., Charron, V., Ouimet, A., Labelle, P., & Plamondon, H. (2020). A systematic review of the Trier Social Stress Test methodology: Issues in promoting study comparison and replicable research. *Neurobiology of Stress, 13*, 100235–100235. https://doi.org/10.1016/j.ynstr.2020.100235

National Institute for Health and Care Excellence. *Social anxiety: recognition, assessment and treatment: clinical guideline*. June, 2017 (https:/ / www .nice .org .uk/ guidance/ cg159)

Neff, K. D. (2003a). The Development and Validation of a Scale to Measure Self-Compassion. *Self and Identity, 2*(3), 223–250. https://doi.org/10.1080/15298860309027

Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity,* 2, 85–101. https://doi.org/10.1080/15298860309032

Neff, K. D., & Germer, C. K. (2013). A Pilot Study and Randomized Controlled Trial of the Mindful Self-Compassion Program. *Journal of Clinical Psychology*, *69*(1), 28–44. https://doi.org/10.1002/jclp.21923

Neff, K. D., Hsieh, Y.-P., & Dejitterat, K. (2005). Self-compassion, Achievement Goals, and Coping with Academic Failure. *Self and Identity, 4*(3), 263–287. https://doi.org/10.1080/13576500444000317Downloaded

Neff, K. D., Long, P., Knox, M. C., Davidson, O., Kuchar, A., Costigan, A., Williamson, Z., Rohleder, N., Tóth-Király, I., & Breines, J. G. (2018). The forest and the trees: Examining the association of self-compassion and its positive and negative components with psychological functioning. *Self and Identity, 17*(6), 627–645. https://doi.org/10.1080/15298868.2018.1436587

Neff, K. D., Tóth-Király, I., Knox, M., Kuchar, A., & Davidson, O. (2021). The development and validation of the state self-compassion scale (long- and short form). *Mindfulness 12*(1), 121–140. https://doi-org.uml.idm.oclc.org/10.1007/s12671-020-01505-4

Neff, K. D., Tóth-Király, I., Yarnell, L. M., Arimitsu, K., Castilho, P., Ghorbani, N., Guo, H. X., Hirsch, J. K., Hupfeld, J., Hutz, C. S., Kotsou, I., Lee, W. K., Montero-Marin, J., Sirois, F. M., de Souza, L. K., Svendsen, J. L., Wilkinson, R. B., & Mantzios, M. (2019). Examining the factor structure of the Self-Compassion Scale in 20 diverse samples: Support for use of a total score and six subscale scores. *Psychological Assessment,* 31, 27–45. https://doi.org/10.1037/pas0000629

O'Brien, K. (2017). *Self-affirmation and social anxiety: affirming values reduces anxiety and avoidance.* (Unpublished doctoral dissertation). Retrieved from

https://mspace.lib.umanitoba.ca/

Odou, N., & Brinker, J. (2015). Self-compassion, a better alternative to rumination than distraction as a response to negative mood. *The Journal of Positive Psychology*, *10*(5), 447–457. https://doi.org/10.1080/17439760.2014.967800

Osório, F. L., Crippa, J. A. S., & Loureiro, S. R. (2010). Evaluation of the psychometric properties of the Social Phobia Inventory in university students. *Comprehensive Psychiatry*, *51*(6), 630–640. https://doi.org/10.1016/j.comppsych.2010.03.004

Ovanessian, M. M., Koerner, N., Antony, M. M., & Dugas, M. J. (2019). A preliminary test of the therapeutic potential of written exposure with rescripting for generalized anxiety disorder. *Journal of Experimental Psychopathology*, *10*(2). https://doi.org/10.1177/2043808719841529

Pauley, G., & McPherson, S. (2010). The experience and meaning of compassion and self-compassion for individuals with depression or anxiety. *Psychology and Psychotherapy: Theory, Research and Practice, 83*(2), 129–143. https://doi.org/10.1348/147608309X471000

Phillips, W. (2019). Self-compassion mindsets: The components of the self-compassion scale operate as a balanced system within individuals. *Current Psychology (New Brunswick, N.J.)*, 1–14. https://doi.org/10.1007/s12144-019-00452-1

Phillips, W. J., & Hine, D. W. (2021). Self-compassion, physical health, and health behaviour: a meta-analysis. *Health Psychology Review*, *0*(0), 1–27. https://doi.org/10.1080/17437199.2019.1705872

Price, M., & Anderson, P. L. (2011). Latent growth curve analysis of fear during a speech task before and after treatment for social phobia. *Behaviour Research and Therapy*, *49*(11), 763–770. https://doi.org/10.1016/j.brat.2011.08.004

Przezdziecki, A., & Sherman, K. A. (2016). Modifying affective and cognitive responses regarding body image difficulties in breast cancer survivors using a self-compassion-based writing intervention. *Mindfulness, 7*(5), 1142–1155. https://doi.org/10.1007/s12671-016-0557-1.

Quattrone, G. A. (1985). On the congruity between internal states and action. *Psychological Bulletin, 98*(1), 3–40. https://doi.org/10.1037/0033-2909.98.1.3

Rodebaugh, T. L., Woods, C. M., Thissen, D. M., Heimberg, R. G., Chambless, D. L., & Rapee, R. M. (2004). More information from fewer questions: The factor structure and item properties of the original and brief fear of negative evaluation scale. *Psychological Assessment*, *16*(2), 169–181. https://doi.org/10.1037/1040-3590.16.2.169

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Ruscio, A. M., Brown, T. A., Chiu, W. T., Sareen, J., Stein, M. B., & Kessler, R. C. (2007). Social fears and social phobia in the USA: results from the National Comorbidity Survey Replication. *Psychological Medicine, 38*(1), 15–28. https://doi.org/10.1017/S0033291707001699

Sewart, A. R., Niles, A. N., Burklund, L. J., Saxbe, D. E., Lieberman, M. D., & Craske, M. G. (2019). Examining Positive and Negative Affect as Outcomes and Moderators of Cognitive-Behavioral Therapy and Acceptance and Commitment Therapy for Social

Anxiety Disorder. *Behavior Therapy*, *50*(6), 1112–1124. https://doi.org/10.1016/j.beth.2019.07.001

Shalom, J. G., Israeli, H., Markovitzky, O., & Lipsitz, J. D. (2015). Social anxiety and physiological arousal during computer mediated vs. face to face communication. *Computers in Human Behavior*, *44*, 202–208. https://doi.org/10.1016/j.chb.2014.11.056

Slivjak, E. T., Al Majid, F., Wrigley, J., Russell, S., Zielony, L., & Arch, J. J. (2024). Self-Compassion and Social Anxiety: A Scoping Review. *Mindfulness*, *15*(10), 2448–2472. https://doi.org/10.1007/s12671-024-02450-2

Sloan, D. M., & Marx, B. P. (2019). *Written exposure therapy for PTSD: A brief treatment approach for mental health professionals*. American Psychological Association.

Smeets, E., Neff, K., Alberts, H., & Peters, M. (2014). Meeting suffering with kindness: Effects of a brief self-compassion intervention for female college students. *Journal of Clinical Psychology,* 70, 794–807. http://dx.doi.org/10.1002/jclp.22076

Spence, S. H., & Rapee, R. M. (2016). The etiology of social anxiety disorder: An evidence-based model. *Behaviour Research and Therapy*, 86, 50–67. https://doi.org/10.1016/j.brat.2016.06.007

Spielberger, C. D., Gorsuch, T. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the state-trait anxiety inventory*. Palo Alto, CA: ConsultingPsychologists Press.

