

The Effects of Self-Compassion on Avoidant Behaviours among Individuals with Social Anxiety

by

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Abstract

Current cognitive-behavioural models posit that fear of evaluation (FOE) is a key factor in maintaining avoidance behaviours and social anxiety. Certain facets of self-compassion (SC) - treating oneself with kindness and understanding in difficult times – suggest that it may be one potentially useful strategy to decrease FOE and subsequent avoidance and social anxiety. The purpose of the present study was to evaluate the role of FOE on avoidance behaviours and social anxiety within a socially anxious population. A total of 110 undergraduates, who scored high on a social anxiety measure, completed all phases of the study. Phase one consisted of baseline measures of avoidance behaviours, social anxiety, SC, self-esteem, and FOE. Participants were randomly assigned to write about a socially anxiety-provoking situation, either self-compassionately, expressively or neutrally, and to explain how their written response may help them in similar situations or assigned to a non-writing control condition. Participants completed the writing task three times in one week, completing final measures of FOE at the end of Time 3. In Phase two (two weeks after completing Time 3), participants completed a survey with measures of avoidance behaviours, SC and social anxiety. Hierarchical regression analyses did not find any significant effect of experimental conditions on SC, avoidance behaviours or social anxiety. All three writing conditions effectively decreased state and trait fear of negative evaluation, with neutral writing (i.e., describing a route to school) being the most effective and expressive writing being least effective. Fear of negative evaluation did not mediate the association between writing condition and avoidance, but partially mediated the association between self-compassion vs. expressive writing and social anxiety. Implications and future research directions are discussed.

Keywords: self-compassion, social anxiety, avoidance, fear of evaluation

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The Effects of Self-Compassion on Avoidant Behaviours among Individuals with Social Anxiety

Social anxiety disorder (SAD), is one of the most common and detrimental anxiety disorders (Hofmann, Gutner, & Fang, 2012), with lifetime and 12-month prevalence rates of 13% and 8%, respectively (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). Epidemiological studies have found that despite having a median age of onset of 13, SAD is most prevalent between the ages of 18-34, and if left untreated may become a chronic disorder (Bandelow & Michaelis, 2015). Although potentially detrimental on its own, SAD often co-occurs with generalized anxiety disorder and depression and has been associated with an increased likelihood of developing further mental health disorders (Hofmann et al., 2012; Leichsenring & Leweke, 2017).

SAD is a debilitating mental health condition characterized by a persistent and excessive fear of negative evaluation by others, and personal embarrassment in social situations in which one anticipates judgment from others (Heimberg, Brozovich, & Rapee, 2010; Rapee & Heimberg, 1997). Further, individuals with SAD typically experience disproportionate amounts of anxiety for a given situation, fear of showing symptoms, avoidance of social situations (or intense anxiety if unavoidable), and post-event rumination (American Psychiatric Association, 2013; Blackie & Kocovski, 2018; Clark & Wells, 1995). Moreover, studies have found that SAD is associated with excessive negative self-judgment, higher levels of neuroticism, greater worry and elevated negative affect (Arch, Landy, Schneider, Koban, & Andrews-Hanna, 2018; Stein & Stein, 2008; Werner et al., 2012). Consequently, SAD can be detrimental in a broad range of social situations, including school, work and personal relationships, resulting in decreased

quality of life and overall health (Cox, Fleet, & Stein, 2004; Dryman, Gardner, Weeks, & Heimberg, 2015; Werner et al., 2012).

Despite being perceived as beneficial by individuals with social anxiety, avoidance and safety behaviours (e.g., avoiding eye contact when talking with people, overly rehearsing conversation) not only hinder efforts to reduce social anxiety, but play a prominent part in maintaining the disorder (Kim, 2005; McManus, Sacadura, & Clark, 2008; Weeks, Jakatdar, & Heimberg, 2010; Wells et al., 1995). In their 2008 study, McManus et al. compared individuals with high and low levels of social anxiety from the general population. They found that both groups believed safety behaviours were beneficial but that the high social anxiety group used a broader range of safety behaviours and used them more often. Furthermore, McManus et al. (2008) had both groups either apply or not apply safety behaviours during a 5-minute conversation with a stranger. Regardless of which social anxiety group they belonged to, participants who used safety behaviours not only felt more anxious but perceived themselves to be more anxious and to have performed more poorly compared to the non-safety behaviour condition. Moreover, when applying safety behaviours, participants were found to be less likable by their conversation partners. Further, studies have found that individuals who engage in avoidant safety behaviours are more likely to drop out of school, lose their jobs, and experience decreased satisfaction in their social and romantic relationships (Hofmann et al., 2012; Ruscio et al., 2008).

According to Clarks and Wells (1995), there are various reasons why safety behaviours may be detrimental. First and foremost, engaging in safety behaviours prevents individuals from experiencing a social situation that could serve to contradict or disprove their negative beliefs. Secondly, many safety behaviours require individuals to be very self-vigilant or self-focused,

leading to an increase in anxiety rather than a decrease. Lastly, since they focus much of their attention on safety behaviours, individuals with social anxiety often appear uninterested or distant, resulting in their feared outcome of being judged negatively by others. Consequently, eliminating these safety behaviours is an integral part of the CBT model of treating social anxiety and is beneficial above and beyond exposure alone (Clark, 2005; Taylor & Alden, 2010; Wells et al., 1995).

Paradoxically one of the challenges of administering CBT to reduce safety behaviours is the safety behaviours of avoidance itself. The majority of studies aim to reduce safety behaviours through cognitive rationale, namely by explaining to participants what safety behaviours are, why they are bad and then having them not engage in said behaviours (Kim, 2005; McManus et al., 2008; Taylor & Alden, 2010; Wells et al., 1995). However, avoidance tendencies may prevent individuals with social anxiety from engaging in the desired behaviours. For instance, McManus et al. (2008) reported that their high social anxiety group reported significantly less compliance when asked not to engage in safety behaviours compared to the low social anxiety group. As such, individuals with social anxiety may avoid engaging in treatment prescribed activities and avoid engaging in cognitive processes aimed at reducing safety behaviours despite understanding their potential benefits. Therefore, despite effective treatment methods, further research is needed to examine what factors might contribute to reducing or maintaining avoidance behaviours, particularly as avoidance-related behaviours are one of the most common forms of safety behaviours (Aderka, McLean, Huppert, Davidson, & Foa, 2013; Clark, 2005; Hofmann, 2007; Plasencia, Alden, & Taylor, 2011; Ruscio et al., 2008)

On a broader level, complete avoidance of stressful situations may also occur in individuals with social anxiety. Recent research findings indicate that only 5% of individuals

with SAD seek treatment within a year of onset, and only slightly more than one third seek treatment throughout their lifetime (Chartier-Otis, Perreault, & Bélanger, 2010; Leichsenring & Leweke, 2017; Ruscio et al., 2008). Of those that seek treatment, 15% do not complete it (Hans & Hiller, 2013). Such low healthcare utilization is not surprising when considering that fear of evaluation and judgment characterizes SAD and often results in avoidance. Therefore, going to a doctor or therapist could potentially cause high anxiety and avoidant behaviours in and of itself. Furthermore, SAD is associated with shyness and shame, both of which could also lead to hesitancy in seeking treatment (Bandelow & Michaelis, 2015). Therefore, despite various treatment methods for SAD, it has one of the worst remission rates among anxiety disorders (Bandelow & Michaelis, 2015; Moitra, Beard, Weisberg, & Keller, 2011).

Overall, much is known about SAD and the effective ways to treat it with CBT, namely by reducing safety behaviours and allowing exposure to occur (Clark, 2005; Taylor & Alden, 2010; Wells et al., 1995). However, avoidance behaviours hinder the potential benefits of CBT by reducing exposure and facilitating the maintenance of safety behaviours. The goal of this study was to examine ways in which these avoidance behaviours might decrease, thus improving treatment outcomes and utilization rates. A secondary goal of this study was to examine mechanisms through which social anxiety may be reduced outside of avoidance behaviours. Consequently, despite the association between avoidance behaviours and social anxiety, both were treated as separate dependent variables in this study. A greater understanding of these factors may further facilitate and inform treatment for individuals with SAD.

Self-Compassion

Self-compassion may be one way to decrease social anxiety and avoidance behaviours in individuals with social anxiety. As described by Neff (2003), self-compassion consists of three

key components and their counterparts, self-kindness vs. self-judgment, common humanity vs. isolation and mindfulness vs. over-identification. Self-kindness is the treating of oneself with acceptance and love in difficult situations or times of failure rather than anger and criticism. Common humanity consists of viewing the self as part of the world and not separate from others. Mindfulness is the ability to acknowledge painful experiences without letting them control all aspects of life.

Previous research indicates that there are many benefits and protective factors associated with self-compassion. A meta-analysis conducted by MacBeth and Gumley (2012) found that higher trait self-compassion predicts lower levels of mental health problems. Furthermore, self-compassion buffers against anxiety and stress and may facilitate individuals' ability to maintain perspective in adverse situations (Leary, Tate, Adams, Allen, & Hancock, 2007). Demonstrating that it is more than just another measure of well-being, studies that focus on increasing self-compassion in participants have demonstrated that doing so leads to decreases in social isolation, anxiety and depression (Neff, Kirkpatrick, & Rude, 2007). Additionally, research has shown that higher levels of self-compassion are associated with lower levels of negative affect, and higher levels of optimism, well-being, happiness, positive affect and life satisfaction (Long & Neff, 2018; Neff, 2003; Neff et al., 2007; for a comprehensive review see Barnard & Curry, 2011). Overall, there is a substantial body of research demonstrating that self-compassion is beneficial in a wide variety of difficult situations.

Self-compassion and social anxiety. The positive aspects of self-compassion are in sharp contrast to the negative aspects of social anxiety. For instance, where self-criticism, avoidance and catastrophizing characterize high social anxiety (Hofmann, 2007; Rapee & Heimberg, 1997), high self-compassion is characterized by self-acceptance, accurate self-

evaluation, a sense of belongingness and less catastrophizing (Leary et al., 2007; Neff, Hsieh, & Dejjitrat, 2005). Moreover, given the many adverse effects of SAD, it is no surprise that high social anxiety is associated with having lower levels of self-compassion. One study by Werner et al. (2012) found that individuals with SAD reported less self-compassion than healthy controls, even when controlling for general anxiety and depression. Consistent with the literature, people with SAD had lower scores on all the positive components of the self-compassion scale; self-kindness, common humanity and mindfulness and higher scores on the negative aspects; self-judgment, isolation and over-identification. Furthermore, self-compassion was not associated with the severity of social anxiety but was instead associated with the fear of both positive and negative evaluations. Although these were correlational results, they suggest that self-compassion may play a prominent role for individuals with SAD.

Moreover, an additional adaptive trait for dealing with anxiety-provoking social situations is self-esteem (Heimberg, Brozovic, & Rapee, 2014). Despite being highly correlated, studies have shown that self-compassion and self-esteem are two distinct constructs (Neff et al., 2007; Neff & Vonk, 2009). One study by Leary et al. (2007) found that self-compassion but not self-esteem resulted in better outcomes after participants received negative feedback.

Additionally, even when controlling for self-esteem, self-compassion was positively correlated with optimism, happiness and positive affect and negatively associated with catastrophizing (Barnard & Curry, 2011). Notwithstanding these apparent differences, individuals with social anxiety tend to have lower self-compassion and self-esteem (Guangming, Qi, & Hao, 2018; Hiller, Steffens, Ritter, & Stangier, 2017; Werner et al., 2012). For the purpose of this study, trait self-esteem will be assessed and controlled for in the analysis.

Outside of its possible direct effect on SAD, self-compassion has also been shown to be negatively associated with avoidance behaviours. In a review of the literature, Allen and Leary (2010) found that self-compassion was negatively associated with escape-avoidance coping strategies. Similarly, Neff et al. (2005) found that after receiving a disappointing grade on a midterm, university students with higher self-compassion engaged in fewer cognitive avoidance strategies such as denial and mental disengagement. Moreover, Thompson and Waltz (2008) found that after experiencing a potentially traumatic incident, students with higher self-compassion engaged in fewer avoidance based coping strategies.

