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The Impact Of An Online Self-Compassion Intervention On Thwarted Belongingness And Perceived Burdensomeness

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Abstract

Interventions that target thwarted belongingness (TB) and perceived burdensomeness (PB) may reduce suicidal thoughts and behaviours (Joiner, 2005). Self-compassion describes being open and kind towards oneself (Neff, 2003a) and is negatively associated with TB, PB, and suicidality. The current research examined the impact of a brief, virtual, self-compassion intervention on TB and PB in a young adult sample. Study 1 included an open trial to examine initial effectiveness and acceptability of the intervention. Self-compassion significantly increased over time; however, there were no changes in TB or PB. Study 2 included a randomized controlled trial comparing two control conditions to the intervention condition. Self-compassion significantly increased, and TB significantly decreased over time across all conditions. Contrary to hypotheses, the self-compassion intervention did not impact the outcome variables any more than the control condition. Despite limited significant findings, the current study contributes to a growing literature on brief, accessible interventions.

Keywords

Intervention, Self-Compassion, Interpersonal Needs, Thwarted Belongingness, Perceived Burdensomeness

Summary for Lay Audiences

Suicide is a global health concern and exploring potential interventions for suicidal thoughts and behaviours is crucial to preventing death by suicide (Statistics Canada, 2017). The Interpersonal Theory of Suicide proposes that desire for suicide arises when an individual experiences perceived burdensomeness (PB; feelings of being a burden) and thwarted belongingness (TB; feelings of not belonging; Joiner, 2005; Van Orden et al., 2010). Targeting PB and TB in an intervention may be an effective way to reduce suicidal thoughts and behaviour. Relatedly, self-compassion is a construct that describes being open and kind to oneself and is negatively associated with TB, PB, and suicidality (Cleare et al., 2019; Fang, 2020; Neff, 2003a). The current research examined the impact of a brief, virtual, self-compassion intervention on TB and PB in a young adult sample. Study 1 included a pilot study to assess initial effectiveness and acceptability. Self-compassion significantly increased over time; however, there were no changes in TB or PB. Participant feedback indicated that the intervention was well-received. Study 2 compared two control conditions to the intervention condition. Self-compassion significantly increased, and TB significantly decreased over time; however, these changes were not specific to any one condition. This indicates that while the intervention increased self-compassion, these effects were not over and above that of the control conditions. The current study contributes to a growing literature on brief, accessible interventions.

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Table of Contents

List of Tables

List of Figures

List of Appendices

Introduction

Up to 22% of university students report suicidal ideation, and suicide is a leading cause of death in this age group (Mortier et al., 2018; Statistics Canada, 2017). Despite decades of research, suicide rates have not meaningfully decreased, and preventing suicide remains a global health concern (Franklin et al., 2017; Ougrin et al., 2015; WHO, 2019). There are many different types of suicide-related behaviours, ranging from planning suicide to attempting (i.e., engaging in potentially self-injurious behaviour with at least some intention to die; O'Connor & Nock, 2014). Importantly, suicidal ideation (i.e., thoughts about killing oneself) typically precedes suicidal behaviour; thus, interventions that target suicidal ideation can have a large impact on preventing deaths by suicide (Fitzpatrick & River; 2018; Linehan, 2008; Nock et al., 2008). There are several different types of suicide interventions, including selective interventions. Such interventions target individuals who score high on measures of risk factors for suicide and aim to reduce the impact of these risk factors (Allan et al., 2018; Gordan, 1983; Nordentoft, 2011). In theory, selective interventions based on empirically informed theories of suicide would be most likely to reduce suicide risk (Allan et al., 2018).

The IPTS Framework

Joiner's Interpersonal Theory of Suicide (IPTS; Joiner, 2005) is an influential theory of suicide that describes the development of suicidal thoughts and the subsequent progression to suicidal behaviour (Chu et al., 2017; Joiner, 2005; Van Orden et al., 2010). The IPTS posits that individuals' desire for suicide is influenced by two key interpersonal constructs: *thwarted belongingness* (TB) and *perceived burdensomeness* (PB; Joiner, 2005; Van Orden et al., 2010). TB captures when an individual believes they do not belong or