Taylor, S., Abramowitz, J. S., & McKay, D. (2012). Non-adherence and non-response in the treatment of anxiety disorders. *Journal of Anxiety Disorders, 26*(5), 583–589. https://doi.org/10.1016/j.janxdis.2012.02.010

Thompson, B., & Waltz, J. (2008). Self-compassion and PTSD symptom severity. *Journal of Traumatic Stress*, *21*(6), 556–558. https://doi.org/10.1002/jts.20374

Tsimirikas, C., & Tragantzopoulou, P. (2025). Lingering shadows and new horizons: The complex legacy of the COVID-19 lockdown in Greece. *COVID*, *5*(2), 23-. https://doi.org/10.3390/covid5020023

Tulbure, B. T., Szentagotai, A., Dobrean, A., & David, D. (2012). Evidence based clinical assessment of child and adolescent social phobia: A critical review of rating scales. *Child Psychiatry and Human Development*, *43*(5), 795–820. https://doi.org/10.1007/s10578-012-0297-y

Vatheuer, C. C., Vehlen, A., von Dawans, B., & Domes, G. (2021). Gaze behavior is associated with the cortisol response to acute psychosocial stress in the virtual TSST. *Journal of Neural Transmission*, *128*(9), 1269–1278. https://doi.org/10.1007/s00702-021-02344-w

von Dawans, B., Kirschbaum, C., & Heinrichs, M. (2010). The Trier Social Stress Test for Groups (TSST-G): A new research tool for controlled simultaneous social stress exposure in a group format. *Psychoneuroendocrinology, 36*(4), 514–522. https://doi.org/10.1016/j.psyneuen.2010.08.004

Wang, P. S., Berglund, P., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Failure and Delay in Initial Treatment Contact After First Onset of Mental Disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 603–613. https://doi.org/10.1001/archpsyc.62.6.603

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*(6), 1063–1070. https://doi.org/10.1037/0022-3514.54.6.1063

Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin*, *138*(4), 775–808. https://doi.org/10.1037/a0027600

Weeks, J. W., Heimberg, R. G., Hart, T. A., Fresco, D. M., Turk, C. L., Schneier, F. R., & Liebowitz, M. R. (2005). Empirical validation and psychometric evaluation of the brief fear of negative evaluation scale in patients with social anxiety disorder. *Psychological Assessment*, *17*(2), 179–190. https://doi.org/10.1037/1040-3590.17.2.179

Werner, K. H., Jazaieri, H., Goldin, P. R., Ziv, M., Heimberg, R. G., & Gross, J. J. (2012). Self-compassion and social anxiety disorder. *Anxiety, Stress and Coping*, *25*(5), 543–558. https://doi.org/10.1080/10615806.2011.608842

Wilson, A., Mackintosh, K., Power, K., & Chan, S. W. Y. (2019). Effectiveness of self-compassion related therapies: A systematic review and meta-analysis. *Mindfulness*, *10*(6), 979–995. https://doi.org/10.1007/s12671-018-1037-6

Zessin, U., Dickhäuser, O., & Garbade, S. (2015). The relationship between self-compassion and well-being: a meta-analysis. *Applied Psychology: Health and Well-Being, 7*(3), 340–364. https://doi.org/10.1111/aphw.12051.

Zhang, J. W., & Chen, S. (2016). Self-Compassion Promotes Personal Improvement From Regret Experiences via Acceptance. *Personality and Social Psychology Bulletin*, *42*(2), 244–258. https://doi.org/10.1177/0146167215623271

Zsido, A. N., Teleki, S. A., Csokasi, K., Rozsa, S., & Bandi, S. A. (2020). Development of the short version of the spielberger state—trait anxiety inventory. *Psychiatry Research*, *291*, 113223–113223. https://doi.org/10.1016/j.psychres.2020.113223

Appendix A
Consent Form- Study 1

Informed Consent
Title of Research: Writing and Well-Being

Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of Psychology, braisn@myumanitoba.ca

Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about, who is involved in the research, and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to directly ask the study personnel if any questions arise. Please take time to read this carefully and to understand any accompanying information.

Before agreeing to participate in this study, it is important that you read and understand the following explanation of the study process. The following information describes the purpose, steps, benefits, risks and precautions associated with this study. It also describes your right to refuse to participate or leave the study at any time. In order to decide whether you want to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is known as the informed consent process.

Purpose of the study: Nicolas Brais is conducting this study as part of his PhD dissertation under the supervision of Dr. Ed Johnson. The purpose of this project is to examine the relationship between writing about potentially challenging experiences and well-being.

What will participants do in the study, and how long will it take: Depending on your randomly assigned condition in this study, you may be asked to complete a series of questionnaires or complete questionnaires and writing tasks. For the writing task you will be asked to think and write about an upcoming event and answer questions about it. All responses will be kept confidential and anonymized at the end of the end of the study (December 2022). Depending on your randomly assigned condition the study should take between 10-30 minutes to complete.

Potential Risks and Benefits of the Research: There are no expected risks for participating in this study, beyond those that might be expected during the course of everyday life. You may experience some discomfort associated with writing about a negative event; resource information

is provided below and will be provided at the end of the study. Benefits may include the opportunity to reflect on personal experiences, develop insight into coping behaviours, or enhance your ability to cope with difficult life experiences.

Resource List
If you are having serious thoughts about harming yourself, we encourage you to contact any of the resources listed below for support.

- **Psychological Service Centre**: 204-474-9222
- **University of Manitoba Student Counselling Centre**: 204-474-8592
- **Klinic Crisis Line** (24/7): 204-786-8686
- **Klinic Community Health**: 204-784-4090
- **Mobile Crisis Service**: 204-940-1781
- **Crisis Stabilization Unit** (24/7): 204-940-3633,
- **Adult Mental Health Crisis Response Centre** (24/7 Services), 204-940-1781
- **Manitoba Addictions Helpline**: 1-855-662-6605

*IF YOU ARE IN CRISIS, CALL THE KLINIC CRISIS LINE: 204-786-8686

Compensation:
Individuals who participate in this study will receive 1 research credit for PSYC 1200 course.

Voluntary Participation: Participation in this study is completely voluntary, and you may decline consent or withdraw from participating at any time without punishment by simply discontinuing your participation. You may also refuse to answer any questions that you do not wish to answer.

Can I withdraw from the research at any time?
Participants can withdraw from the research project at any time, even after consent to participate has been provided. If participants decide to withdraw for any reason, no negative consequences will follow, and the information they have contributed (if any) will be excluded from the study analysis. To withdraw from the study, you can email the primary investigator in order to be granted credit; in this email, you will need to include your SONA ID as well as the date and approximate time you began the survey. The primary investigator will then manually grant you the research credit within a few weeks of receiving the email. If you choose to withdraw, any information you have provided up to that time will be removed from the study analysis. In order to withdraw your data from the study, you must email the primary investigator this request by December 2022; following this, the data will be anonymized, and it will be impossible to remove your individual data from the dataset. There will be no negative consequences for withdrawing and you will still receive your research credit.

Confidentiality: Your responses in this study will remain confidential at all times. Your initial data will be stored on the encrypted and password-protected Qualtrics website; at the end of the data collection, any information that you provide will be transferred and stored on password-protected UM Sharepoint. Once this upload has occurred, any data from Qualtrics will be deleted. Only the principal investigator and his supervisor will have access to your data which

will not be linked to you.

The results from this study will be presented in a Ph.D. dissertation that will be posted on MSpace, and may be presented in scientific journals, book chapters, and/or at conferences and public lectures. The results will be presented in aggregate and will not focus on any individual's responses.

To facilitate open science and collaboration between researchers, the anonymized data file, or parts of the file, will be shared with other researchers or posted on research websites. Sharing anonymized data is a best practice in data management and is in compliance with national research data archiving policies. It is important to emphasize that data shared in this way will be anonymized, meaning that the chances that your response could be linked back to you personally is extremely low.

Questions or Concerns: If you have any questions about this study, please do not hesitate to contact Nicolas Brais: braisn@myumanitoba.ca, or Dr. Ed Johnson: ed.johnson@umanitoba.ca, (204) 474-9006

Results: The Results of this study should be available by May 2023. If you would like to receive a summary of the results, please enter your email address below. If you do NOT want to receive a summary leave the email blank.

Statement of Consent: Statement of Consent: Clicking "Yes, I consent" (at the bottom of this page) indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.
The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

Appendix B
Anticipation Induction

Anxiously anticipated future event:

Please take a moment to think about an **upcoming** event or activity that you are motivated to participate in or need to do but **that causes you worries and anxiety**. This might be an upcoming presentation, class participation, a performance, group hangout, calling an old friend, etc. Please take a few moments to think about a situation before continuing.

Please write a story about yourself and your worst fear coming true in that **upcoming future situation**. Do not worry about grammar, spelling or sentence structure. The important thing is to let yourself go and to write about your deepest thoughts and feelings about the experience. Write in the first person (I, my, me), present tense, as if the situation is really happening. Start by describing the circumstances that lead to the event, then describe what happens during the situation, and finally the consequences of the situation. In other words, tell a story about what happens and how it makes you think and feel. This may include physical sensations; for example, you may wish to describe how your body reacts or what you feel, touch, taste, and smell. Additionally, you may describe any feelings or emotions you experience, such as feelings of inadequacy, failure, fear, self-doubts, etc. You may feel anxious when writing thoughts, feelings, and sensations about your worst fear—this is normal, try your best to stay in the moment.

Neutral event:

Please take a moment to think about an **upcoming event** or activity you need to participate in **that does not cause you any worries or anxiety**. This should be a neutral event, that is, not something you are worried about, but also not something you are excited about (e.g., grocery shopping, getting your mail, a family gathering).