Avoidance behaviours from a social anxiety perspective often arise from anticipatory anxiety about future situations, excessive think and ruminating about past failures, becoming highly self-critical and expectant of failure as well as fearing rejection and judgment (Clark and Wells, 1995). There are critical components of self-compassion that may affect these negative thoughts, thus reducing avoidance behaviours. For instance, although not explicitly looking at avoidance behaviours, Harwood and Kocovski (2017) found that self-compassion training resulted in a noticeable decrease in anxiety-related thoughts about future events, for those individuals with high social anxiety, compared to a control group. Furthermore, studies that have succeeded in inducing self-compassion have shown that not only does doing so reduce social anxiety and buffer against past negative social experiences, but that increasing self-compassion leads to a greater ability to deal with and recover from situations provoking social anxiety (Arch et al., 2018; Harwood & Kocovski, 2017). For instance, Blackie and Kocovski (2018), found that increasing state self-compassion after asking participants to give an impromptu speech not only lead to a decrease in post-event processing and a more positive perception of performance but also lead to a greater willingness to engage in future hypothetical social situations. As such, self-

compassion may help individuals maintain a more accurate and non-judgmental perspective on anxiety-provoking situations through mindfulness (Leary et al., 2007), all the while reducing the biased sense of being judged negatively by others through a sense of common humanity (Long & Neff, 2018). Furthermore, self-kindness and mindfulness may help individuals be less self-critical and accepting of their previous failures, thus eliminating or reducing the need to engage in avoidance behaviours.

Self-compassion induction. Self-compassion has been shown to be beneficial in the general population and associated with lower social anxiety (Werner et al., 2012); however, there is some conflicting evidence in the literature regarding whether or not trait self-compassion increases with self-compassion inductions for individuals who are highly self-critical and anxious, prominent features of SAD. For instance, some studies have found that although people with anxiety and depression may be able to identify and recognize the concept of self-compassion, it is not something they are able to apply in their own lives (Pauley & McPherson, 2010). Furthermore, Gilbert, McEwan, Matos, and Ravis (2011) found that there was an association between anxiety and a fear of self-compassion, indicating that anxious individuals may actively avoid or oppose participating in interventions designed to increase self-compassion.

The vast majority of studies that aim to increase self-compassion use a variation of the writing task created by Leary et al. (2007). In their original study, Leary et al. (2007) increased self-compassion by having participants recall an event that resulted in negative feelings about the self. Participants then wrote about that event either in a self-compassionate manner, in a way that increased self-esteem or expressively. Participants who wrote about the incident in a self-compassionate manner had higher levels of self-compassion than the alternative conditions. Furthermore, they found that self-compassion inductions worked best for individuals with low

self-compassion. Despite the challenges of inducing self-compassion some studies have succeeded in increasing trait self-compassion within various populations (Johnson & O'Brien, 2013; Neff et al., 2007) while other have succeeded in increase state self-compassion in individuals with social anxiety using the self-compassion writing task (Arch et al., 2018; Căndea & Szentágotai-Tătar, 2018; Harwood & Kocovski, 2017; Krieger, Martig, van den Brink, & Berger, 2016). For instance, supporting and expanding on Leary et al. (2007) findings, Harwood and Kocovski (2017) found that self-compassion inductions worked for individuals with social anxiety and that although individuals with high social anxiety had lower self-compassion, they were more open to adopting a self-compassionate mindset and to implementing it in the future.

Consequently, self-compassion inductions appear to be beneficial at both reducing social anxiety and decreasing avoidance behaviours. Despite these associations, no study to date as experimentally examined if increasing self-compassion results in a decrease of future avoidance behaviours. Moreover, the effects on the self-compassion writing task on trait self-compassion within a sample of individuals with social anxiety remain unclear. For instance, Blackie and Kocovski (2018) did experimentally succeed at increasing state self-compassion; however, given the short follow-up period of one day in their study, it is not clear whether the effects of self-compassion would be long-lasting or would result in concrete changes in avoidance behaviours. Lastly, the mechanisms through which self-compassion may affect avoidance behaviours are still unclear.

Fear of Evaluation

CBT models of SAD have demonstrated that fear of negative evaluation is a key contributing factor to social anxiety, where individuals approach a social situation with the internal beliefs that they will be judged and criticized by others (Hofmann, 2007; Rapee &

Heimberg, 1997). More recently, studies have shown that social anxiety is associated with fear of negative evaluation and is also counterintuitively associated with fear of positive evaluation (Weeks, Heimberg, & Rodebaugh, 2008). For instance, when receiving positive evaluation, individuals with high social anxiety may feel that they are stealing attention from others or that they cannot live up to future expectations, thus resulting in concern about prospective negative evaluation (Gilbert, 2001; Weeks et al., 2008). Moreover, studies have demonstrated that fear of positive evaluation is a unique predictor of social anxiety above and beyond the fear of negative evaluation (Wang, Hsu, Chiu, & Liang, 2012; Weeks et al., 2008, 2010).

Furthermore, fear of evaluation plays a significant role in avoidance behaviours. For instance, Heimberg et al. (2014) posit that not only is fear of evaluation the catalyst that causes an individual to feel socially anxious, it is also the mechanism through which avoidance behaviours arise. Such that if fear of evaluation is significantly elevated, individuals with social anxiety will engage in avoidance behaviours in order to escape or decrease the likelihood of being judged (Clark, 2005; Wells et al., 1995).

Moreover, Hofmann (2007), highlights a feedback loop found in SAD in which individuals have a heightened sense of self that results in poor self-evaluation and increased fear of evaluation. Fear of evaluation, in turn, leads to avoidance behaviours that reinforce and maintain the fear of evaluation, creating a cycle. Consistently, Rapee and Heimberg (1997) theorized that fear of evaluation and anxiety is maintained by avoidant behaviours, such that by avoiding feared situations, individuals reinforce fear and, in turn, miss the opportunity to potentially disprove the negative thoughts and anxiety associated with social anxiety. Furthermore, Aderka et al. (2013) found that during the early stages of CBT, avoidance behaviours predicated fear of situations, however in the latter half of treatment, both fear and

avoidance were predictive of changes in each other. Consequently, CBT aims to reduce the fear of evaluation through cognitive restructuring, thus allowing exposure to happen, resulting in a decrease in avoidance behaviours through exposure (Heimberg et al., 2014).

As such, studies have shown that fear of evaluation (both positive and negative) is associated with social anxiety (Aderka et al., 2013; Weeks et al., 2008) and avoidance behaviours (Heimberg et al., 2014). Moreover, studies have also found that self-compassion is associated with both fears of positive and negative evaluation. Werner et al. (2012) found that among individuals with social anxiety, lower levels of self-compassion correlated with fear of both positive and negative evaluations. Likewise, a recent study by Long and Neff (2018) found that the degree to which university students feared either positive or negative evaluation mediated the relation between self-compassion and students willingness to seek help, ask questions in class, or speak with the instructor. Although they were not explicitly looking at social anxiety, fear of positive and negative evaluations are core characteristics of social anxiety while participating in public speaking and communication are some of the most commonly feared and avoided situations for individuals with social anxiety (American Psychiatric Association, 2013; Weeks et al., 2008). Similar results were also found in a study of socially anxious adolescents, in which fear of negative evaluation mediated the relation between self-compassion and social anxiety above and beyond cognitive avoidance and self-focused attention (Gill, Watson, Williams, & Chan, 2018).

Consequently, given the relationship between self-compassion and fear of evaluation, it can be theorized that fear of evaluation may mediate the effect of induced self-compassion on both social anxiety and avoidance behaviours. For instance, by reducing the fear of evaluation and judgment through self-acceptance, none-judgment and mindfulness, self-compassion may

allow individuals to engage in behaviours they usually would have avoided, and to experience less social anxiety in social situations. Despite these associations, no study to date has experimentally evaluated whether increasing self-compassion leads to a decrease in fear of evaluation and, in turn, avoidance behaviours and social anxiety.

Present Study

The proposed research aimed to address these gaps in the literature by assessing the impact of a self-compassion induction on fear of evaluation and its association with avoidance behaviours in participants. Furthermore, given the conflicting literature regarding increasing trait self-compassion, the present study aimed to induce self-compassion using the method developed by Leary et al. (2007). Expressive and neutral writing conditions were included to help distinguish between the benefits of writing about an adverse event and those associated with self-compassionate writing (Leary et al., 2007; Pennebaker, Colder, & Sharp, 1990). Moreover, a control condition was included to differentiate the effects of self-compassionate writing and the possible effects of the passage of time. As such, participants were randomly assigned to the control condition or to write about an event either self-compassionately, expressively, or neutrally over the course of a week.

Results from this study provide further evidence as to whether or not a self-compassion induction can work for individuals with social anxiety. First, I hypothesized that individuals in the self-compassion writing condition would experience a greater increase in trait self-compassion at follow-up than those in the experimental conditions. Second, I hypothesized that individuals in the self-compassion condition would experience decreased levels of avoidant behaviour from baseline to follow-up, relative to those in the experimental conditions. Third, I hypothesized that individuals in the self-compassion writing condition would experience

decreased levels of social anxiety from baseline to follow-up, relative to those in the experimental conditions. Fourth, I hypothesized that individuals in the self-compassion writing condition would experience a greater immediate reduction in state fear of negative evaluation than those in alternative writing conditions. Fifth, I hypothesized that reduced levels of fear of negative and positive evaluation would mediate the association between writing condition and avoidance behaviours. Finally, I hypothesized that reduced fear of negative and positive evaluation would mediate the association between writing conditions and social anxiety.

Method

Participants

Given the increased levels of social anxiety found within university aged individuals and its potentially detrimental effects on academic achievement and general well-being (Bandelow & Michaelis, 2015; Werner et al., 2012), university students were selected as the target population for this study. Moreover, previous research has shown that individuals with high social anxiety have higher avoidance behaviours and lower self-compassion (McManus et al., 2008; Werner et al., 2012). Therefore, only students who scored high on the measure assessing social anxiety, the Social Phobia Inventory (SPIN; Connor et al., 2000), were recruited.

Figure 1 illustrates the participant flow throughout the study. A total of 2278 undergraduate students were registered in Introduction Psychology at the University of Manitoba. Eligible participants consisted of 1871 Introduction Psychology students, who had previously completed a self-report mass-testing questionnaire, which included contact information, demographics and measures of self-compassion and social anxiety (see below for a description of these measures). Of those who completed the mass-testing, 1665 provided usable data, and 58.9% ($n = 981$) scored 24 or higher on the SPIN indicating clinical levels of social

anxiety (Connor et al., 2000). This cut-off score was chosen so that the sample population would only include those likely to meet criteria for a SAD diagnosis and to enhance the likelihood of avoidance behaviours within the sample (Connor et al., 2000; Mcmanus et al., 2008; Ranta et al., 2007). Of the 981 eligible participants, 923 (71% female, mean age 18.64, age-range 16-45) provided contact information and permission to be contacted for further studies. All 923 participants were contacted via email and invited to self-sign up for the study via the University of Manitoba SONA system. SONA is a participant management system that allows participants to see and sign-up for studies and allows researchers to grant partial course credits after participation. A total of 136 participants completed Time 1 of the study, participants who missed a time point in the study, were no longer eligible to participate in subsequent time points. Consequently, 85% ($n = 116$) went on to complete the follow-up phase. Six participants were excluded prior to any analysis due to researcher error and failure to comply with study procedures (see result section for more details), resulting in an overall $n = 110$ (83.6% female, mean age 18.37, age-range 16-32). Running ANCOVA analyses with approximately 30 participants per experimental condition was expected to result in approximately 80% power to detect a medium main effect of experiment condition on avoidance behaviours if one existed (Cohen, 1988; Wilson Van Voorhis & Morgan, 2007).

Participants in this study received one partial course credit for each time point in which they participated for a maximum of four partial credits. Moreover, in order to reduce attrition and encourage complete data collection across all four time points, participants who complete all four surveys were entered for a chance to win one of three gift cards valued at \$100 each. All procedures of the study were approved by the Psychology/Sociology Research Ethics Board at the University of Manitoba.

Measures

Social Phobia Inventory (SPIN). The SPIN (Connor et al., 2000) is a 17-item scale that measures three key components of social anxiety; fear (e.g., “I am afraid of people in authority”), avoidance (e.g., “I avoid going to parties”), and physiological symptoms (e.g., “I am bothered by blushing in front of people”). Participants reflect on their past week and respond on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). Scores for all 17 items are summed for one total score. In this study, the SPIN was used as a screening measure to recruit participants with elevated levels of social anxiety. The SPIN has been demonstrated to differentiate across varying levels of social anxiety successfully. Scores between 19-23 indicate a sub-clinical level of social anxiety while scores above 24 indicate clinical social anxiety (Connor et al., 2000; Osório, Crippa, & Loureiro, 2010; Ranta et al., 2007). For this study, a cut-off score of 24 or higher was used to identify individuals with high social anxiety for study recruitment. The SPIN has been empirically demonstrated to show good internal consistency with Cronbach’s alpha ranging from .90-.94 and .90-.91 for general populations and clinical samples, respectively (Osório et al., 2010). The internal consistency of the SPIN in the mass-testing sample was high ($\alpha = .92$).