feels disconnected from other people (Joiner, 2005; Van Orden et al., 2010), thereby violating a human's fundamental need to belong (Baumeister & Leary, 1995; Joiner, 2005; Van Orden et al., 2010). PB captures when an individual believes they are a burden or that their death would be worth more than their life to others (Joiner, 2005; Van Orden et al., 2010). The experience of PB violates a person's fundamental need to feel effective, competent, and useful (Joiner, 2005; Van Orden et al., 2010). The needs to belong and feel effective have long been recognized as integral to psychological wellbeing (Baumeister & Leary, 1995; Dohmen, 1973; Gere & Macdonald, 2010; Gorvin & Brown, 2012; Sheldon et al., 2001; Simpson, 1977). According to the IPTS, a person experiencing both TB and PB will develop a strong desire for suicide if they perceive these feelings as stable and unchanging (Joiner, 2005; Van Orden et al., 2010). Notably, these feelings of disconnection or being a burden are often *mis*perceptions that can change with therapeutic intervention (Joiner, 2005; Van Orden et al., 2010). TB and PB are consistently associated with suicidality (Christensen et al., 2013; Chu et al., 2017; Van Orden et al., 2010) and fluctuate over time (Bodell et al., 2021; Kleinman et al., 2017; Rogers & Joiner, 2019). Moreover, changes in TB and PB have been associated with changes in suicidal thoughts and behaviours (Chu et al., 2017), highlighting that these constructs may be important targets for suicide prevention.

Cognitive Behavioural Interventions for TB and PB

Recently, researchers have examined the effectiveness of cognitive-behavioural interventions aimed to reduce TB and PB (Allan et al., 2018; Hill & Petitt, 2019; Morabito et al., 2020; Short et al., 2020; Short et al., 2019). One randomized controlled trial (RCT) investigated three computerized intervention conditions targeting TB and PB and a control

condition in an adult sample (N = 138; Allan et al., 2018; Morabito et al., 2020; Short et al., 2020; Short et al., 2019). The RCT consisted of three sessions over three weeks with each session including relevant psychoeducation (i.e., providing information about how thoughts, emotions, and actions interact) and cognitive bias modification exercises (i.e., identifying and attempting to change harmful thought patterns; Allan et al., 2018; Morabito et al., 2020; Short et al., 2020; Short et al., 2019). Compared to the control condition, all intervention conditions led to reduced suicidal thoughts through PB, but not TB.

Relatedly, Hill and Petitt (2019) conducted an RCT examining a web-based intervention to reduce PB in an adolescent sample (N = 80). Participants in the intervention condition completed two half-hour sessions one week apart. During these sessions, participants completed self-guided modules that provide psychoeducation on cognitive methods and PB as well as self-guided cognitive-behavioural activities (Hill & Petitt, 2019). Individuals in the control condition received psychoeducational information about suicide, mental health, and national resources that were also provided to the intervention condition (Hill & Petitt, 2019). Compared to participants in the control condition, participants in the intervention condition demonstrated significant reductions in PB and TB (Hill & Petitt, 2019). However, there were no condition differences (intervention vs. control) in post-intervention suicidal ideation (Hill & Petitt, 2019). It is possible that changes in PB and TB did not result in subsequent changes in suicidal ideation due to floor effects resulting from low means in suicidal ideation at baseline among the intervention condition (Hill & Petitt, 2019). Additionally, 23 (of 41) participants did not complete the intervention, which could indicate a lack of engagement with or acceptability of the intervention (Hill & Petitt, 2019). It is important to explore a range of treatment options

for reducing TB and PB as some approaches may be more acceptable, effective, and engaging for certain individuals compared to other interventions.

The Concept of Self-Compassion

Compassion-based approaches may be a good alternative for individuals for whom cognitive-behavioural-based interventions do not produce meaningful changes in TB, PB, or suicidal ideation. Self-compassion is a multifaceted construct that involves taking a kind and non-judgmental attitude towards oneself when experiencing difficulty. Although this construct has been discussed in Eastern philosophy for centuries, modern conceptualizations and Western psychological research on the topic are largely based on a definition provided by Neff (2003a; Barnard & Curry, 2011; Wilson et al., 2019). This description of self-compassion involves being open and kind to oneself, acknowledging one's own challenges without judgement, and recognizing that hardships are a universal experience (Neff, 2003a). According to Neff's theory, self-compassion consists of six components, including three positive components and three corresponding negative components (Neff, 2003a; Neff, 2003b). The positive components of self-compassion include self-kindness (i.e., treating oneself with kindness and understanding), common humanity (i.e., seeing one's experiences as part of the greater human experience), and mindfulness (i.e., acknowledging painful thoughts and experiences with balance, without exaggerating or minimizing their importance; Neff, 2003a; Neff, 2003b). The three negative components include self-judgment (i.e., treating oneself with harsh and unfair criticism), isolation (i.e., feeling alone in one's suffering), and overidentification (i.e., perseverating on negative feelings; Neff, 2003a; Neff, 2003b). Thus, being self-compassionate involves increased self-kindness, mindfulness, and common humanity and

reduced self-judgement, isolation, and overidentification (Neff, 2016). Although self-compassion is often conceptualized as a trait, studies demonstrate that it is a malleable skill that can be taught and practiced (Moffitt, et al. 2018; Mantelou, & Karakasidou, 2017). In the last decade, there has been an explosion of research on interventions that target self-compassion and related constructs (Ferrari et al., 2019).