Please write a story about yourself in the **upcoming situation**. Do not worry about grammar, spelling or sentence structure. The important thing is to let yourself go and to describe any thoughts and feelings you anticipate experiencing. Write in the first person (I, my, me), present tense, as if the situation is really happening. Start by describing the circumstances that led to the situation, then describe what happens during the situation, and finally the consequences of the situation. In other words, tell a story about what happens and how it makes you think and feel. Include your physical sensations. For example, you may wish to describe how your body reacts or what you feel, touch, taste, and smell. Additionally, you may describe any feelings or emotions you experience.

Appendix C
Study 1 Writing Induction

Self-Compassionate Mindstate Induction:

We would now like you to take part in a brief exercise to see if it is helpful in dealing with this anticipated stressful situation. Please complete this brief writing exercise and follow the instructions as closely as possible.

[1. Mindfulness writing prompt]
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.

(For example, "*I am worried that others will notice how nervous I am. I feel embarrassed that my voice shakes or my face turns red when I try to talk in front of others. It's only natural to be nervous in a new situation or social situation. This is really hard for me right now...*")

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't **worry about spelling, sentence structure, or grammar.**
[SPACE FOR WRITING]

[2. Common humanity writing prompt]
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.

(For example, "*I am not the only one who struggles with social situations or being in the spotlight. Part of being human is learning how to get through times like these. Most people worry about what other people think. It's not just me...*")

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.
[SPACE FOR WRITING]

[3. Self-kindness writing prompt]
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.

(For example, "*You're doing the best you can. I'm so sorry you're struggling with this. It's going to be okay. I will help you and support you to get through this..."*)

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.
[SPACE FOR WRITING]

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 toward 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.

Control Writing:

We would now like you to take part in a brief exercise to see if it is helpful in dealing with this anticipated stressful situation. Please complete this brief writing exercise and follow the instructions as closely as possible.

[1. Description writing prompt]
In the space below, please write about what exactly you anticipated occurring in this difficult situation. Try to be as descriptive as possible.

(For example, " My friend invites me to a party. I don't know everyone who will be there. I don't know what to wear. When I walk in, everyone looks at me and know that I don't belong. I don't know what to say when someone talks to me…")

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

[2. People involved writing prompt]
In the space below, please write about who is involved in the situation if it involves more than just you. Please describe the people involved in as much detail as possible, even if you are the only one involved (in this case, describe yourself).

(For example, "Me, my friend, other guests. There are 10 people at the party. I know 5 of the 10. I'm wearing jeans and a tee shirt. My friend is wearing a sweater. Everyone has a drink in their hand and are talking to each other…")

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

[3. Words spoken writing prompt]
In the space below, please write any words that may be spoken in the situation, either what you may say to yourself, what other people may say to you, or what you may say to other people.

Please use as much detail as possible.

(For example, "*I told my friend I don't want to go, that I don't know anyone. He tells me that it will be fun and that I should go…")*

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

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

Appendix D
Study 2 Manual

Experimenter/ Judge 1/ Judge 2/ *Instructions*

Preparations:

- Experimenter and judges: Professional clothes and neutral background
- Experimenter and judged: Open Zoom, check own Camera and Microphone settings, name in zoom: First and last name
    - Have all study material read (TSST instructions, TSST scoring sheet ready, timer ready)
- Make other judges and Experimenter co-hosts
    - Assigns judges to the breakout room.

Main Zoom Room: Introduction and preparation of TSST online:

Allow participants to enter the zoom

- *Change the names to "participant 1, participant 2 etc."*

INTRODUCTION:

Experimenter: Welcome to the HILDA study. Can you see and understand me clearly? Is everyone in a private space where you can speak out loud and won't be disturbed?

Technical checks: We will do a short technical check first. Can you say something and turn on your camera? Please do not use headphones as they will be a distraction in a later task. Please keep the camera on during the entire experiment and do not leave the room.

Please switch to gallery mode and do not change it during the whole session unless instructed to. To enter the gallery mode, please click on "Gallery view" in the zoom window on the top right.

The session today will last about 60 minutes and will be divided into three parts. The first part consists of questionnaires and a writing exercise. This is followed by a part with a speaking task. In this second part of the experiment, you will be asked to perform a free speech exercise and work on an arithmetic task. In the third part of the experiment, you will again be asked to complete questionnaires. As you can see, I have changed your names to Participant 1, 2 etc. just to simplify things, when we call on you, it will be by participant number.

Have you closed the door and are in a space where you will be undisturbed?

I will also ask that you put away your phone for the duration of the study and refrain from doing other tasks on your computer. It is really important for this study that you remain focused on the study. There may be times when you are asked to wait; I'll ask that in those moments, you refrain from doing other things on your computer or phone (e.g., check email) and rather sit and wait.

Any questions?

Great, lastly as you can see there are X number of you participating today. Due to the group nature of this study, we ask that you please keep what happens here today confidential. That is, please do not share with others what fellow participants may say or the nature of the study.

In a few seconds I'll posted the link for the questionnaire in the chat for you. Once you start the questionnaire, please do not exit the questionnaire; please leave the window in your browser open until the end of the experiment; simply minimize it when you are not using it.

As you go through the questionnaire, you will be asked to stop periodically, minimize the questionnaire and return to the Zoom; it will also ask you for a code. I will provide you with the code to continue when it is time to do so. You can indicate that you have returned to the zoom by waving or giving a thumbs up.

Post link for online questionnaire in chat.

Now, please click on the link and go over the consent form. If you consent to continue the study, please select "I consent" and return to the zoom. If you do not consent, select "no, I do not consent," and you may leave the zoom meeting.

Once everyone has returned, we will continue to the next step in the study. Please keep your camera on as you complete the questionnaire.

If you have any questions, you can contact me at any time; you can go ahead.

Participants sign the consent and return to ZOOM:
Once everyone has signed…

Social anxiety Psychoeducation:
Great, now let me tell you a little more about the study:
Because some of the responses you gave on the [screening/baseline] study were consistent with individuals who have some degree of social phobia or social anxiety, part of this study is to provide a bit of education about social anxiety:

<u>Background information on social phobia/social anxiety:</u>
Social anxiety is different for everyone, but there are features that are common amongst people who experience significant levels of it. Such as:

- *Feeling very self-conscious or Avoiding a lot of social situations and people in general.*
- *Constantly worrying about what others think of you.*
- *Having a tendency to look back over social situations and ruminate about things you think you did wrong and then feeling anxious or embarrassed about them.*
- *Having strong fears about opening up to people and expressing your personality to them.*
- *Finding it uncomfortable to make eye contact with people.*
- *Finding it difficult to speak to people in positions of authority.*
- *Feeling very self-conscious about eating, drinking or writing in front of other people.*

If you experience many of the items on this list, then you may be experiencing high levels of social anxiety. Not all of them will apply to all people who are finding social situations difficult.

Today I'm going to ask you to do some things in this study that may be uncomfortable and cause you some stress/anxiety. However, I would like you to know that research has shown that engaging in feared activities ultimately helps individuals become freer of their anxiety.

In fact, exposure to feared situations is an effective treatment for social anxiety.
*"**Exposure** therapy is defined as any treatment that encourages the systematic confrontation of feared stimuli, which can be external (e.g., feared objects, activities, situations) or internal (e.g., feared thoughts, physical sensations). The aim of exposure therapy is to reduce the person's fearful reaction to the stimulus."*
*Although **exposure is not easy** for most people with social phobia, over time, the uncomfortable feelings will become less. In fact, persevering in exposure situations, no matter how difficult or how poorly you feel you are doing, is very important and adds to the helpful effect of exposure. A reality of **avoiding** the situations is that social phobia or social anxiety is very likely to **get worse.***

Back to the survey:
Now I'll get you to go back to the survey: The code to continue is **[1234].**
As a reminder, please keep your cameras on, and when instructed, please return to the zoom.

Participants complete the TSST imaginal exposure and the Writing tasks before returning to the zoom:
Prompt After 10 minutes- Should be at the next writing – If SC and Expressive conditions.

TSST instructions:
Alright, now the next part of the experiment first involves an exercise in free speech. Your task will be to prepare and present a brief presentation arguing for or against 1 of 4 randomly assigned topics. In addition to the selected topic, we ask that you include your name, where you are from and your program of study as part of your presentation. At the end of the second part of the experiment, you will be asked to complete a mathematical task.
You have 3 minutes to prepare for the upcoming two-minute presentations in front of 2 judges who have been trained to pay attention to non-verbal behaviours on your part. During the presentation, audio and visual recordings will be made of you to evaluate your presentation performance based on the content of your presentation and the verbal and non-verbal presentation style. You can also object to this recording by letting the panel know at the beginning.