Self-Compassion Scale (SCS). Participants completed the 26-item SCS to assess levels of trait self-compassion (Neff, 2003). The SCS assesses six core components of self-compassion determined by Neff (2003). The scale consists of three positive components: common humanity (e.g., “I try to see my failings as part of the human condition”), self-kindness (e.g., “I try to be loving towards myself when I’m feeling emotional pain”) and mindfulness (e.g., “When something upsets me I try to keep my emotions in balance”), as well as their negative counterparts: isolation (e.g., “When I fail at something that’s important to me, I tend to feel alone

in my failure”), 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”). In this study, the scale had a 10-point Likert scale at mass-testing and a 5-point scale at follow-up ranging from 1 (*almost never*) to (*almost always*). Following recommendations put forth by Neff et al. (2019), a total score representing overall self-compassion was obtained by first, reverse coding negatively worded items and then averaging the scores across all items, with higher scores indicating higher self-compassion. The SCS has good internal consistency with Cronbach’s alpha ranging from .86 to .96 (Krieger et al., 2016; Werner et al., 2012) as well as good test re-test reliability $r = .93$ (Neff, 2003). Furthermore, Neff (2003) found that the SCS shows good convergent validity as it correlates positively with social connectedness and negatively with self-criticism, and it is not affected by social desirability bias. The internal consistency of the SCS in the current study was high ($\alpha = .90$) at mass-testing and follow-up ($\alpha = .92$).

Kutcher Generalized Social Anxiety Disorder Scale for Adolescents – Modified (K-GSAD-A- mod). This study used a modified version of the K-GSAD-A to measure avoidant behaviours and social anxiety at Time 1 and follow-up as the original scale was designed for adolescents (O’Brien, 2017). The original K-GSAD-A (Brooks & Kutcher, 2004) is a clinician-rated instrument consisting of three parts, with 32 items in total design to measure social anxiety and avoidance behaviours. The first section comprises 18 behaviour-related statements for participants to read (e.g., “Entering a classroom or social group once the class or activity is already underway”), and then indicate a) their level of discomfort, anxiety or distress and b) their level of avoidance, associated with each statement, using a 4 point scale from 0 (*never*) to 3 (*severe/total avoidance*). The second section instructs participants to rank order the three most

feared social situations and to assign an avoidance score based on the above rating scale. The last section of the measure assesses affective and somatic distress scores across 11 items using the above rating scale. The K-GSAD-A has good internal consistency ($\alpha = .96$) and has been shown to have good sensitivity to changes in avoidance behaviours and social anxiety (Brooks & Kutcher, 2004; Tulbure, Szentagotai, Dobrean, & David, 2012).

A modified version of the K-GSAD-A (Mod-K-GSAD-A) developed by O'Brien (2017), with obtained copyright permission, was used to better reflect a university-based student sample. As such, the first section of the K-GSAD-A was adopted as a self-report measure, but no other sections of the original scale were used. O'Brien (2017) modified the scale to be more relevant to university students, dropping items relevant to younger adolescents (e.g., "attending overnight group activities such as camps, school trips,") and adding items pertinent to young adults (e.g., "making eye contact with friends"). The final version of the scale consists of 20 items and has an excellent internal consistency ($\alpha = .81-.94$; O'Brien, 2017). In the study participants were asked to reflect on the past month and report on a 4 points scale from 0 (*never*) to 3 (*severe/total avoidance*), first how much distress/anxiety/discomfort they felt in response to the 20 items followed by how much avoidance for each item. Four participants (one in each condition) did not complete the avoidance measure at Time 1 or follow-up on the Mod-K-GSAD-A. Accordingly, analysis assessing avoidance retained only those who completed the measure. The internal consistency of the social anxiety and avoidance measures in the current study was good ($\alpha = .86$) at Time 1 and follow-up ($\alpha = .88$; social anxiety and $\alpha = .88$; avoidance).

Rosenberg Self-Esteem Scale (RSE). The RSE is a 10-item scale designed to measure individuals' levels of global self-esteem (Rosenberg, 1965). The RSE consists of items such as "On the whole, I am satisfied with myself" and "I feel I do not have much to be proud of." Items

are rated on a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). After reverse coding, the total of all items represents an overall score with higher scores indicating higher self-esteem. The RSE has good internal reliability ($\alpha > .85$; Leary et al., 2007; Neff et al., 2007). The internal consistency of the RSE in the current study was good ($\alpha = .88$).

Fear of Positive Evaluation Scale (FPE). The FPE scale is a 10-item questionnaire that measures levels of fear regarding positive evaluation and praise coming from acquaintances or people that are not well known (e.g., “I feel uneasy when I receive praise from authority figures”; Weeks et al., 2008). Participants rate items on a 10-point scale ranging from 0 (*not at all true*) to 9 (*very true*). Two items in the scale (items 5 and 10) are reverse-scored to reduce response biases; as such, these two items are not included in the overall score. The sum of the remaining eight items represents the total score. The FPE has been shown to have good internal consistency with Cronbach’s alpha greater than .80 (Fergus et al., 2009; Weeks et al., 2008). The internal consistency of the FPE in the current study was adequate at Time 1 ($\alpha = .77$) and good at Time 3 ($\alpha = .88$).

Brief Fear of Negative Evaluation Scale (BFNE). The original BFNE is a 12-item scale consisting of items such as “I am afraid others will not approve of me” and “I am usually worried about what kind of impression I make” that measures global fear of negative evaluation (Leary, 1983). Participants rate items on a 5-point scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). On the original scale, four items are reverse-coded, and all scores are summed for one overall score. However, studies have shown that the BFNE scale is a more valid and reliable measure of fear of negative evaluation when the four reverse-scored items are removed (Rodebaugh et al., 2004; Weeks et al., 2005). Therefore, for this study, only the eight straightforward items on the scale were used to compute an overall score. The 8-item

BFNE scale has been shown to have excellent internal consistency with Cronbach's alpha greater than .92 (Rodebaugh et al., 2004; Weeks et al., 2005, 2008). The internal consistency of the BFNE in the current study was excellent at Time 1 ($\alpha = .92$) and Time 3 ($\alpha = .94$).

State Fear of Negative Evaluation (SFNE). A modified state fear of negative evaluation scale based on the BFNE (Leary, 1983), was used to measure situational fear of negative evaluation. The scale consists of six items, such as "I am afraid that other people might notice my shortcomings in similar circumstances" that are rated on a 5-point scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). The six items are summed for an overall score. The internal consistency of the SFNE in the current study was excellent ($\alpha = .91-.96$)

Procedures

Students in the Introduction to Psychology classes were invited to participate in a voluntary mass testing survey at the beginning of the academic school year. The mass testing survey was completed in person during a regularly scheduled Introduction to Psychology class. Participants received partial course credit for completing the survey. Respondents to this survey provided contact information such as email and demographic information, including age, gender and ethnicity. Participants responded to various other questionnaires and measures, including baseline measures of social anxiety (SPIN) and self-compassion (SCS). Participants were selected based on their level of social anxiety, as measured by their overall SPIN scores. Participants who consented to be contacted were sent an email with a code to sign up for the study via the University of Manitoba SONA system. The study consisted of the mass testing and two phases; Phase 1 occurred in the lab, while participants completed Phase 2 online. Data in

both phases were collected using the online survey and distribution tool Qualtrics. Consent was obtained at the start of each phase. See Table 1 for a sequence of measures summary.

Phase 1. Phase one consisted of three separate time points within an estimated one-week period (Time 1, Time 2, Time 3) with at least 24 hours between each time point. Upon signing up on SONA, all participants were randomly assigned to one of three writing conditions or the control condition. In order to randomly assign participants, each experimental condition was assigned an arbitrary number from one to four. A random number generator was used to assign the first female and male participants to a condition. All ensuing participants were then assigned to the subsequent numbered condition (e.g., 2 - 3 - 4 - 1) by the order in which they signed up on SONA. In order to reduce the likelihood of a disproportionate number of males in any one condition, both male and female participants were randomly assigned to conditions independent of each other.

Baseline measures of avoidance behaviours (K-GSAD-A-Mod), social anxiety (K-GSAD-A-Mod), self-esteem (RSE), fear of negative evaluation (BFNE) and fear of positive evaluation (FPE) were taken at the beginning of Time 1. Participants in the control condition did not complete any further measures until follow-up. Participants in the writing conditions completed measures of state fear of negative evaluation (SFNE) at Time 2, and final measures of FPE and BFNE at the end of Time 3. Participants assigned to the writing conditions completed the following: a writing induction, one of the writing tasks, and the above measures at all three-time points.

Written recall of a negative situation. In order to facilitate and direct the writing conditions possible effects, after giving consent and completing baseline measures, participants took a few moments to think about a negative situation that occurred in the past three years for

which they felt personally responsible, which resulted in avoidance behaviours and caused them social anxiety. Having participants recall an adverse event aimed to provide participants with a tangible socially anxiety-provoking situation on which they could apply the self-compassion and self-esteem writing interventions. Participants recalled different events at each time point throughout the study. Following Leary et al. (2007; p. 899) and Johnson and O'Brien's (2013; p.950) procedures, participants then described the experience, in writing, in as much detail as possible, including things like what led up to it, who was present, and how they felt and behaved at the time. Participants then completed their randomly assigned writing conditions. At Time 2, participants completed the SFNE after the written recall of a negative situation, immediately prior to the writing task.

Self-Compassion Writing. Based on Leary et al. (2007), study participants in the self-compassion condition responded to three prompts designed to facilitate thinking in a self-compassionate manner and increase self-compassion. Participants were encouraged to make as much effort as possible and to write everything they thought was relevant (Johnson & O'Brien, 2013). Leary et al. (2007; p.899), indicated that the first prompt is to encourage acceptance of common humanity; therefore, participants were instructed to think about and list ways in which others may also have experienced similar anxiety-provoking situations. The second prompt encouraged self-kindness by asking participants to write a paragraph expressing understanding, kindness, and concern to themselves in the same way one would to a friend who had undergone the experience. The final prompt was designed to promote mindful awareness of the experience by describing feelings about the experience in an objective and unemotional fashion.

Expressive Writing. Based on Pennebaker's expressive writing exercise (Pennebaker et al., 1990), and supported by Johnson and O'Brien (2013; p. 951), participants were instructed to

take 10 minutes to write about their feelings and thoughts associated with their described situation. They were encouraged to explore their ideas about it and how it relates to who they are, their relationships, and their past, present, and future (Johnson & O'Brien, 2013).

Neutral Writing. Participants were instructed to take 10 minutes to describe, with as many details as possible, the route they took to get to university, including their mode of transportation, what they saw on the way, what roads they took, etc. No further prompts were provided.

Post-writing questions. At Times 1 and 2, but not Time 3, participants complete the SFNE scale again after their assigned writing condition. Subsequently, in order to help participants generalize the use of self-compassion for reducing social anxiety and avoidance, after completing their respective writing tasks and the SFNE questions, all participants were asked the following four questions: 1) In what ways do you think what you have written might help reduce your social anxiety in the situation you described if it were to occur again? 2) Are there any general lessons from what you have written that can help reduce your social anxiety in future situations? 3) How might you apply what you have written to help decrease your social anxiety in the future? 4) Would bearing in mind the things you have written make you feel more willing to approach socially difficult situations in the future and why? Two validity questions were presented at Time 3 in which participants rated themselves on a scale of 1 (*not at all*) to 5 (*completely*) on the extent to which they were honest and attentive throughout the survey (Meade & Craig, 2012). Attention check questions asking participants to select designated responses (e.g., please select “strongly agree” on this item), were added to six scales dispersed throughout the time points, three in Time 1 and one in each subsequent time point (Meade & Craig, 2012).

Prior to leaving the lab after Time 1 and 2, participants were scheduled for the subsequent time point.

Phase 2 (Follow-Up). Two weeks after completing Time 3 of Phase 1, participants received an email link to a Qualtrics survey with the following measures: K-GSAD-A-Mod, SCS and SPIN. Upon completion, participants received a written thank-you, debriefing materials and had the chance to enter their name into the draw by providing their email address.

Upon completion of data collection, participants' written recall of a negative situation was assessed to ensure that all participants had recalled a negative event. Moreover, all written responses were coded to ensure participants had complied with their assigned conditions writing instructions. Two research assistants, who were blind to the participants' assigned conditions rated participants' written responses at all three time points on a Likert scale from 1 (*not at all*) to 7 (*extremely*) on two items assessing their level of self-compassionate and expressive writing. The two coders also indicated whether or not the participants had described a route to university (see appendix B for coders instructions).

Results

Data Preparation and Screening

Figure 1 demonstrates participant flow throughout the study. A total of 116 participants completed all phases of the study, with an attrition rate across all four time points of 15% ($n = 20$). Prior to any analysis, three participants were removed for not following the study protocol. Specifically, two participants in the expressive and neutral conditions did not write about a negative event, while another in the self-compassion condition took 2.5 hours to complete Time 1 vs. the given 30 minutes. A further two participants (one each from the self-compassion and expressive conditions) were removed from the final data set due to researcher

error (completed the wrong condition at Time 3). One additional participant was removed due to lack of attention, as assessed by attention check questions throughout the scales resulting in an overall $n = 110$.