As a reminder, although **exposure is not easy** for most people with social phobia, over time, the uncomfortable feelings will become less. In fact, persevering in exposure situations, no matter how difficult or how poorly you feel you are doing, is very important and adds to the helpful effect of exposure and the reality of **avoiding** the situations is that social phobia or social anxiety is very likely to **get worse.**

Any questions?

Here are your topics
[randomly assign topics to each participant] {Use online random number Generator to assign topics}
Topics:
Capital punishment (*capital punishment, also called death penalty, execution of an offender sentenced to death after conviction by a court of law of a criminal offense*.)
Cloning *(Cloning is a technique scientists use to make exact genetic copies of living things)*
Space colonization *(The hypothetical permanent settlement and exploitation of natural resources in space.)*
Religion in schools (*Whether religion has a place in schools*).

As a reminder you are to argue for or against (either or) your assigned topic. Please take the next 3 minutes to mentally prepare for the upcoming presentation. Please keep your camera on.

After 3 minutes: Back to the survey:

Your preparation time is now up. Now I'll get you to go back to the survey to complete a few final questionnaires:
Please keep in mind everything that you have written about today as you answer these questions. You may also find it helpful to try and apply what you have written about today to the upcoming questionnaires and task.

The code to continue is **[9876].**
As a reminder, please keep your cameras on, and when instructed, please return to the zoom.

Participants complete the (Post TSST instructions - pre-TSST measures). Once they are all back.

Now that we are all ready, we will continue. I will now assign you to a room with the panel. Please join the room by confirming this in the box that appears.
Put the participant in a breakout session with the panel:

BREAKOUT ROOM WITH JUDGES:
Jude 1 will have host ability- While Judge 2 starts talking- Judge 1 starts to give everyone permission to "pin" two participants- This is done by hovering over their image, selecting the 3 little dots and clicking "allow multiple pins"
Judge 2 will set up the technical aspects to start:

Before we get started, I just want to make sure we can hear everyone and that you can all see us but not the other participants. To do this, can everyone make the zoom meeting full screen. Once you have done that, please pin myself and the other judge. To do this, hover over our images and click on the three little dots; a drop-down should appear with the option to "pin" the video. Once you have pinned the two of us, we ask that you then minimize the other participants. To do this there should be a little box with 4 small squares, you will want to select the one on the far left. You should only be able to see the two judges on your screen. Note that the judges can still see all of you.

Confirm that it is that way for everyone. (Judges – have it in speaker view)

Speech rehearsal to make sure you can hear them: I'll get everyone to stand up and step far enough away from the camera so that you are visible from the top of your body up *[visually demonstrate]*.

Once everyone is set up:
Please remain there for this phase of the study.
During the presentations, we will make audio and visual recordings of you. This recording will be deleted once the study analysis has been completed. Does everyone consent to be recorded? Please unmute yourself and say yes if you consent.

If they all agree: JUDGE 1 start recording, then a message will pop up on Zoom for the participants: Please agree on Zoom that you agree with the recording.
If ANYONE says no: Continue without recording.

Zoom TSST instructions:
Judges: Please try to remain neutral. You don't need to be cold, but you must try to be consistent with all participants -- a respectful but somewhat detached attitude is optimal.

JUDGE 1

1. To let each person know when it is their turn to go (each person has up to 2 minutes)
Ok. We will start with the speeches. I will ask each person to speak by the participant number you were assigned at the start of the session. You will each be given 2 minutes for your speech. Let's begin. Would participant #___ please begin their speech *(DO NOT SAY NAMES)***.**
(followed by participant # ___, etc., according to the order for each time slot)

2. *Note whether or not the three requested items were included in the speech, the length of time the participant spoke, and any other comments you think relevant.*

3. *If they stop talking, let them know* "you still have ___ amount of time left." *Once they have not spoken for about 20 seconds, or they say they are done or are out of time, thank that participant and go on to the next.* **Thank you for your effort. Now, will participant # __ please give their speech?**

4. The mental arithmetic task: **Now, we will move on to the mental arithmetic task. Again, the order will be random. We will give you your starting number, a different one for each of you. Please count backwards by 13 from the number we give you for 90 seconds. Please go as quickly as you can. If you make a mistake, we will alert you, and you will have to start over. Would Participant #__ please begin counting down by 13 from _____** *(look at sheet to see starting number)?*

5. Speech evaluator 2 will track mistakes and let participants know if they need to restart.

6. After 90 seconds: **Thank you for your effort. Now, will participant # __ please count backwards by 13 from the number we give you for 90 seconds? Please go as quickly as you can. Would participant #__ please begin counting down by 13 from _____** *(look at sheet to see starting number)?*

6. When finished: **Thank you for your participation. We know how hard this task can be. We greatly appreciate your participation! You will now be brought back to the main room.**

7. *Close the breakout room- Judges exit the meeting right away.*

JUDGE 2

Using the TSST Scoring sheet that I will provide that day of:

1. Rate each person for how much they look at the computer/camera (using a visual analogue scale)

2. Rate each person for warmth and approachability (using a visual analogue scale)

3. On the arithmetic task, if someone makes a mistake, let them know, "You made a mistake; please start over at ____ (starting number)."

Record the number they have reached at the end and the number of restarts.

When finished Judge 1 closes the breakout room- and you exit the meeting.

MAIN ROOM IN ZOOM: final questionnaires.

Once all participants are all back in the main zoom room. Back to the survey:

Now that we are all back, I'll get you to go back to the survey: The code to continue is **6789**.
As a reminder, please keep your cameras on.
Once you have completed the survey, you may leave the zoom meeting; you will be granted your course credits shortly.

Email participants the list of activities.

Appendix E
Study 2 Consent Forms

Baseline Informed Consent
Title of Research: Writing and Well-Being

Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of Psychology, braisn@myumanitoba.ca

Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

This consent form, *a copy of which you may save or print for your records and reference at this time (it will not be available later)*, is only part of the process of informed consent. It should give you the basic idea of the research, who is involved, and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to directly ask the study personnel if any questions arise. Please take time to read this carefully and to understand any accompanying information.

Before agreeing to participate in this study, it is important that you read and understand the following explanation of the study process. The following information describes the purpose, steps, benefits, risks and precautions associated with this study. It also describes your right to refuse to participate or leave the study at any time. In order to decide whether you want to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is known as the informed consent process.

Purpose of the study: Nicolas Brais is conducting this study as part of his Ph.D. dissertation under the supervision of Dr. Ed Johnson. This project aims to examine how different writing interventions may affect stress, motivation and the well-being of individuals when faced with a challenging task. There are three phases in this research. This first phase aims to identify participants who may be eligible for subsequent phases of the study. **At the end of the survey, you will be asked to provide your email address if you are interested in participating in further phases of the study**. Only those who are eligible for the next phase of the study will be contacted. This consent form pertains only to the first phase of the study, Phase 1.

What will participants do in the study, and how long will it take: In this first phase, you will be asked to make judgements about self-related statements regarding your feelings, day-to-day behaviours, and how you describe those behaviours. You will also be asked several basic

demographic questions. Please read the instructions carefully before beginning each questionnaire. It should take no longer than 30 minutes to complete these online measures.

Potential Risks and Benefits of the Research: There are no expected risks for participating in this study beyond those that might be expected during the course of everyday life. There may or may not be a direct benefit to you from participating in this study. We hope that the information learned from all three phases of this research project will contribute to creating an intervention to lessen the negative effects of social phobia during social interactions.

Compensation:
Individuals who participate in phase 1 of the study will receive 1 research credit for PSYC 1200 course.

Voluntary Participation: Participation in this study is entirely voluntary, and you may decline consent or withdraw from participating at any time without punishment by simply discontinuing your participation. You may also refuse to answer any questions that you do not wish to answer.

Can I withdraw from the research at any time?
Participants can withdraw from the research project at any time, even after consent to participate has been provided. If participants decide to withdraw for any reason, no negative consequences will follow, and the information they have contributed (if any) will be excluded from the study analysis and deleted. To withdraw from the study, simply ex-out/close your browser, you can then email the primary investigator in order to be granted credit; in this email, you will need to include your SONA ID as well as the date and approximate time you began the survey. The primary investigator will then manually grant you the research credit within a few weeks of receiving the email. If you choose to withdraw, any information you have provided up to that time will be removed from the study analysis and deleted. In order to withdraw your data from the study, you must email the primary investigator this request by September 2023; following this, the data will be anonymized, and it will be impossible to remove your individual data from the dataset. There will be no negative consequences for withdrawing, and you will still receive your research credit.

Confidentiality: All answers will be kept completely confidential, so please respond as honestly as possible. A portion of your student number and initials will be used to link responses across all three phases of the study. Your initial data will be stored on the encrypted and password-protected Qualtrics website; at the end of the data collection, any information you provide will be transferred and stored on password-protected UM Sharepoint. Once this upload has occurred, any data from Qualtrics will be deleted. Only the principal investigator, his supervisor and other authorized lab personnel (e.g., research assistants) will have access to your data. Once all data for this research project has been collected (phases 1, 2, and 3) and research credits assigned, a code will be assigned to your data, and all identifying information (e.g., student number; email addresses) will be stripped from the data and deleted. This will render the data completely anonymous. We estimate we will do this by September 2023.

The results from this study will be presented in a Ph.D. dissertation that will be posted on MSpace and may be presented in scientific journals, book chapters, and/or at conferences and

public lectures. The results will be presented in aggregate and will not focus on any individual's responses.

Data sharing: Some data and information from this study may be sent outside of the University of Manitoba to other researchers, organizations, or made publicly available. This is for further analysis, testing, as part of the research study, or a requirement by a granting agency or journal. Any information sent out of the University of Manitoba will not show your name or address, or any other identifiable personal information about you. However, despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law.

Questions or Concerns: If you have any questions about this study, please do not hesitate to contact Nicolas Brais: braisn@myumanitoba.ca or Dr. Ed Johnson: ed.johnson@umanitoba.ca (204) 474-9006
For questions about your rights as a research participant, you may contact the Research Ethics Board at the University of Manitoba, Fort Garry campus at (204) 474-7122

Summary of Results:
The Results of this study should be available by August 2024. If you would like to receive a summary of the results by email, please enter your email address below. If you do **NOT** want to receive a summary, leave the email blank.

Email: _____

Statement of Consent: Clicking "Yes, I consent" (at the bottom of this page) indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time and /or refrain from answering any questions you prefer to omit without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the Research Ethics Board at the University of Manitoba, Fort Garry campus. If you have any concerns or complaints about this project, you may contact any of the above-named persons or the Human Ethics Officer at 204-474-7122 or HumanEthics@umanitoba.ca. Please download or print a copy of this consent form for your record and reference.

<Yes, I consent> (proceed to survey) **<No, I do not consent> (exit)**

TSST Informed Consent

Title of Research: Writing and Well-Being

Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of Psychology, braisn@myumanitoba.ca

Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

This consent form, a copy of which you may save or print for your records and reference at this time (it will not be available later), is only part of the process of informed consent. It should give you the basic idea of what the research is about, who is involved in the research, and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to directly ask the study personnel if any questions arise. Please take time to read this carefully and to understand any accompanying information.

Before agreeing to participate in this study, it is important that you read and understand the following explanation of the study process. The following information describes the purpose, steps, benefits, risks and precautions associated with this study. It also describes your right to refuse to participate or leave the study at any time. In order to decide whether you want to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is known as the informed consent process.

Purpose of the study: Nicolas Brais is conducting this study as part of his Ph.D. dissertation under the supervision of Dr. Ed Johnson. The purpose of this project is to examine how different writing interventions may affect stress, motivation and the well-being of individuals when faced with a challenging task. There are three phases in this research. You have been selected to participate in phase 2 based on the responses you gave during phase 1 of the study earlier this term. Using the last 4 digits of your student number and your initial, your previous answers will be linked to the present research. This consent form pertains only to the second phase of the study, Phase 2.

What will participants do in the study, and how long will it take: Depending on your randomly assigned condition in this study, you will be asked to complete a writing task and a series of questionnaires. For the writing task, you will be asked to think and write about an upcoming event and answer questions about it. Next will be a speaking task, which will involve giving a brief speech on a randomly selected topic, followed by a skill task. The speaking task will be video and audio recorded. You may request that your speech task not be recorded. You

will be asked to rate any feelings of stress you may experience before and after the social stress tasks. All responses will be kept confidential and anonymized at the end of the study (September 2023). Depending on your randomly assigned condition, the study should take between 30-60 minutes to complete. This study is completed via UM Zoom in groups of up to 4 participants at a time. Due to the nature of Zoom and the study, it is possible that you may know or recognize other participants.
To maintain the integrity of the current study and other participants' privacy, it is important that you keep all group interaction confidential and do not share it with others.

Potential Risks and Benefits of the Research: Participants will likely find engaging in the speaking and mental arithmetic task unpleasant, but we do not expect these effects to be long-lasting. Time will be taken to provide education about stress responses as well as methods of coping with any stress experienced. As well, in case you experience ongoing distress, resource information is provided below and will be provided at the end of the study. Benefits may include the opportunity to reflect on personal experiences, develop insight into coping behaviours, or enhance your ability to cope with difficult life experiences.

Resource List
If you are having serious thoughts about harming yourself, we encourage you to contact any of the resources listed below for support.

- **Psychological Service Centre**: 204-474-9222
- **University of Manitoba Student Counselling Centre**: 204-474-8592
- **Klinic Crisis Line** (24/7): 204-786-8686
- **Klinic Community Health**: 204-784-4090
- **Mobile Crisis Service**: 204-940-1781
- **Crisis Stabilization Unit** (24/7): 204-940-3633,
- **Adult Mental Health Crisis Response Centre** (24/7 Services), 204-940-1781
- **Manitoba Addictions Helpline**: 1-855-662-6605

*IF YOU ARE IN CRISIS, CALL THE KLINIC CRISIS LINE: 204-786-8686

Compensation:
Individuals who participate in this study will receive 2 research credits for PSYC 1200 course. Furthermore, those who participate will have a chance to enter their name in a draw to win 1 of 3 $100 gift cards. The draw for the gift cards will occur in April 2023.

Voluntary Participation: Participation in this study is entirely voluntary, and you may decline consent or withdraw from participating at any time without punishment by simply discontinuing your participation. You may also refuse to answer any questions that you do not wish to answer.

Can I withdraw from the research at any time?
Participants can withdraw from the research project at any time, even after consent to participate has been provided. If participants decide to withdraw for any reason, no negative consequences will follow, and the information they have contributed (if any) will be excluded from the study analysis and deleted. To withdraw from the study, simply ex-out/close the survey browser and

leave the UM Zoom meeting, you can then email the primary investigator in order to be granted credit; in this email, you will need to include your SONA ID as well as the date and approximate time you began the survey. The primary investigator will then manually grant you the research credit within a few weeks of receiving the email. If you choose to withdraw, any information you have provided up to that time will be removed from the study analysis and deleted. In order to withdraw your data from the study, you must email the primary investigator this request by September 2023; following this, the data will be anonymized, and it will be impossible to remove your individual data from the dataset. There will be no negative consequences for withdrawing, and you will still receive your research credit.

Confidentiality: Your responses in this study will remain confidential at all times. Your initial data will be stored on the encrypted and password-protected Qualtrics website; at the end of the data collection, any information you provide will be transferred and stored on password-protected UM Sharepoint. Once this upload has occurred, any data from Qualtrics will be deleted. Video recordings will also be stored on password-protected UM SharePoint.
Only the principal investigator, his supervisor, and authorized lab personnel (e.g., research assistants) will have access to your data. Once all data for this research project has been collected (phases 1, 2, and 3) and research credits assigned, a code will be assigned to your data, and all identifying information (e.g., student number; email addresses) will be stripped from the data and deleted. This will render the data completely anonymous. We estimate we will do this by September 2023.

The results from this study will be presented in a Ph.D. dissertation that will be posted on MSpace and may be presented in scientific journals, book chapters, and/or at conferences and public lectures. The results will be presented in aggregate and will not focus on any individual's responses.

Data sharing: Some data and information from this study may be sent outside of the University of Manitoba to other researchers, organizations, or made publicly available. This is for further analysis, testing, as part of the research study, or a requirement by a granting agency or journal. Any information sent out of the University of Manitoba will not show your name or address, or any other identifiable personal information about you. However, despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law.

Questions or Concerns: If you have any questions about this study, please do not hesitate to contact Nicolas Brais: braisn@myumanitoba.ca or Dr. Ed Johnson: ed.johnson@umanitoba.ca (204) 474-9006
For questions about your rights as a research participant, you may contact the Research Ethics Board at the University of Manitoba, Fort Garry campus at (204) 474-7122

Summary of Results:
The Results of this study should be available by August 2024. If you would like to receive a summary of the results by email, please enter your email address below. If you do **NOT** want to receive a summary, leave the email blank.