A comparison of the final 110 participants with the 26 dropped participants was conducted in order to assess whether participants with higher levels of social anxiety or avoidance may have been more inclined to drop out of the study. The results showed no significant difference in either demographics or primary measures between the two groups, indicating that the 110 participants represent those who provided baseline data at mass-testing and Time 1. See Table 2 for comparisons across variables. Moreover, assigned condition did not have an effect on participant attrition $\chi^2(3) = 0.22, p = .98, \phi = .04$.

Prior to data analysis, all variables were checked for accuracy of data entry, missing values, outliers and statistical violations of the assumptions of linear model analyses including ANCOVAs and mediation analyses. See Table 3 for the descriptive statistics of the study variables and Table 4 for zero-order correlations for all of the study variables in the entire sample. In order to maintain as large a sample size as possible, a 20% cut-off was used when assessing missing values to determine whether a measure was dropped from the analysis. No overall measures were dropped; however, participants at Time 1 ($n=3$) and follow-up ($n=2$) who had more than 20% of their avoidance measure ratings missing were removed from all analyses assessing avoidance behaviours. Missing values in scales that had less than 20% missing were replaced with a mean substitution procedure.

Univariate outliers were assessed using boxplots and a three standard deviation cut-off. One case in the self-compassion measure at mass-testing and one at follow-up were identified as possible outliers. Neither case showed any indication of extreme response biases across

measures; as such, both scores were adjusted via winsorization to the nearest non-outlier score. Mahalanobis distance analysis screening of variables at each time point did not indicate any multivariate outliers. All variables met the assumption of normality for ANCOVA and mediation analyses as assessed via visual inspection of histograms, Q-Q plots, skewness and kurtosis. Moreover, pairwise scatter plots across all continuous variables at each separate time point found pairwise linearity to be satisfactory. The assumption of homoscedasticity was not violated as assessed using residual score scatter plots of the dependent variables. Finally, prior to all analyses, the assumption of multicollinearity was assessed via correlation tables to ensure that the independent variables were not too highly inter-correlated to be included in the same analysis. An $r = .80$ cut-off was used, and no variables were excluded due to multicollinearity (Field, 2013).

One-way ANOVAs were conducted to ensure that each condition was approximately equal across variables at Time 1. Results revealed no significant differences between conditions at Time 1, all F s < 1 , indicating that the ANCOVA assumption of independence of covariates and treatment effect was not violated. These results indicate that random assignment was successful and that participants in each of the conditions had approximately equal levels of self-compassion, self-esteem, avoidance, social anxiety, fear of positive evaluation and fear of negative evaluation at the start of this experiment. Subsequent analyses assessed follow-up scores as dependent measures while controlling for mass-testing and Time 1 variables.

Manipulation Check

In order to ensure that participants wrote as instructed, according to their assigned written conditions, two research assistants, who were unaware of participants' assigned condition, rated participants' written responses from Time 1 to 3 on two items assessing their level of self-

compassionate and expressive writing. The mean of the coders' scores was then used as participants' overall self-compassion and expressive writing score. In the event a coder missed a written response and did not provide a rating ($n=3$), the sole rating made was used as the overall score. Both coders missed two written responses; consequently, only one coder was asked to submit a rating on the two missed responses. Interrater reliability (IRR) was assessed via intra-class correlation (ICC) using a fully crossed, two-way model characterized by consistency in rating (Hallgren, 2012). The resulting ICC at Time 1 was excellent for both self-compassion and expressive rating, $ICC = .94$ and $.85$, respectively, indicating that coders had a high level of agreement when judging participants' writing on self-compassion and expressiveness (Cicchetti, 1994). Resulting ICC at Times 2 and 3 showed excellent coder agreement when assessing expressiveness $ICC = .82$ and $.79$. ICC agreement on self-compassionate writing was fair at Time 2, $ICC = .59$ and good at Time 3, $ICC = .64$.

In addition, coders were asked to indicate whether or not a participant had described a route to university. IRR was assessed using Cohen's Kappa to evaluate the degree to which coders agreed. Coders' agreement was perfect at Times 1 and 3, $k=1$ and excellent at Time 2, $k=.97$. Further inspection of the data indicated that coders were able to accurately identify 100% of participants in the neutral condition from just their written responses.

Independent t -tests were then conducted to assess whether participants wrote more self-compassionately or expressively, according to their assigned conditions. As shown in Table 5, participants in the self-compassion condition wrote in a more self-compassionate manner than those in the expressive condition at all time points. Furthermore, those in the expressive condition wrote in a more expressive manner than those in the self-compassion condition at all

time points. Thus, the manipulation check indicated that the manipulation had the intended effect on the manner and contents of participants' writing throughout this research.

Hypothesis Testing

Hypothesis 1. A hierarchical regression analysis was conducted to assess whether participants in the self-compassion writing condition experienced a greater increase in trait self-compassion at follow-up compared to those in the experimental conditions. In order to assess the unique effect of self-compassion (i.e., independent of self-esteem), self-esteem was controlled for in this analysis. Moreover, given self-esteem's correlation with self-compassion, $r(108) = .54, p. < .01$, self-esteem and self-compassion at mass-testing were entered in the first block of the regression analysis, in order to control for their effect on self-compassion at follow-up. As expected, a significant regression equation was found for the covariates, $F(2, 107) = 83.81, p. < .01$, which accounted for 61% of the variance in self-compassion at follow-up. Participants' experimental condition was entered in the second block, as three separate variables, using effect coding to contrast the self-compassion condition (coded as 1) with all other conditions (coded as -1). Adding the experimental conditions into the regression model did not significantly improve the predictive value of the model. There was no significant effect of experimental condition on trait self-compassion at follow-up with an F change statistic of $F(3, 104) = 1.21, p. = .31$, and an R^2 change of 0.01. Thus, experimental conditions only accounted for 1% of the variance in self-compassion at follow-up. Contrary to expectations, as shown in Table 6, self-compassionate writing did not increase trait self-compassion at follow-up compared to the expressive and neutral writing conditions. Self-compassionate writing led to marginally worse self-compassion at follow-up compared to the control (i.e., non-writing) condition. Overall, being in the self-compassion condition was not a significant predictor of higher levels of trait self-compassion.

Moreover, results indicate a significant positive relationship between self-esteem and self-compassion at follow-up, even after controlling for baseline self-compassion, $t(104) = 2.74$, $p = .01$.

Hypothesis 2. A hierarchical regression analysis was conducted to assess whether individuals in the self-compassion writing condition experienced decreased levels of avoidance behaviour, from baseline to follow-up, relative to those in the experimental conditions. Avoidance behaviours at Time 1 were entered in the first block of the regression analysis in order to control for their effect on avoidance at follow-up. As expected, a significant regression equation was found for the covariate, $F(2, 104) = 114.16$, $p < .01$, which accounted for 52% of the variance in avoidance behaviours at follow-up. Participants' experimental condition was entered in the second block as three separate variables using effect coding to contrast the self-compassion condition (coded as 1) with all other conditions (coded as -1). Adding the experimental conditions into the regression model did not significantly improve the predictive value of the model. There was no significant effect of experimental condition on avoidance behaviours at follow-up with an F change statistic of $F(3, 101) = 1.14$, $p = .34$, and an R^2 change of 0.02. Thus, experimental conditions only accounted for 2% of the variance in avoidance behaviours at follow-up. Additionally, contrary to expectations, as shown in Table 7, self-compassionate writing did not decrease avoidance behaviour compared to the other two writing conditions. Although not significant, results indicate that self-compassionate writing led to marginally worse avoidance behaviour compared to the control condition. Overall, being in the self-compassion condition was not a significant predictor of lower levels of avoidance behaviours.

Hypothesis 3. Following the same model, the third hypothesis was assessed using hierarchical regression analysis to examine whether individuals in the self-compassion writing condition experienced decreased levels of social anxiety from Time 1 to follow-up, relative to those in the experimental conditions. As expected, a significant regression equation was found for the covariates' self-esteem and social anxiety at Time 1 in model 1, $F(2, 107) = 64.27, p. < .01$, which accounted for 55% of the variance in social anxiety at follow-up. Contrary to expectation, however, adding experimental conditions into the second block of the regression model did not significantly improve the model's predictive value. No significant effect of experimental condition on social anxiety at follow-up was found with an F change statistic of $F(2, 104) = 1.23, p. = .30$, accounting for only 2% (R^2 change = 0.02) of the variance in social anxiety at follow-up. Likewise, as shown in Table 8, being in the self-compassion condition did not result in decreased levels of social anxiety, when compared to all experimental conditions. Similar to the previous analysis, results indicate that self-compassionate writing led to marginally worse social anxiety when compared to the control condition.

Hypothesis 4. A hierarchical regression analysis was conducted to assess whether participants who wrote about a negative event in a self-compassionate manner at Time 2 experienced a greater decrease in SFNE than those in the other two writing conditions. Self-esteem and scores of SFNE taken immediately prior to the writing induction were entered in the first block of the regression analysis, in order to control for their effect on post-SFNE. As expected, a significant regression equation was found for the covariates, $F(2, 78) = 39.58, p. < .01$, which accounted for 50% ($R^2 = .50$) of the variance in post-SFNE.

Participants' writing condition was entered into the second block analysis. Adding writing conditions into the regression model resulted in a significantly improved predictive value

of the model. There was a significant effect of writing condition on post-SFNE, with an F change statistic of $F(2, 76) = 12.53, p. < .01$, and an R^2 change of .12. Thus, writing conditions accounted for an additional 12% of the variance in post-SFNE. Unstandardized beta weights, t -scores and significance are presented in Table 9. As hypothesized, planned contrasts revealed that being in the self-compassion writing condition significantly decreased SFNE compared to being in the expressive writing condition, $t(76) = -2.34, p = .02$. Contrary to expectations, those in the neutral writing condition showed a greater decrease in SFNE than those in the self-compassion condition $t(76) = 5.01, p. < .00$. Overall, writing conditions did have an effect on SFNE; however, describing a route to school appeared to result in the largest reduction of SFNE, followed by self-compassionate writing and expressive writing. Moreover, results indicate a significant negative relationship between self-esteem and post-SFNE, even after controlling for pre-SFNE, $t(76) = -2.95, p. < .01$.

Hypothesis 5. Despite the lack of association between writing condition and avoidance behaviours, indirect effects linking writing condition to avoidance behaviours via third variables such as FNE and FPE are possible and were tested using the PROCESS procedure for SPSS Version 3.5 (Hayes, 2018). Two separate models were run to assess possible indirect effects of FNE and FPE on the association between writing condition and avoidance (see figures 2 and 3, respectively). Bootstrap samples (5000) were used to calculate 95% confidence intervals (CI) such that if this parameter includes 0, the indirect effect is not supported. Controlling for FNE at Time 1 and baseline self-esteem, the first model assessing the mediational effects of FNE on writing condition and avoidance behaviour, was not supported. Results indicate that, self-compassionate writing significantly reduced FNE compared to expressive writing, $(t(75) = 2.16, p. = .03, r = .24)$, but not compared to neutral writing $(t(75) = -.96, p. = .34, r = .11)$. Moreover,

FNE was positively associated with avoidance behaviour such that participants in the same condition that differ by one unit on FNE will differ by .56 units on avoidance behaviours $t(75) = 2.55, p = .01, r = .28$. Despite these significant paths, the bootstrap samples with 95% CI found that the relative indirect effects of both self-compassion vs. expressive writing (indirect effect = .86, 95% CI [-0.03, 2.17]) and vs. neutral writing (indirect effect = -.37, 95% CI [-1.62, 0.46]) were not supported.

Similarly, the second model assessed whether FPE mediated the association between writing condition and avoidance. Controlling for FPE at Time 1 and self-esteem, the second model, assessing the mediational effects of FPE on writing condition and avoidance behaviour, was not supported. The relative indirect effects of both self-compassion vs. expressive writing (indirect effect = .42, 95% CI [-0.35, 1.45]) and vs. neutral writing (indirect effect = -.34, 95% CI [-1.17, 0.30]) were not supported.