Email: _____

Statement of Consent: Clicking "Yes, I consent" (at the bottom of this page) indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time and /or refrain from answering any questions you prefer to omit without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the Research Ethics Board at the University of Manitoba, Fort Garry campus. If you have any concerns or complaints about this project, you may contact any of the above-named persons or the Human Ethics Officer at 204-474-7122 or HumanEthics@umanitoba.ca. Please download or print a copy of this consent form for your record and reference.

<Yes, I consent> (proceed to survey) **<No, I do not consent> (exit)**

Follow-up Informed Consent

Title of Research: Writing and Well-Being

Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of Psychology, braisn@myumanitoba.ca

Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

This consent form, *a copy of which you may save or print for your records and reference at this time (it will not be available later)*, is only part of the process of informed consent. It should give you the basic idea of what the research is about, who is involved in the research, and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to directly ask the study personnel if any questions arise. Please take time to read this carefully and to understand any accompanying information.

Before agreeing to participate in this study, it is important that you read and understand the following explanation of the study process. The following information describes the purpose, steps, benefits, risks and precautions associated with this study. It also describes your right to refuse to participate or leave the study at any time. In order to decide whether you want to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is known as the informed consent process.

Purpose of the study: Nicolas Brais is conducting this study as part of his Ph.D. dissertation under the supervision of Dr. Ed Johnson. The purpose of this project is to examine how different writing interventions may affect stress, motivation and the well-being of individuals when faced with a challenging task. There are three phases in this research. You have previously participated in phases 1 and 2. This phase consists of a series of self-report questionnaires and will be completed online. The survey should take 15-30 minutes to complete. This consent form pertains only to the third phase of the study, Phase 3.

What will participants do in the study, and how long will it take: In this third phase, you will be asked to make judgements about self-related statements regarding your feelings, day-to-day behaviours, and how you describe those behaviours. Please read the instructions carefully before beginning each questionnaire. It should take no longer than 30 minutes to complete these online measures.

Potential Risks and Benefits of the Research: There are no expected risks for participating in this study beyond those that might be expected during the course of everyday life. There may or may not be direct benefits to you from participating in this study. We hope that the information learned from all three phases of this research project will contribute to creating an intervention to lessen the negative effects of social phobia during social interactions.

Compensation:
Individuals who participate in phase 1 of the study will receive 1 research credit for PSYC 1200 course. Furthermore, those who participate will have a chance to enter their name in a draw for a chance to win 1 of 3 $100 gift cards. The draw for the gift cards will occur in April 2023.

Voluntary Participation: Participation in this study is completely voluntary, and you may decline consent or withdraw from participating at any time without punishment by simply discontinuing your participation. You may also refuse to answer any questions that you do not wish to answer.

Can I withdraw from the research at any time?
Participants can withdraw from the research project at any time, even after consent to participate has been provided. If participants decide to withdraw for any reason, no negative consequences will follow, and the information they have contributed (if any) will be excluded from the study analysis and deleted. To withdraw from the study, simply ex-out/close your browser, you can then email the primary investigator in order to be granted credit; in this email, you will need to include your SONA ID as well as the date and approximate time you began the survey. The primary investigator will then manually grant you the research credit within a few weeks of receiving the email. If you choose to withdraw, any information you have provided up to that time will be removed from the study analysis and deleted. In order to withdraw your data from the study, you must email the primary investigator this request by September 2023; following this, the data will be anonymized, and it will be impossible to remove your individual data from the dataset. There will be no negative consequences for withdrawing, and you will still receive your research credit.

Confidentiality: All answers will be kept completely confidential, so please respond as honestly as possible. The first 4 digits of your student number and initials will be used to link responses across all three phases of the study. Your initial data will be stored on the encrypted and password-protected Qualtrics website; at the end of the data collection, any information you provide will be transferred and stored on password-protected UM Sharepoint. Once this upload has occurred, any data from Qualtrics will be deleted. Only the principal investigator, his supervisor and other authorized lab personnel (e.g., research assistants) will have access to your data. Once all data for this research project has been collected (Phases 1, 2, and 3) and research credits assigned, a code will be assigned to your data, and all identifying information (e.g., student number; email addresses) will be stripped from the data and deleted. This will render the data completely anonymous. We estimate we will do this by September 2023.

The results from this study will be presented in a Ph.D. dissertation that will be posted on MSpace and may be presented in scientific journals, book chapters, and/or at conferences and

public lectures. The results will be presented in aggregate and will not focus on any individual's responses.

Data sharing: Some data and information from this study may be sent outside of the University of Manitoba to other researchers, organizations, or made publicly available. This is for further analysis, testing, as part of the research study, or a requirement by a granting agency or journal. Any information sent out of the University of Manitoba will not show your name or address, or any other identifiable personal information about you. However, despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law.

Questions or Concerns: If you have any questions about this study, please do not hesitate to contact Nicolas Brais: braisn@myumanitoba.ca or Dr. Ed Johnson: ed.johnson@umanitoba.ca (204) 474-9006
For questions about your rights as a research participant, you may contact the Research Ethics Board at the University of Manitoba, Fort Garry campus at (204) 474-7122

Summary of Results:
The Results of this study should be available by August 2024. If you would like to receive a summary of the results by email, please enter your email address below. If you do **NOT** want to receive a summary, leave the email blank.

Email: _____

Statement of Consent: Clicking "Yes, I consent" (at the bottom of this page) indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time and /or refrain from answering any questions you prefer to omit without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the Research Ethics Board at the University of Manitoba, Fort Garry campus. If you have any concerns or complaints about this project, you may contact any of the above-named persons or the Human Ethics Officer at 204-474-7122 or HumanEthics@umanitoba.ca. Please download or print a copy of this consent form for your record and reference.

<Yes, I consent> (proceed to survey) **<No, I do not consent> (exit)**

Appendix F
Imaginal Exposure Instructions

In a few minutes, you will be asked to give a 2-minute presentation on a randomly assigned topic and complete another task (which will be explained later) in front of 2 judges who are trained to evaluate your performance.

Please take 5-10 minutes to write about your worst fear coming true during the presentation. Do not worry about grammar, spelling or sentence structure. The important thing is to let yourself go and to write about your deepest thoughts and feelings about the experience. Write in first person (I, my, me) present tense, as if the situation is really happening. Start by describing the circumstances that lead to the situation, then describe what happens during the situation, and finally, the consequences of the situation. In other words, tell a story about what happens and how it makes you think and feel. This may include physical sensations; for example, you may wish to describe how your body reacts or what you feel, touch, taste, and smell. Additionally, you may describe any feelings or emotions you experience, such as feelings of inadequacy, failure, fear, self-doubts, etc. You may feel anxious when writing thoughts, feelings, and sensations about your worst fear—this is normal; try your best to stay in the moment. Please take at least 5 minutes to write about your worst fear coming true during the presentation. I will answer any questions that you may have.

Appendix G
Study 2 Writing Induction

Self-Compassionate Mindstate Induction:

We would now like you to take part in a brief exercise to see if it is helpful in dealing with this anticipated stressful situation. Please complete this brief writing exercise and follow the instructions as closely as possible.

[1. Mindfulness writing prompt]
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.

(For example, "*I am worried that others will notice how nervous I am. I feel embarrassed that my voice shakes or my face turns red when I try to talk in front of others. It's only natural to be nervous in a new situation or social situation. This is really hard for me right now...*")

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

[2. Common humanity writing prompt]
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.

(For example, "*I am not the only one who struggles with social situations or being in the spotlight. Part of being human is learning how to get through times like these. Most people worry about what other people think. It's not just me...*")

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

[3. Self-kindness writing prompt]
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.

(For example, "*You're doing the best you can. I'm so sorry you're struggling with this. It's going to be okay. I will help you and support you to get through this..."*)

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

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 toward 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.

Control Writing:
We would now like you to take part in a brief exercise to see if it is helpful in dealing with this anticipated stressful situation. Please complete this brief writing exercise and follow the instructions as closely as possible.

[1. Description writing prompt]
In the space below, please write about what exactly you anticipated occurring in this difficult situation. Try to be as descriptive as possible.

(For example, *" I join the Zoom meeting. I need to present in front of others. I don't know everyone who will be there. When I start talking, everyone looks at me and know that I don't belong. I don't know what to say…")*

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

[2. People involved writing prompt]
In the space below, please write about who is involved in the situation if it involves more than just you. Please describe the people involved in as much detail as possible, even if you are the only one involved (in this case, describe yourself).

(For example, *"Me, the research, other participants. There are 5 people in the meeting. I know 1 of the 5. I'm wearing jeans and a tee shirt. My friend is wearing a sweater…")*

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

[3. Words spoken writing prompt]
In the space below, please write any words that may be spoken in the situation, either what you may say to yourself, what other people may say to you, or what you may say to other people. Please use as much detail as possible.