Hypothesis 6. Similar to the above hypothesis, despite the lack of association between writing condition and social anxiety, indirect effects linking writing condition to social anxiety via a third variable such as FNE was possible and testable using the PROCESS procedure for SPSS Version 3.5 (Hayes, 2018). Consequently, a model was run to assess whether FNE mediated the association between writing condition and social anxiety (see figure 4). Bootstrap samples (5000) were used to calculate 95% CI such that if this parameter includes 0, the indirect effect is not supported. Controlling for FNE at Time 1 and self-esteem, the first model assessing the indirect effects of writing condition on social anxiety, through FNE was partially supported. The relative indirect effect of self-compassion vs expressive writing was supported (indirect effect = .90, 95% CI [0.02, 2.19]), indicating that the self-compassion writing condition was associate with decrease FNE which in turn predicted lower levels of social anxiety. However,

these results only quantify part of the difference between groups on social anxiety as the indirect effect of self-compassion vs. neutral writing was not supported (indirect effect = $-.39$, 95% CI [$-1.73, 0.48$]). Nonetheless, results indicate that, self-compassionate writing significantly reduced FNE compared to expressive writing, ($t(76) = 2.02, p = .05, r = .23$), but not compared to neutral writing ($t(76) = -.88, p = .38, r = .10$). Moreover, FNE was positively associated with social anxiety, such that participants in the same condition that differ by one unit on FNE will differ by $.65$ units on social anxiety $t(76) = 3.05, p < .01, r = .33$.

Post-hoc analysis. Despite finding no significant results in the first 3 hypotheses, the self-compassion vs. control condition contrast approached significance for all three dependent variables, self-compassion ($t(104) = -1.82, p = .07$), avoidance ($t(100) = 1.59, p = .12$) and social anxiety ($t(104) = 1.83, p = .07$), indicating a potential effect of time on these variables. For instance, it is conceivable that time of year may affect individuals' levels of social anxiety and avoidance behaviours (e.g., greater social anxiety and avoidance at the start of the school year). Consequently, scatter plots, consisting of the number of days between mass-testing and follow-up on the x-axis and residuals scores, based on participants' dependent measures at mass-testing/Time 1 and follow-up on the y-axis, were assessed for the possible effect of time of year. No evident pattern emerged for any of the dependent variables. Moreover, to further examine the potential effect of time on the dependent variables, paired-sample t -tests were done comparing changes in the dependent variables from mass-testing/Time 1 to follow-up across the control condition. In order to compare self-compassion from mass testing to follow-up, the follow-up self-compassion scale, which ranged from 1-5, was prorated into the original mass-testing range of 1-10. The follow-up self-compassion scores were transformed using the following interpolation formula $[(x-1)/4*9] + 1$, where x is equal to the self-compassion score at follow-

up. The results did not indicate any significant effect of time on self-compassion ($t(28) = -1.35, p = .19, d = -.25$), avoidance ($t(27) = 1.08, p = .29, d = .20$) or social anxiety ($t(28) = 1.57, p = .13, d = 0.29$).

Discussion

This study aimed to expand upon previous research in self-compassion and social anxiety in four key ways: First, by assessing the feasibility of increasing trait self-compassion within a sample of individuals with elevated levels of social anxiety using a self-compassionate writing task; second and third, by assessing the benefits of that self-compassion writing induction on decreasing avoidance behaviours and social anxiety; lastly, by further examining fear of evaluation's role in mediating the relationships between self-compassion, avoidance behaviours and social anxiety. The results suggest that a brief self-compassion writing induction may not effectively increase trait self-compassion or decrease avoidance behaviours and social anxiety but may decrease fear of negative evaluation.

Self-Compassion Writing Induction

The present study aimed to expand on previous findings by assessing the impact of a self-compassion writing induction on trait self-compassion as measured two weeks after the final writing induction rather than state self-compassion, as was assessed in previous studies. Previous research examining the feasibility of increasing state self-compassion within a population of socially anxious individuals has found it possible using a similar three prompt self-compassion writing inductions (Arch et al., 2018; Blackie & Kocovski, 2018). However, contrary to state self-compassion, results from the present study did not support the hypothesis that a brief self-compassion writing induction would increase trait self-compassion. The findings indicate that participants who first recalled negative events and then wrote about them in a self-compassionate

manner on three separate occasions within a one-week period did not experience any significant increase in trait self-compassion two weeks later. Moreover, self-compassionate writing did not prove any more effective at increasing self-compassion than writing about the events in an expressive manner, or simply describing a route to school. In fact, in this study, participants who experienced the most significant increase in self-compassion were those in the control condition who were never asked to recall or write about a negative event.

There are a number of reasons why the self-compassion induction may not have worked as anticipated. For instance, coders' ratings of participants' written responses show a downward trend in the level of self-compassion expressed over time. These ratings suggest that participants' engagement with the task may have decreased with time, thus reducing the possible impact of the self-compassion writing task.

Moreover, Neff (2003) posits that self-compassion is most relevant in challenging or difficult situations. As such, it is possible that the retrospective design of the study did not induce sufficient self-criticisms, anxiety or avoidance within participants for the full potential of the self-compassionate writing inductions to be realized. In their study, Arch et al. (2018) had individuals with social anxiety and healthy participants complete an impromptu speech immediately followed by a self-compassion writing induction task. They found that participants with elevated social anxiety showed a greater immediate increase in self-compassion than healthy controls after experiencing a stressful situation and writing about it in a self-compassionate manner. Likewise, Blackie and Kocovski (2018) found that participants, with social anxiety, who gave an impromptu speech and wrote about it in a self-compassionate manner had higher self-compassion 24 hours later compared to participants in a writing control or rumination condition. Direct comparisons between the current study, Arch et al. (2018) and

Blackie and Kocovski (2018) studies cannot be made due to key differences (i.e., assessing state self-compassion; comparing to healthy controls and one induction vs. three). Nonetheless, given the lack of significant results found in the current study, it is possible that having participants sit alone in a room and not experience any imminent stress or threat to their self-perception may reduce the possible impact and applicability of self-compassionate writing on their overall sense of self.

Despite finding no significant increase in trait self-compassion, coder ratings of participants' written responses provide valuable information on two key points. First, their ratings indicate that participants followed the writing instructions and that even though the intervention was unsuccessful it was successfully administered. Second, their ratings demonstrate that even if the self-compassionate writing did not increase trait self-compassion, those in that condition were able to write in a more self-compassionate manner than the two other conditions. As such, they may have experienced an increase in state self-compassion. These findings are consistent with those of Pauly and McPherson (2010), who found that individuals with anxiety were able to describe self-compassion but indicated that it would be hard for them to engage in it. Consequently, the current results suggest that individuals with high social anxiety are able to write and understand the concept of self-compassion but may struggle to apply it into their own lives. Combined with the previous findings, the results of the present study suggest that, although a brief self-compassion induction may be sufficient to increase state self-compassion, it may not be sufficient to increase trait self-compassion in individuals with social anxiety.

These results are consistent with findings from Gilbert et al. (2011), which posit that self-compassion is difficult to cultivate within highly self-critical and anxious individuals, key

characteristics of social anxiety. Gilbert et al. (2011) found that highly self-critical individuals may have learnt from past negative experiences that they cannot be kind to themselves. Moreover, this self-belief may be deeply entrenched, resulting in a typical self-view and belief that is the complete opposite of self-compassion. Consequently, although a self-compassion induction may briefly increase state self-compassion, the entrenched negative self-beliefs are not likely to be replaced within three brief writing sessions.

Furthermore, Gilbert et al. (2011) found that engaging with self-compassion for the first time was often met with resistance and feelings of doubt and fear. Although not explicitly assessed in this study, the moderate negative correlation between self-compassion and social anxiety found in this study supports previous studies indicating that individuals who are high in social anxiety tend to have consistently lower self-compassion (Arch et al., 2018; Harwood & Kocovski, 2017; Werner et al., 2012). Accordingly, given the high social anxiety cut-off used to recruit participants for the current study, it is conceivable that the current sample consisted of a disproportionate number of participants who were relatively low and possibly inexperienced with self-compassion and, therefore, may have been reluctant to actively engage in the self-compassion induction.

Despite the results of the current study, some studies have succeeded in significantly increasing trait self-compassion using alternative methods within the general population. For instance, in their study Neff et al. (2007) had participants come into the lab and complete the "Gestalt two-chair" exercise where participants would give voice to their "self-critical self," and an "experiencing self" that would then engage in a dialogue facilitated by a trained therapist. They found that trait self-compassion did significantly increase three weeks following the Gestalt two-chair exercise. Their findings confirm that trait self-compassion can be increased with a

more hands-on intervention. Further research is needed to assess whether more intense and directed interventions could be used to increase trait self-compassion specifically within individuals with social anxiety (Gilbert, 2013; Neff et al., 2007).

Self-Compassion, Avoidance Behaviours and Social Anxiety

The present results indicate that engaging in a self-compassionate writing induction after recalling a negative event did not have any short-term benefits of reducing either avoidance behaviours or social anxiety at a two-week follow-up. There are a number of reasons why the writing condition may not have impacted the dependent variables, the first of which ties back to the discussion above. For instance, it is possible that not having a recent salient anxiety-provoking situation to write about self-compassionately resulted in lower engagement and less opportunity to actively apply the self-compassionate lessons, thus reducing its transferability to future situations. In their study, Blackie and Kocovski (2018) found that increasing state self-compassion within a sample of individuals with social anxiety resulted in a willingness to engage in future hypothetical social situations as reported one day after the self-compassion induction. However, contrary to the present study, they had participants actively engage in a social-anxiety provoking task prior to the self-compassion inductions.

Moreover, Blackie and Kocovski (2018) assessed hypothetical engagement in future situations, whereas the present study assessed avoidance of specific behaviours in the recent past. As such, it is conceivable that individuals with social anxiety may hypothetically intend to engage in certain behaviours but avoid engaging when the time comes. Nonetheless, the present study does suggest that any short-term benefits that may be achieved by increasing state self-compassion risks being lost in the long run, likely due to the lack of increased trait self-compassion. However, given the lack of significant results, conclusions cannot be made as to

whether increasing trait self-compassion would, in fact, lead to decreased avoidance behaviours and social anxiety within individuals with social anxiety.

A second possibility is that participants did not have the opportunity or time to apply or develop the self-compassion strategies they may have learnt in the writing induction task. For instance, O'Brien (2017) found that despite no immediate benefits, a self-affirming writing task proved to be beneficial in decreasing both avoidance behaviours and social anxiety at a 1-month follow-up. However, her study included a psycho-educational intervention component that encouraged participants to engage in social situations to become more socially engaged. Consequently, future research should consider psycho-educational components to facilitate opportunities for participants to apply the self-compassion strategies in real-life situations. Moreover, studies should follow-up with participants across time to assess whether more time results in an eventual decrease in avoidance behaviours and social anxiety.

Two findings arose across the first three hypotheses that are worth addressing. First, regardless of experimental condition, participants with higher self-esteem at the start of the study came through with more of their self-compassion intact at the end. These results suggest that self-esteem may play a more significant role in buffering individuals' self-compassion than previously anticipated. The second unexpected results were the marginally significant differences between participants in the self-compassion writing condition and those in the control (i.e. non-writing) condition. Although not statistically different, participants who did not recall negative events and subsequently write about them self-compassionately experienced the most increase in trait self-compassion and decrease in avoidance behaviours and social anxiety. Moreover, supplementary analyses did not find any empirical evidence as to why no writing was more beneficial than self-compassionate writing.

These results give rise to the question, does any type of writing intervention provide the best means of either increasing self-compassion or reducing avoidance and social anxiety? Given the numerous studies that have found benefits resulting from self-compassion writing inductions (i.e., Black & Kocovski, 2018; Johnson and O'Brien 2013), it appears unlikely that recalling a negative event and writing about it in a self-compassionate manner is in and of itself detrimental. Moreover, studies have shown the social anxiety symptoms decrease immediately after a self-compassion writing inductions (i.e., Arch et al., 2018; Harwood & Kocovski, 2017) However, as Gilbert et al. (2011) and Pauly and McPherson (2010) have demonstrated and was previously discussed above, self-compassion may be difficult to embrace for individuals with high social anxiety. As such, it is possible that without proper training or support, recalling a socially anxiety-provoking event may lead to an increase in social anxiety symptoms in the long run, even after writing about it self-compassionately. Consequently, the present findings suggest that interventions other than self-compassionate writing may be worth exploring further as a means of increasing trait self-compassion.

Self-Compassion and Fear of Evaluation

An additional aim of this study was to evaluate the potential benefits of self-compassion in reducing fear of evaluation. The present study assessed fear of evaluation in a number of different ways, distinguishing between state and trait fear of negative evaluation and between trait fear of positive and negative evaluation. Fear of positive evaluation was assessed as it is known to be associated with social anxiety. However, in hindsight, given that participants in this study were explicitly asked to recall a negative event that caused them social anxiety, it is no real surprise that fear of positive evaluation was only found to be associated with participants' social

anxiety and not associated with any of the writing conditions. Consequently, fear of positive evaluation will not be discussed any further.

Participants state fear of negative evaluations was assessed at Time 2 immediately after writing about a negative event, and then again after writing about the event based on the assigned condition. Results indicate that overall, engaging in a writing task after recalling a past negative event resulted in decreased state fear of negative evaluation. Follow-up analysis suggests that, although self-compassionate writing was more beneficial than expressive writing, engaging in a writing task completely unrelated to the described negative event (i.e., a route to school) was most effective. Although not hypothesized, these findings are consistent with previous studies in the social anxiety literature that have found distraction tasks to be effective at reducing various components of social anxiety. For instance, Blackie and Kocovski (2015) found that participants with social anxiety who engaged in a distraction task after a stressful experience reported significantly less post-event processing 24 hours later than those who did not. Similarly, Wong and Moulds (2011) found that when compared to anticipatory processing, being distracted before a speech task led to decreases in the endorsement of high standards and self-reported decreases in anxiety. Similarly, the present findings suggest that a distraction task is also effective at decreasing the fear of negative evaluation component of social anxiety. Although not as effective as a distraction writing condition, nonetheless, the self-compassion writing induction was shown to be an effective way to reduce state fear of negative evaluation within individuals with social anxiety.

The current research also provides further insight into our understanding of how trait fear of negative evaluation may provide a mechanism through which self-compassion influences avoidance behaviours and social anxiety despite the lack of significant direct effects in the first

three hypotheses. Trait fear of negative evaluation was assessed at the end of Time 3. No indirect effects were found between writing condition, fear of negative evaluation and avoidance behaviours. Similar to the above findings, the results suggest that self-compassion and neutral writing were more effective than expressive writing in decreasing trait fear of negative evaluation. However, despite these associations, writing conditions did not influence avoidance behaviours through reduced fear of negative evaluation.

Furthermore, participants in the self-compassion condition reported a decrease in trait fear of negative evaluation that, in turn, predicted lower levels of social anxiety but only when compared to participants in the expressive writing condition. Once again, self-compassion was not found to be any more beneficial than neutral writing at decreasing trait fear of negative evaluation. Moreover, when comparing self-compassion writing to neutral writing, no indirect effect was found between writing condition, fear of negative evaluation and social anxiety. However, it is worth noting that when assessing trait fear of negative evaluation, neutral writing was no longer found to be significantly better than self-compassionate writing. Combined with the previous findings, the results suggest that neutral writing may serve as an effective distraction in the short term but may lose some of its effectiveness in the long run. Given the lack of lasting effect of self-compassionate writing on trait self-compassion, avoidance and social anxiety, further research is needed to assess whether the self-compassion writing benefits seen on trait fear of negative evaluation found in the present study are maintained over more extended periods of time.

Limitations

There are several limitations to this study that should be taken into account when interpreting the results. First, due to the modest sample size, it is possible that the study was

underpowered to find a significant effect. Nonetheless, given the simplicity and ease in which a writing intervention can be applied, a reduction in avoidance behaviours and social anxiety of 1-2% may be meaningful for individuals with elevated social anxiety. As such, findings should be replicated with a larger sample size. Second, the generalization of the study findings must be made with caution. The study's design was specifically geared towards individuals with elevated social anxiety, and so cannot be generalized to other populations including university student populations. Moreover, although the SPIN is a valid measure of social anxiety, it is not the equivalent of a diagnostic interview. As such, participants in this study cannot be said to have a social anxiety disorder, but rather to display symptoms of social anxiety. Results may also not generalize to individuals with a social anxiety disorder. Furthermore, despite my best efforts, the final sample primarily consisted of female participants. Previous studies have found that social anxiety disproportionately affects women (Stein & Vythilingum, 2015) and that women have overall lower levels of self-compassion (Neff, 2003); accordingly, the present results may not generalize to other genders, and further research is needed with a more balanced sample.

Third, there are possible limitations with the study's measures and design that should be taken into account. A ceiling effect was found in the trait and state fear of negative evaluation scales, at all time points. As such, the significant effects found in the present study may underrepresent the true effect of self-compassion on fear of negative evaluation and should be interpreted with that in mind. Moreover, although the K-GSAD-A is a valid measure of avoidance and social anxiety and is sensitive to changes, there are inherent limitations to social anxiety and avoidance measures. The brief nature of the scale is such that not all social situations that may cause anxiety and subsequent avoidance can be measured. As such, it is conceivable

that the writing conditions may have affected some aspects of social anxiety and avoidance that was not measured by the K-GSAD-A-Mod scale.

Furthermore, the present study used writing prompts to increase self-compassion based on Leary et al. (2007) original design, which may have limited the effect of the self-compassion induction. In their study, Harwood and Kocovski (2017) found that although Leary et al. (2007) writing prompts for self-kindness and common humanity were effective, the writing prompt for mindfulness was less effective. They posit alternative wording that emphasizes more awareness of emotions in an accepting and balanced fashion as opposed to writing out of emotions in an objective and unemotional way (Harwood & Kocovski, 2017; Leary et al., 2007). For instance, a more recent study by Arch et al. (2018) used more in-depth prompts to provide more psychoeducation about self-compassion and facilitate more in-depth self-reflection. Further research is needed to assess whether more in-depth prompts may lead to more integration of self-compassion within individuals with social anxiety. Finally, while the direction of the mediation was specified according to cognitive theory and empirical evidence, it is still possible that there are reciprocal associations among fear of evaluation and avoidance behaviours. Future work in this area should use a strong longitudinal design to make definitive claims about these temporal precedences.

Clinical Implications and Future Directions

For individuals with high levels of social anxiety, the present findings present mixed results. On the one hand, a brief self-compassion writing task was not shown to be an effective way to increase trait self-compassion or decrease avoidance behaviours and social anxiety. On the other hand, there is still potential value in a brief self-compassion induction for the treatment of social anxiety. For instance, current CBT for social anxiety involves exposure to feared

situations so that extinction may occur (Heimberg et al., 2014). The present study found that a brief self-compassion writing task effectively decreased both state and trait fear of negative evaluation. Consequently, for individuals with social anxiety, self-compassion may serve as a buffer against self-judgment, criticism and doubt by shifting the self-evaluation process from an external point of reference to an internal one, thus reducing fear (Werner et al., 2012). Despite not decreasing anxiety, by reducing fear of evaluation, self-compassion may, in turn, allow individuals to persevere in an anxiety-provoking situation, thus allowing that exposure to occur and extinction to happen. Future studies should have participants complete the self-compassion writing induction and have them engage in a social anxiety-provoking task and see if it results in greater perseverance and a decrease in safety behaviours.

Despite the potential benefits of self-compassion, the present study was not successful at increase trait self-compassion thus providing further support that trait self-compassion is difficult to increase in individuals with social anxiety and that the effect of the self-compassion writing task may be short-lived (Gilbert et al., 2011; Pauly & McPherson, 2010; Werner et al., 2012). Consequently, further longitudinal research is needed to see if a) it is possible to increase trait self-compassion within a sample of participants with social anxiety using a more in-depth and directed induction, b) if successfully increasing trait self-compassion results in a decrease in social anxiety or avoidance behaviours and c) if an increase in trait self-compassion is actually maintained over a length of time. Lastly, few studies to date have used a control condition when assessing the effectiveness of a self-compassion writing inductions. The present findings provide support for the inclusion of control groups in future studies in order to assess for the naturally occurring changes that may happen with time, as found in the current study.

Conclusion

Social anxiety is a detrimental disorder that negatively impacts many aspects of life. Current CBT models aim to decrease social anxiety by decreasing avoidance behaviours and allowing exposure to occur. However, motivating individuals whose anxiety is characterized by a fear of evaluation and subsequent avoidance to engage in social behaviours can be challenging. The present results suggest that a brief self-compassionate writing task may not be an effective way to increase trait self-compassion or decrease avoidance behaviours and social anxiety for individuals with social anxiety. Thus, further emphasizing the need for more deliberate and directed interventions to increase trait self-compassion within this designated population (Gilbert, 2013; Neff et al., 2007). However, self-compassionate writing was shown to decrease both state and trait fear of negative evaluation, which are known critical factors in social anxiety. As such, there may be some benefits in doing brief self-compassion exercises immediately prior to social anxiety-provoking activities to reduce fear of evaluation and facilitate engagement in said activities. Overall, the results suggest that a brief self-compassion writing induction can have, at the very least, short term benefits for individuals with social anxiety.

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Table 1

Sequence of Measures Summary

Mass-testing		Phase 1		Phase 2
Screening	Time 1	Time 2	Time 3	Follow-up
SCS	K-GSADS-A- Mod	Written Recall	Written Recall	K-GSADS-A- Mod
SPIN	RSE	SFNE	Writing condition	SCS
Demographics	FPE	Writing condition	BFNE	SPIN
	BFNE	SFNE	FPE	Debriefing
	Written Recall		Validity Questions	
	Writing condition			
	SFNE			

Note: SCS = Self-Compassion Scale; SPIN = Social Phobia Inventory; K-GSADS-A-Mod = Kutcher

Generalized Social Anxiety Disorder Scale for Adolescents- Modified; RSE = Rosenberg Self-Esteem

Scale; FPE = Fear of Positive Evaluation scale; BFNE = Brief Fear of Negative Evaluation Scale;

SFNE = State Fear of Negative Evaluation.

Table 2

Comparison of Dropped vs. Kept Participants

Demographic Variables	χ^2	p	ϕ
Age	11.19	.26	.29
Sex	.80	.67	.08
ethnicity	8.43	.67	.25
Study Variables	t	p	g
MT-SC	1.38	.17	0.30
T1-SA	.66	.51	0.14
T1-AV	-.27	.79	0.06
T1-FNE	-1.55	.12	0.33
T1-FPE	-.63	.53	0.14

Note: MT-SC = Self-compassion at mass-testing; MT-SA= Social anxiety at mass-testing (SPIN);

T1-SA = Social anxiety at Time 1 (K-GSADS-A-Mod); T1-AV= Avoidance at Time 1 (K-GSADS-A-Mod); T1-FNE = Fear of negative evaluation at Time 1; T1-FPE = Fear of positive evaluation at

Time 1; ϕ = Phi; g = Hedges measure of effect size.

Table 3

Descriptive Statistics for the Study Variables

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Skew</i>	<i>Kurt</i>
MT-SC	110	4.86	1.23	1.92	7.69	.06	-.12
SE	110	26.62	4.97	14	38	-.13	-.07
T1-SA	110	27.46	9.60	7	51	.28	-.49
T1-AV	107	25.16	8.42	6	43	.11	-.65
T1-FNE	81	26.95	7.49	10	40	-.31	-.76
T1-FPE	81	33.77	13.98	6	69	.38	-.16
Pre-SFNE	81	22.47	5.48	8	30	-.70	.05
Post-SFNE	81	19.96	6.76	6	30	-.17	-1.18
T3-FNE	81	27.26	7.48	11	40	-.26	-.66
T3-FPE	81	37.62	15.44	0	68	-.15	-.58
F-SC	110	2.70	0.57	1.42	4.08	.20	-.09
F-SA	110	27.38	10.04	6	49	.01	-.66
F-AV	108	25.18	9.42	6	47	.14	-.47

Note. MT-SC = Self-compassion at mass-testing(10-point scale); SE = Self-esteem; T1-FNE =

Fear of negative evaluation at Time 1; T1-FPE = Fear of positive evaluation at Time 1; T1-SA =

Social anxiety at Time 1 as measures by the K-GSADS-A-Mod; T1-AV= Avoidance at Time 1

as measured by the K-GSADS-A-Mod; Pre-SFNE= State fear of negative evaluation at Time 2

prior to writing inductions; Post-SFNE= State fear of negative evaluation at Time 2 after writing

inductions; T3-FNE = Fear of negative evaluation at Time 3; T3-FPE = Fear of positive

evaluation at Time 3; F-SC = Self-compassion at follow-up (5-point scale); F-SA = Social

anxiety at follow-up; F-AV = Avoidance at follow-up.

Table 4

Zero Order Correlation for the Study Variables

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. MT-SC	--	.54	-.39	-.26	-.42	-.27	-.28*	-.37	-.41	-.42	.76	-.33	-.26
2. SE		--	-.46	-.39	-.44	-.42	-.33	-.44	-.55	-.45	.55	-.43	-.36
3. T1-SA			--	.82	.46	.52	.45	.48	.46	.49	-.38	.73	.63
4. T1-AV				--	.33	.47	.28*	.33	.34	.45	-.25	.67	.72
5. T1-FNE					--	.39	.71	.62	.79	.46	-.40	.40	.28
6. T1-FPE						--	.36	.38	.47	.79	-.30	.54	.48
7. Pre-SFNE							--	.68	.69	.45	-.28	.47	.32
8. Post-SFNE								--	.76	.43	-.37	.59	.43
9. T3-FNE									--	.59	-.41	.59	.48
10. T3-FPE										--	-.33	.58	.49
11. F-SC											--	-.38	-.27
12. F-SA												--	.88
13. F-AV													--

Note: $n = 110$ except for correlations: T1-AV ($n = 107$); F-AV ($n = 108$); Pre/post-SFNE and T3-FNE/FPE

($n = 81$). MT-SC = Self-compassion at mass-testing(10-point scale); SE = Self-esteem; T1-SA = Social anxiety at Time 1 as measures by the K-GSADS-A-Mod; T1-AV= Avoidance at Time 1 as measured by the K-GSADS-A-Mod; T1-FNE = Fear of negative evaluation at Time 1; T1-FPE = Fear of positive evaluation at Time 1; Pre-SFNE= State fear of negative evaluation at Time 2 prior to writing inductions; Post-SFNE= State fear of negative evaluation at Time 2 after writing inductions; T3-FNE = Fear of negative evaluation at Time 3; T3-FPE = Fear of positive evaluation at Time 3; F-SC = Self-compassion at follow-up (5-point scale); F-SA = Social anxiety at follow-up; F-AV = Avoidance at follow-up. All correlations are significant at $p < .01$ unless indicated otherwise.