(For example, "*The research calls on me to present, I do my presentation, I say... The other participants also say...")*

*Remember-- your responses are completely anonymous, and your writing is confidential. Don't worry about spelling, sentence structure, or grammar.

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

Appendix H
TSST Measures Judge 2

Visual Analogue Scales
DATE:

WARMTH

ID: Participant #
COLD AND AWKWARD WARM AND FRIENDLY
---
0 10 20 30 40 50 60 70 80 90 100

ID: Participant #
COLD AND AWKWARD WARM AND FRIENDLY
---
0 10 20 30 40 50 60 70 80 90 100

ID: Participant #
COLD AND AWKWARD WARM AND FRIENDLY
---
0 10 20 30 40 50 60 70 80 90 100

ID: Participant #
COLD AND AWKWARD WARM AND FRIENDLY
---
0 10 20 30 40 50 60 70 80 90 100

LOOKING AT CAMERA/COMPUTER

ID: Participant #
NONE EXCELLENT
---
0 10 20 30 40 50 60 70 80 90 100

ID: Participant #
NONE E NONE EXCELLENT
---
0 10 20 30 40 50 60 70 80 90 100

ID: Participant #
NONE EXCELLENT
---
0 10 20 30 40 50 60 70 80 90 100

ID: Participant #
NONE EXCELLENT
---
0 10 20 30 40 50 60 70 80 90 100

ARITHMETIC TASK:
ID: Participant #

Start: 4878:
4878—4865—4852—4839—4826—4813—4800—4787—4774—4761—4748—4735—4722—4709—4696—4683—4670—4657—4644—4631—4618—4605—4592—4579—4566—4553—4540—4527--4514—4501—4488—4475—4462—4449—4436—4423—4410—4397—4384—4371

# of restarts: _____

ID: Participant #

Start:3850
3850—3837—3824—3811—3798—3785—3772—3759—3746—3733—3720—3707—3694—3681—3668—3655—3642—3629—3616—3603—3590—3577—3564—3551—3538—3525—3512—3499—3486—3473—3460—3447—3434—3421—3408—3395—3382—3369—3356—3343

# of restarts: _____

ID: Participant #

Start:3842
3842—3829—3816—3803—3790—3777—3764—3751—3738—3725—3712—3699—3686—3673—3660—3647—3634—3621—3608—3595—3582—3569—3556—3543—3530—3517—3504—3491—3478—3465—3452—3439—3426—3413—3400—3387—3374—3361—334—3335

# of restarts: _____

ID: Participant #

Start:4834
4834—4821—4808—4795—4782—4769—4756—4743—4730—4717—4704—4691—4678—4665—4652—4639—4626—4613—4600—4587—4574—4561—4548—4535—4522—4509—4496—4483—4470—4457—4444—4431—4418—4405—4392—4379—4366—4353—4340—4327

# of restarts: _____

Appendix I
Debriefing Study Baseline

Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of Psychology, braisn@myumanitoba.ca
Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

We would like to thank you again for taking the time to participate in this study. Your responses will provide us with important information to help evaluate our hypotheses. The following is a partial description of the rationale and design of this research project. A final debrief will be available when all data collection (including Phase 3) is complete, estimated to be in late February.

Study Objective:
This project aims to examine how different writing interventions may affect stress, motivation and the well-being of individuals when faced with a challenging task. This research has three phases, the first of which you have completed. In phase 1 of the study, you completed a preliminary questionnaire including demographics and self-report measures of social anxiety, self-compassion, and self-esteem.
This first phase aims to identify participants who may be eligible for subsequent phases of the study. Participants who are eligible to participate in phases 2 and 3, and have provided permission to be contacted via email, will be emailed an invitation for phase 2 in the coming weeks.

To maintain the integrity of the current study, it is important that you do not share the study's true purpose with other potential participants. This is essential in order to have accurate results.

Resource List

If you are having serious thoughts about harming yourself, we encourage you to contact any of the resources listed below for support.

- **Psychological Service Centre**: 204-474-9222
- **University of Manitoba Student Counselling Centre**: 204-474-8592
- **Klinic Crisis Line** (24/7): 204-786-8686
- **Klinic Community Health**: 204-784-4090
- **Mobile Crisis Service**: 204-940-1781
- **Crisis Stabilization Unit** (24/7): 204-940-3633,
- **Adult Mental Health Crisis Response Centre** (24/7 Services), 204-940-1781
- **Manitoba Addictions Helpline**: 1-855-662-6605

*IF YOU ARE IN CRISIS, CALL THE KLINIC CRISIS LINE: 204-786-8686

Please select the "NEXT" button to receive your course credit.

Study 2: TSST Debrief

Social Anxiety Psycho-education:
Please Take a Moment to read the information below. This is an important part of the study.

Background information on social phobia/social anxiety:
As mentioned at the start of the study, social anxiety is different for everyone, but there are features that are common among people who experience significant levels of it. If you experience many of the items on this list, then you may be experiencing high levels of social anxiety. Not all of them will apply to all people who are finding social situations difficult.

- Feeling very self-conscious in some or most normal social situations.
- Constantly worrying about what others think of you.
- Having a tendency to look back over social situations and ruminate about things you think you did wrong and then feeling anxious or embarrassed about them.
- Having strong fears about opening up to people and expressing your personality to them.
- Finding it uncomfortable to make eye contact with people.
- Avoiding a lot of social situations and people in general.
- Finding it difficult to speak to people in positions of authority.
- Feeling very self-conscious about eating, drinking or writing in front of other people.

Today, I asked you to do some uncomfortable things that likely caused you some stress/anxiety. As previously mentioned, research has shown that engaging in feared activities ultimately helps individuals become freer of their anxiety.

As such, over the coming months, I would like to encourage you to engage in some low-cost or free social activities on campus or in Winnipeg (see below). You will also be emailed a list of these activities immediately after the study today.

As a reminder, exposure to feared situations is an effective treatment for social anxiety.

"Exposure therapy is defined as any treatment that encourages the systematic confrontation of feared stimuli, which can be external (e.g., feared objects, activities, situations) or internal (e.g., feared thoughts, physical sensations). The aim of exposure therapy is to reduce the person's fearful reaction to the stimulus."
Although exposure is not easy for most people with social phobia, the uncomfortable feelings will become less over time. In fact, persevering in exposure situations, no matter how difficult or how poorly you feel you are doing, is very important and adds the helpful effect of exposure.

On the other hand, avoiding social situations is very likely to increase social phobia/anxiety and make it worse.
Lastly, it is important to avoid safety behaviour -- i.e. to not only "show up" but be active participants, to say something, look people in the eye -- *you have to be present and engage in the interaction so new learning can take place.*

Debriefing Summary
Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of

Psychology, braisn@myumanitoba.ca
Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

We would like to thank you again for taking the time to participate in this study. Your responses will provide us with important information to help evaluate our hypotheses. The following is a partial description of the rationale and design of this research project. A final debrief will be available when all data collection (including Phase 3) is complete, estimated to be in late February.

Study Objective:
The purpose of this project is to examine how different writing interventions may impact stress, motivation and the well-being of individuals when faced with a challenging task. There are three phases in this research. Participants who reported a moderate to above level of social anxiety symptoms in phase 1 were invited to participate in phase 2 of this study. In phase 1 of the study, you completed a preliminary questionnaire online using Qualtrics. Phase 2, the phase in which you have just participated, involved the social stress task and the experimental manipulation. Phase 3, which will take place in about 4 weeks, includes a number of follow-up self-report measures. It will take place online, again using Qualtrics.

Participants who have provided permission to be contacted via email will be emailed an invitation for phase 3 in approximately 1 month.

We want to thank you sincerely for your participation in our study. If you have any further questions, please contact Nicolas Brais at braisn@myumanitoba.ca. We will send you a complete debrief of the rationale and design of this research project once all data is collected (estimated to be late February). We expect to have a summary of the results of this study to send to participants by August of 2024.

To maintain the integrity of the current study, it is important that you do not share the true purpose of the study with other potential participants. This is essential in order to have accurate results.

Resource List

If you are having serious thoughts about harming yourself, we encourage you to contact any of the resources listed below for support.