* $p < .05$.

Table 5

Comparing Coders' Ratings of Self-Compassionate and Expressive Writing in Self-Compassion and Expressive Writing Conditions

Rating measure	Self-compassion Condition		Expressive Condition		$t(51)$	95% CI		
	M	SD	M	SD		LL	UL	d
T1-SC	4.48	1.92	2.35	1.43	4.58 ^{a***}	1.19	3.06	1.26
T1-EX	4.04	1.27	5.09	1.10	-3.23**	-1.71	-0.40	0.88
T2-SC	3.40	1.31	1.98	1.10	4.29***	0.76	2.09	1.17
T2-EX	3.50	0.92	4.74	1.27	-4.06***	-1.85	-0.63	1.12
T3-SC	3.39	1.41	1.98	1.06	5.67***	1.25	2.63	1.13
T3-EX	3.56	1.05	4.80	0.87	-4.68***	-1.77	-0.71	1.29

Note. T(x) = Time 1, 2, or 3; SC = Coders rating of self-compassion in written response; EX= Coders rating of expressiveness in written responses; CI = confidence interval; *LL* = lower limit; *UL* = upper limit; d = Cohen's d .

^a Equal variance not assumed.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Hierarchical Regression Analysis of Self-Compassion by Conditions and Control Variables

Predictors	Self-Compassion			
	ΔR^2	b	Std. Error	95% CI [<i>LL</i> , <i>UL</i>]
Step 1	.61***			
MT-SC		.31 ^{a***}	.03	[.24, .37]
Self-esteem		.02 ^{a**}	.01	[.01, .04]
Step 2	.01			
SC vs. Expressive		.02	.06	[-.10, .14]
SC vs. Neutral		.07	.06	[-.05, .18]
SC vs. Control		-.11	.06	[-.22, .01]
Total <i>R</i> ²	.62			
<i>n</i>	110			

Note. MT-SC= self-compassion at mass-testing; SC = self-compassion; b = unstandardized

coefficients; CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Effect coding: self-compassion = 1; all other conditions = -1.

^a Significant in step 1 and step 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7

Hierarchical Regression Analysis of Avoidance by Conditions and Control Variables

Predictors	Avoidance			
	ΔR^2	b	Std. Error	95% CI [LL, UL]
Step 1	.52***			
T1-AV		.82 ^a ***	.08	[.67, .97]
Step 2	.02			
SC vs. Expressive		-.43	1.11	[-2.64, 1.78]
SC vs. Neutral		.22	1.09	[-1.95, 2.39]
SC vs. Control		1.74	1.09	[-0.43, 3.90]
Total R^2	.54			
n	106			

Note. T1-AV= avoidance at Time 1; SC = self-compassion; b = unstandardized coefficients;

CI = confidence interval; LL = lower limit; UL = upper limit. Effect coding: self-compassion = 1; all other conditions = -1.

^a Significant in step 1 and step 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8

Hierarchical Regression Analysis of Social Anxiety by Conditions and Control Variables

Predictors	Social Anxiety			
	ΔR^2	b	Std. Error	95% CI [<i>LL</i> , <i>UL</i>]
Step 1	.55***			
T1-SA		.70 ^a ***	.08	[.55, .87]
Self-esteem		-.25	.15	[-.55, .04]
Step 2	.02			
SC vs. Expressive		-.44	1.14	[-2.69, 1.81]
SC vs. Neutral		-.27	1.12	[-2.48, 1.95]
SC vs. Control		2.03	1.12	[-0.17, 4.22]
Total <i>R</i> ²	.56			
<i>n</i>	110			

Note. T1-SA= social anxiety at Time 1; SC = self-compassion; b = unstandardized

coefficients; CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Effect coding: self-compassion = 1; all other conditions = -1.

^a Significant in step 1 and step 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 9

Hierarchical Regression Analysis of State Fear of Negative Evaluation by Conditions and Control Variables

Predictors	Fear of Negative Evaluation			
	ΔR^2	b	Std. Error	95% CI [LL, UL]
Step 1	.50***			
Pre-SFNE		.73 ^{a***}	.10	[.52, .94]
Self-esteem		-.32 ^{a**}	.11	[-.53, -.10]
Step 2	.12***			
SC vs. Expressive		-1.56*	.67	[-2.89, -.23]
SC vs. Neutral		3.35***	.67	[2.02, 4.69]
Total R^2	.63			
n	81			

Note. Pre-SFNE= Measure of state fear of negative evaluation taken before the writing

induction; SC = self-compassion; b = unstandardized coefficients; CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Effect coding: self-compassion = 1; all other conditions = -1.

^a Significant in step 1 and step 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

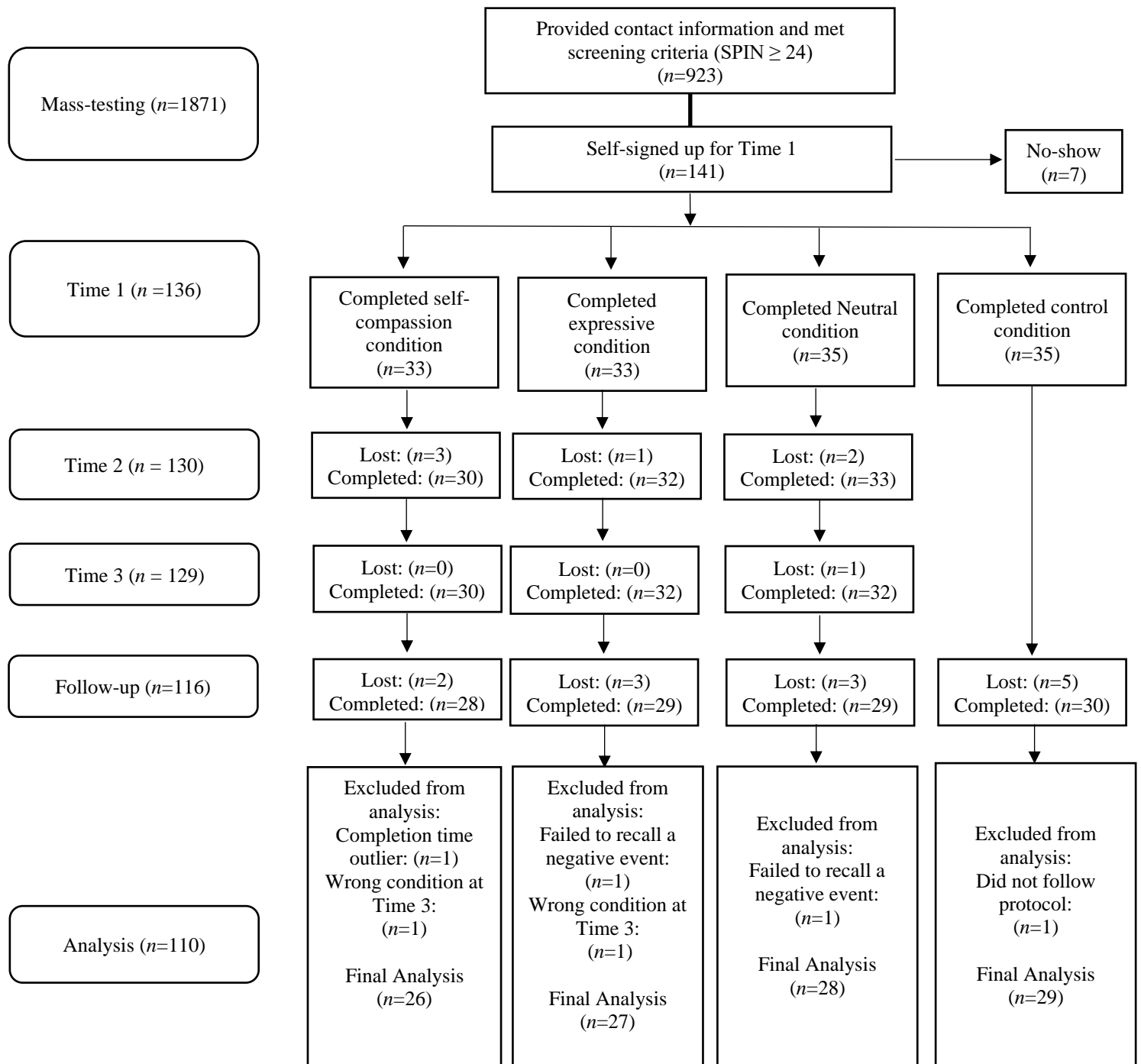


Figure 1. Participant flow chart from initial screening to analysis. Participants lost at one time-point in the study were no longer eligible to participate in subsequent time points. SPIN = Social Phobia Inventory.

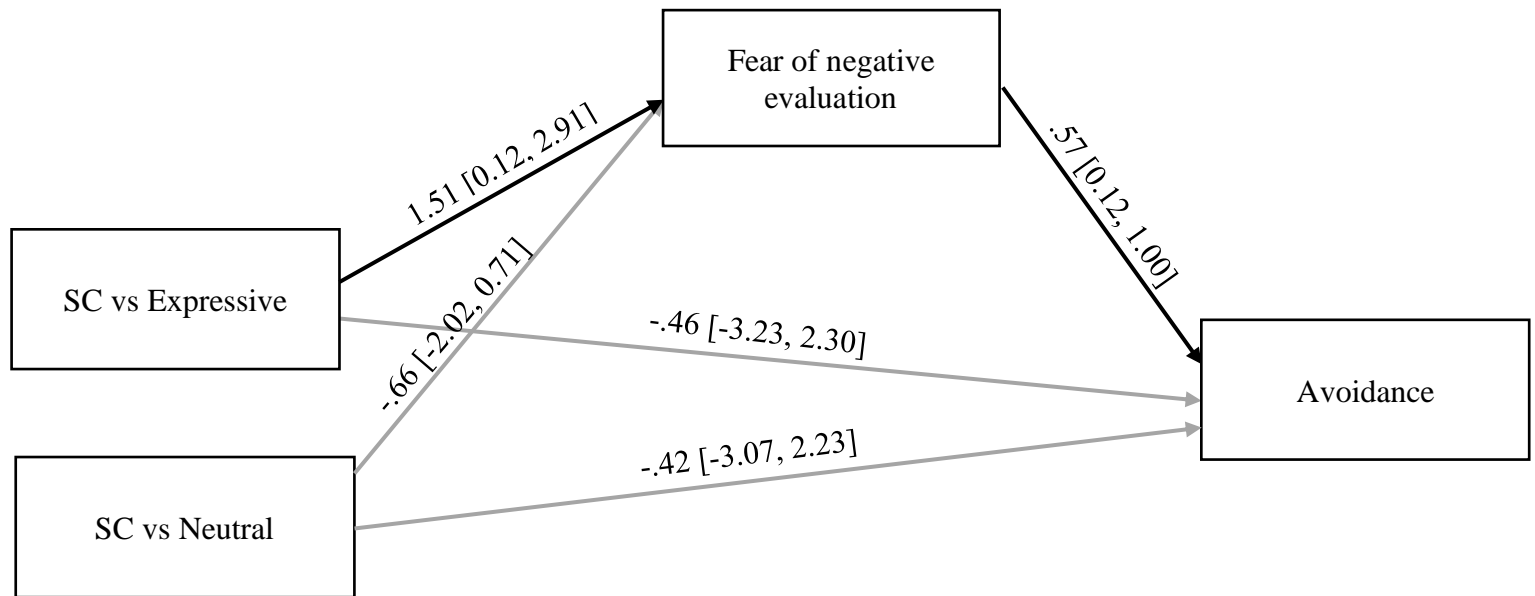


Figure 2. Mediation model evaluating the role of fear of negative evaluation at Time 3 in mediating the effect of writing condition on avoidance behaviours. Group coding: self-compassion = -1; all other conditions = 1. Unstandardized betas are presented with 95% CIs. Bold lines represent specified paths that were statistically significant ($p < .05$), and grey lines represent paths that were not statistically significant ($p > .05$). Participant fear of negative evaluation at Time 1 and self-esteem were covariates in this model but are not included here for simplicity.