- **Psychological Service Centre**: 204-474-9222
- **University of Manitoba Student Counselling Centre**: 204-474-8592
- **Klinic Crisis Line** (24/7): 204-786-8686
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- **Adult Mental Health Crisis Response Centre** (24/7 Services), 204-940-1781
- **Manitoba Addictions Helpline**: 1-855-662-6605

*IF YOU ARE IN CRISIS, CALL THE KLINIC CRISIS LINE: 204-786-8686

Study 2: Follow-Up Debrief

Principal Investigator: Nicolas Brais, Clinical Psychology Graduate Student, Department of Psychology, braisn@myumanitoba.ca
Research Supervisors: Dr. Ed Johnson Ph.D., Professor, Department of Psychology, ed.johnson@umanitoba.ca, (204) 474-9006

We would like to thank you again for taking the time to participate in this study. Your responses will provide us with important information to help evaluate our hypotheses, which we will now explain in more detail than we did at the beginning.

Study Objective:

Goals: The primary goal of the study was to examine the effects of a self-compassion writing task on an anticipated social anxiety-provoking event. In particular, the hope is that self-compassion writing will lessen the avoidance of social interaction that is typical of those who have social phobia. This is important because one of the keys to treating social phobia is to engage in social interactions. Something that makes that social interaction less distressing would be helpful.

Social anxiety disorder, characterized by a persistent fear of evaluation regarding future events and subsequent avoidance behaviours, is one of the most common and detrimental disorders, affecting 13% of the population across the life span. On the other hand, self-compassion is treating oneself with kindness and understanding in difficult times. Self-compassion may serve to decrease negative emotions associated with feared events and increase confidence. As such, the present study aimed to see if writing about a specific socially anxiety-provoking situation in a self-compassionate manner and then engaging in that event would a) facilitate performance on the stress task by increasing self-compassion and decrease threat responses to anxiety such as fear of evaluation and distress, b) facilitated self-efficacy and willingness to persevere in the stressful task, c) result in a better objective and subjective performance then a control or no writing condition, and d) reduce social anxiety and avoidance behaviours at a one-month follow-up.

Design: This study consisted of 3 separate phases. The first phase consisted of a preliminary questionnaire including demographics and a measure of social anxiety and self-compassion. This phase was completed online near the start of the academic term. Only participants who demonstrated elevated levels of social anxiety were invited to participate in the writing component of the study (phase 2). In Phase 2, there were three groups, those who engaged in self-compassion writing, those who engaged in control writing and those in a no-writing condition. This phase included online self-report measures of stress and anxiety, writing about one's worst fears coming true during an upcoming anxiety-provoking speech task, the social stress task (which included a speech and mental arithmetic), and psycho-education about Social Phobia. Phase 3 (about four weeks later) included several self-report measures collected online using Qualtrics. This phase was included to be able to examine whether self-compassion writing had any effect on participants' social interaction experiences outside of the lab in the month following the intervention.

The writing and subsequent speech tasks may have elicited different reactions and moods for different people. Depending on your own individual difference, it is possible that you may have experienced a slight discomfort before, during and/or after the task. It is important that if you are feeling upset or uncomfortable that you contact some of the resources found below.

We were interested in whether writing about an anxiety-provoking task in a self-compassionate manner before engaging in said task was beneficial in decreasing fear and anxiety in increasing perseverance. Ultimately, this study will help us understand if increasing self-compassion helps socially anxious individuals engage in feared activities.

Implications: The study's findings will lead to a better understanding of the role of self-compassion within social anxiety. This work may aid in creating specific treatments and prevention programs directed at the underlying mechanisms of social anxiety.

In order to maintain the integrity of the current study, it is important that you do not share the true purpose of the study with other potential participants. This is essential in order to have accurate results.

Resource List

If you are having serious thoughts about harming yourself, we encourage you to contact any of the resources listed below for support.

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- **Manitoba Addictions Helpline**: 1-855-662-6605

*IF YOU ARE IN CRISIS, CALL THE KLINIC CRISIS LINE: 204-786-8686

Please select the "NEXT" button to receive your course credit.

Appendix J
Coding Instructions

Part 1)
Open the Excel Document titled **"RA exposure coding Study 2 (your name)"**

Please read each paragraph (exposure) and rate it on the following items on the corresponding excel spreadsheet.

IE: Participants were asked to write about their worst fears coming true during an upcoming presentation.

Did participants endorse having fear/worries regarding an upcoming presentation?

1	2
Yes	No

Part 2)
Open the Excel document titled "**RA Writing Coding study 2 (your name)"**

Please read each paragraph (writing prompt) and rate it on the following items on the corresponding excel spreadsheet.

SC: Recall that self-compassion asks participants to be accepting and kind to themselves and their emotions in tough times and understanding that they are not alone in your struggles.

To what extent does the paragraph reflect self-compassionate writing?

1	2	3	4	5	6	7
Not at all						Extremely

Cntrl: Recall that the control writing condition asks participants to describe the anticipated presentation, people involved, and what may be said during the presentation.

To what extent is the paragraph an example of controlled writing.

1	2	3	4	5	6	7
Not at all						Extremely

Condition: Based on what the participants wrote, does it comply with the instructions for:

1	2	3	4
Self-compassion condition	Control condition	Neither Condition	Both conditions

Appendix K
Manipulation Check Responses

Table 2.8

Participants Responses to Writing Condition Manipulation Check by Condition

Were you ask to write:	Self-compassion writing	Control writing	No writing
Self-compassionately	23	1	2
Problem solving	2	0	1
Descriptive (control)	2	18	14
No additional writing	7	7	8

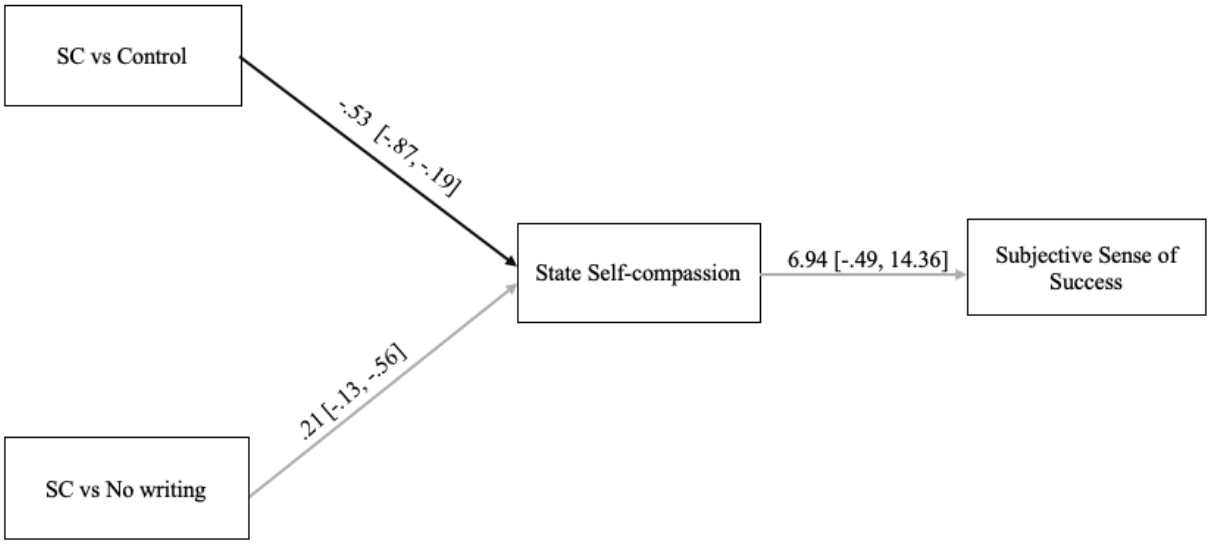
Note. Numbers represent the number of participants who selected a specific response

Appendix L
Mediation Model of State Self-compassion Mediating the Effect of Writing Condition on Subjective Sense of Success

As shown in Figure 2.14, participants who wrote descriptively about their task-related worries reported less state self-compassion than those who wrote self-compassionately about their worries (-0.53) and participants who had higher state self-compassion evaluated their subjective sense of success on the task as more positively (6.94). The 95% bootstrap confidence interval for the indirect effect (-3.67) based on 10,000 samples was entirely below zero (-.21, to -8.49). There was no indirect effect of experimental condition on perception of task performance when the no writing condition was contrasted with the self-compassionate writing condition (.1.48, 95% CI [-.81, 5.11]). Finally, there was no evidence that the difference between the two writing conditions influenced perception of task performance independent of its effect on state self-compassion (1.34, p = .828).

Figure 2.15

Mediation Model of State Self-compassion Mediating the Effect of Writing Condition on Subjective Sense of Success



Notes. Group coding: Self-compassion = 0; all other conditions = 1. Unstandardized betas are presented with 95% *CI*s. Bold lines represent statistically significant ($p < .05$) specified paths, and grey lines represent not statistically significant paths ($p < .05$).