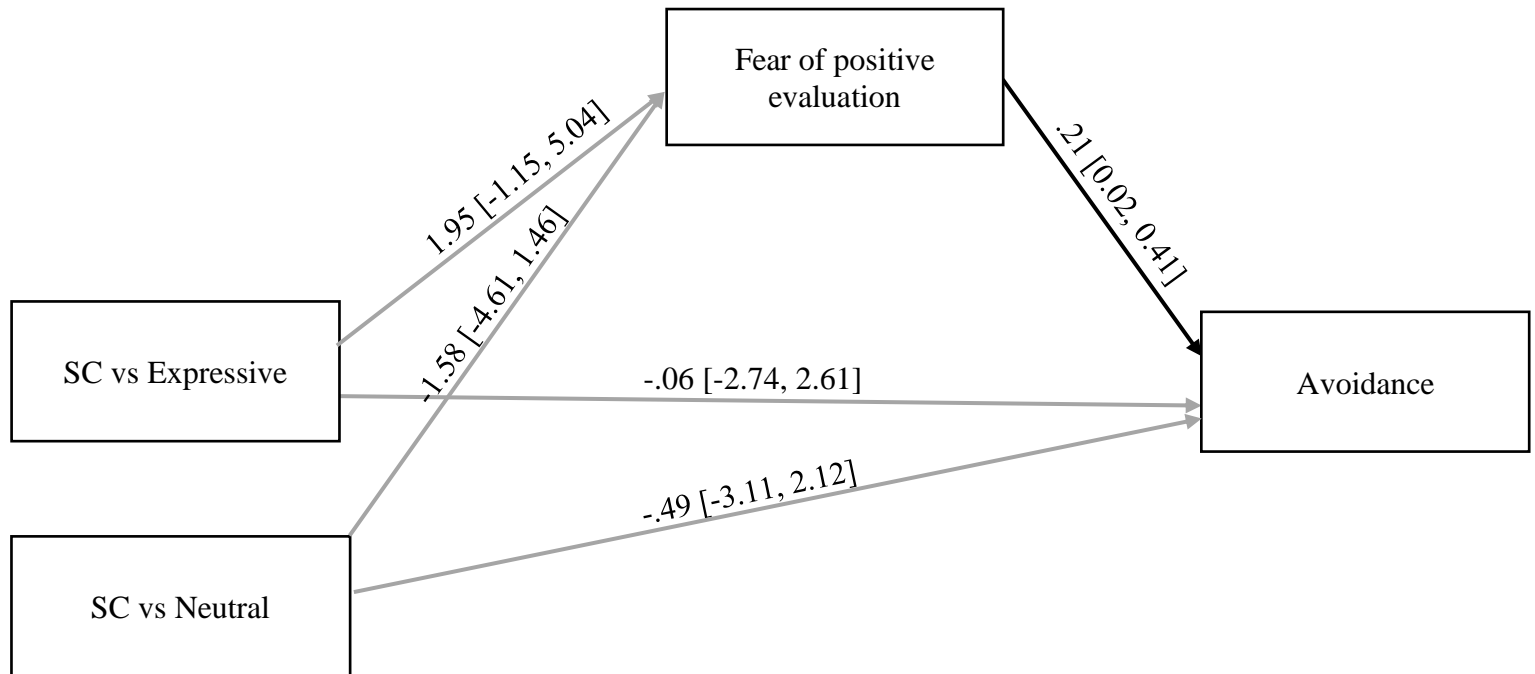


Figure 3. Mediation model evaluating the role of fear of positive evaluation at Time 3 in mediating the effect of writing condition on avoidance behaviours. Group coding: self-compassion = -1; all other conditions = 1. Unstandardized betas are presented with 95% CIs. Bold lines represent specified paths that were statistically significant ($p < .05$), and grey lines represent paths that were not statistically significant ($p > .05$). Participant fear of positive evaluation at Time 1 and self-esteem were covariates in this model but are not included here for simplicity.

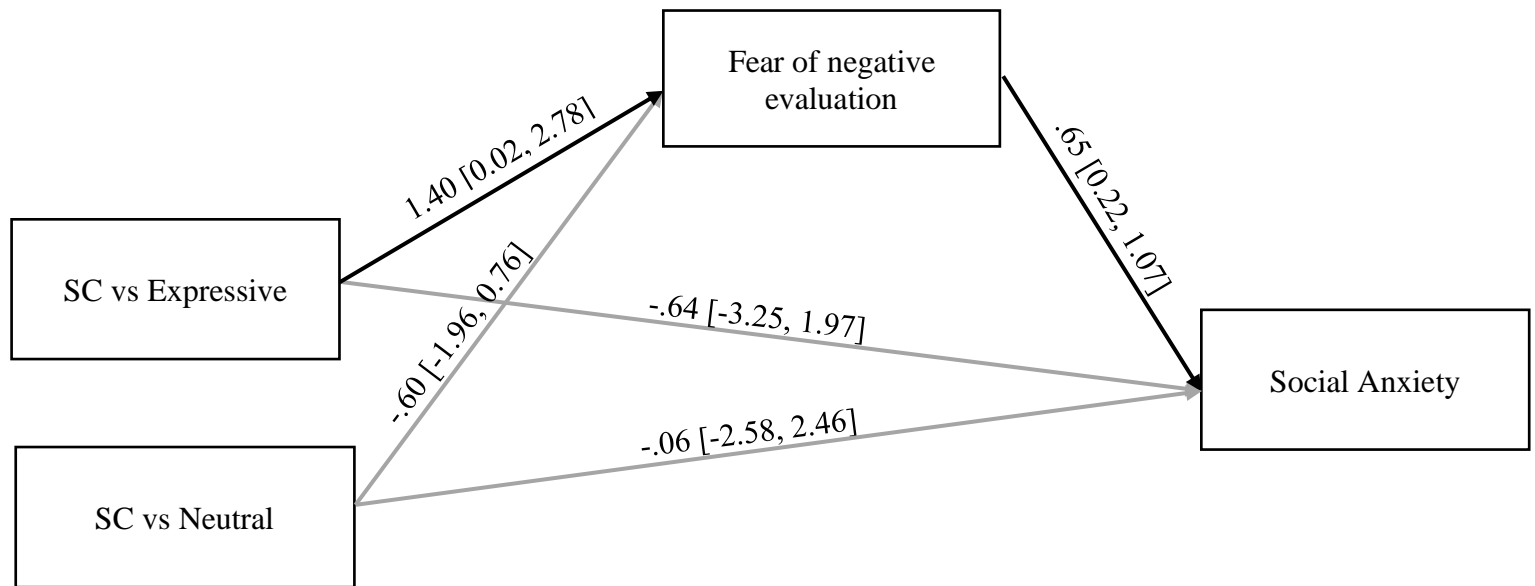


Figure 4. Mediation model evaluating the role of fear of negative evaluation at Time 3 in mediating the effect of writing condition on social anxiety. Group coding: self-compassion = -1; all other conditions = 1. Unstandardized betas are presented with 95% CIs. Bold lines represent specified paths that were statistically significant ($p < .05$), and grey lines represent paths that were not statistically significant ($p > .05$). Participant fear of negative evaluation at Time 1 and self-esteem were covariates in this model but are not included here for simplicity.

*Appendix A***Writing recall of a negative situation instructions (Time 1)**

Please take a few moments to think about a negative event that occurred in the last 3 years (during high school or university), for which you felt personally responsible that made you feel social anxiety and led to avoidance behaviours.

Once you have a specific event in mind, please take a few moments to describe the experience. Include such things as: what led up to it; who was present; precisely what happened, and most importantly, how you felt and behaved at the time.”

Writing recall of a negative situation instructions (Time 2 and 3)

Please take a few moments to think about a different negative event than the last survey that occurred in the last 3 years (during high school or university), for which you felt personally responsible that made you feel social anxiety and led to avoidance behaviours.

Once you have a specific event in mind, please take a few moments to describe the experience. Include such things as: what led up to it; who was present; precisely what happened, and most importantly, how you felt and behaved at the time.”

Writing condition**Self-compassion writing:**

Bearing in mind the experience you just described, please provide a written response to each of the three instructions. It is important for you to really make an effort with your responses and to write down everything that is relevant.

- 1) List as many ways as you can think of in which other people also experience similar events to the one you just described.
- 2) Write a paragraph expressing understanding, kindness, and concern to yourself the way you might express concern to a friend who had undergone the experience
- 3) Describe your feelings about the experience in an objective and unemotional fashion

Expressive writing:

Bearing in mind the experience you just described, please take 10 minutes to write about your feelings. It is important for you to really make an effort to explore your feelings and thoughts about it, how it relates to who you are, your relationships, and your past, present and future.

Neutral writing:

Please take approximately 10 minutes to describe in as much detail as possible, the route you took to get to campus today. Include things such as mode of transportation, what you see on your way, the roads you take, etc.

Appendix B
Coding instructions

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

SC: Recall that self-compassion involves being accepting and kind to yourself in tough times and understanding that you are not alone in your struggles.

To what extent is the paragraph an example of self-compassionate writing.

1	2	3	4	5	6	7
Not at all						Extremely

EX: Recall that expressive writing involves writing about thoughts, feelings and emotions and how they relate to oneself.

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

1	2	3	4	5	6	7
Not at all						Extremely

R: Did the paragraph describe a route to a destination.

1	2
Yes	No

Condition: Based on the paragraph which condition do you think the participant was in.

1	2	3
Self-compassion	Expressive	Route to campus

Appendix C
Consent form (Phase 1-2)

[printed on institution letterhead]

Title of Research: Writing and Well-Being

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

Research Assistant: *To be determined*

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

Dr. Dan Bailis, Ph.D., Professor, Department of Psychology dan.bailis@umanitoba.ca, (204) 474-9360

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. Please ask the study personnel to explain any words you don't understand before agreeing to this consent form. Make sure all your questions have been answered to your satisfaction before giving consent.

Purpose of the study: The purpose of this research is to examine the relationship between writing and well-being. You were selected to participate in this study on the basis of responses you provided to a mass testing survey of Introduction Psychology students earlier in the term. Using your email address, some of your previous answers will be linked to the present research and used to analyze your responses in this experiment.

Study Procedures and Compensation: Depending on your randomly assigned condition in this study, you may be asked to complete measures for 2-4 different phases. Phases 1 to 3 will be conducted in lab within an estimated one-week period with at least 24 hours between each phase and should take between 20-30 minutes each. Phase 4 will be completed online approximately 2 weeks after the completion of the last phase and should take 10-15 minutes to complete. Only those who complete the previous phase will be eligible for the following one. Depending on your

randomly assigned condition you may be asked to complete a series of questionnaires and a writing task. For the writing task you will be asked to think about a negative event and answer questions about it. In phase 4 you will be sent a survey link with a series of questionnaires. Additional feedback will be provided at the end of phase 4.

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 recalling a negative event; resource information is available 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.

Compensation: You will receive 1 research credit for PSYC 1200 course credit after each phase of the study you complete for a max total of 4 course credits. Furthermore, as a token of appreciation, those who participate in phases 2-4 will have a chance to enter their name into one single draw for a chance to win 1 of 3 \$100 gift cards for each phase they complete. Participants who complete all phase of the study will receive an additional 5 entries for a max total of 8. The draw will occur once all the data has been collected in March.

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.

Freedom to Withdraw: Participation is voluntary, and you may withdraw at any time with no penalty. For instance, if you have completed phase 2 of the study and decided to withdraw, your 1 ballot for phase 2 will still be entered into the draw. Agreeing to participate in one part of this research does not require you to complete other parts. You are free to refuse to participate and to withdraw from the study at any time without being penalized – if you do so, we will remove your responses from all data files. Note that once your responses have been merged with your mass testing data and made anonymous, you will no longer be able to withdraw your responses from the study.

Confidentiality: Your responses in this study will remain confidential at all times. Any information you provide will be stored on the encrypted and password protected site Qualtrics and on password-protected computers, contained in locked offices, affiliated with Dr. Bailis and Dr. Johnson's labs. Only the PI, his supervisors, and other authorized lab personnel (e.g., research assistants) will have access to your data.

In order to link your responses across surveys, you will be assigned an arbitrary identification code. This code will be linked to your name and email until all surveys have been merged. After this time, your name and email address will be permanently deleted from all data files and programs. This will occur on or before March 30, 2020. From then on, no one (including the investigators) will be able to link your responses with your name or other personal information.

The results from this study will 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 anonymous 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 anonymous, 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

For questions about your rights as a research participant, you may contact The University of Manitoba Psychology/Sociology Research Ethics Board Office at (204) 474-7122

Results:

The Results of this study should be available by September 2020. 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.

Email: _____

Statement of Consent: By clicking "Yes, I consent" (at the bottom of this page) you indicate 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 Psychology/Sociology Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator at 204-474-7122 or humanethics@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

<Yes, I consent> (proceed to survey)

<No, I do not consent> (exit)