Self-Compassion as a Potential Intervention for TB and PB

Self-compassion may be particularly effective for targeting TB and PB. Indeed, low self-compassion has been associated with high scores on measures of TB, PB, and suicidal thoughts and behaviours (Cleare, Gumley, & O'Connor, 2019; Dolezal et al., 2021; Fang, 2020; Rabon et al., 2019). More specifically, previous research demonstrates that both TB and PB are positively associated with the three negative components of self-compassion (i.e., self-judgement, overidentification and isolation) and negatively associated with the positive components of self-compassion (i.e., self-kindness, mindfulness, and common humanity; Dolezal et al., 2021; Fang, 2020; Rabon et al., 2019). However, certain components of self-compassion appear to be stronger correlates of TB and PB than others. A 2021 study examining self-compassion and interpersonal needs in an American Indian/Alaskan Native sample (N = 242) found that over-identification was the strongest correlate of PB, followed by self-judgement, whereas isolation was the strongest correlate of TB, followed by low scores on self-kindness (Dolezal et al., 2021). Research also suggests that self-compassion moderates the relation between PB or TB and suicidal ideation. For example, Fang (2020) examined the relations between self-compassion, suicidal ideation, and interpersonal needs in an undergraduate sample (N = 450).

Associations between PB and suicidal ideation and between TB and suicidal ideation were strongest among individuals who endorsed lower levels of self-compassion (Fang, 2020).

Fewer studies have used longitudinal designs to examine associations among TB, PB, and self-compassion (Cleare et al., 2019). For example, Bianchini and colleagues (in preparation) examined these associations in a sample of 189 undergraduate students who completed self-report assessments at baseline and one and three months later. We found that lower-self compassion at baseline was associated with higher suicidal ideation and TB across all time points even while accounting for depression symptoms (Bianchini et al., in preparation).

Self-Compassion Interventions

Self-compassion interventions use a non-judgemental approach to change individuals' views about themselves when encountering adversity (Ferrari et al., 2019; Neff & Germer, 2013). This approach may be beneficial for individuals for whom other interventions (e.g., cognitive-behavioural therapy) were not effective. Self-compassion is based on techniques that involve treating the self as a friend (Neff, 2003a). Although cognitive-behavioural techniques like cognitive bias modification emphasize challenging the ways a person views the world, self-compassion emphasizes an acceptance-based approach (Ferrari et al., 2019; Wilson et al., 2019). Specifically, cognitive-behavioural techniques largely focus on addressing and changing unhelpful or incorrect thoughts and behaviours, whereas self-compassion techniques influence behaviour by encouraging a person to care about themselves and their own difficulties. Individuals may have preferences for different treatment approaches, and different approaches may be effective for different people; thus, self-compassion interventions may be an important option.

Although researchers and clinicians use various methods to increase self-compassion, *writing tasks* require relatively few resources and can be administered in diverse settings (e.g., online or in-person). These tasks typically involve writing to oneself about a difficult experience in a self-compassionate manner and emphasize the three positive elements of Neff's theory (i.e., self-kindness, common humanity, and mindfulness; Leary et al., 2007; Neff et al., 2020). Writing tasks have been used in both brief (Breines & Chen, 2012; Gregory et al., 2017; Harwood, & Kocovski, 2017; Leary et al., 2007; Moffitt et al., 2018; Seekis et al., 2017) and longer-term interventions studies (Kelly & Carter, 2015; Mantelou, & Karakasidou, 2017; Mosewich et al., 2013; Seekis et al., 2020; Urken & LeCroy, 2020). In some studies, participants engage in these writing exercises once daily for a few days as a sole intervention (Urken & LeCroy, 2020; Wong & Mak, 2016). Other studies include these tasks as a routine exercise over many weeks in addition to other techniques (Kelly & Carter, 2015; Mantelou, & Karakasidou, 2017; Mosewich et al., 2013; Neff & Germer, 2013). Research demonstrates that these writing tasks influence self-compassion (Breines & Chen, 2012; Gregory et al., 2017; Harwood, & Kocovski, 2017; Kelly & Carter, 2015; Leary et al., 2007; Mantelou, & Karakasidou, 2017; Moffitt et al., 2018; Mosewich et al., 2013; Seekis et al., 2020; Seekis et al., 2017; Urken & LeCroy, 2020), self-criticism and rumination (Mosewich et al., 2013), depression (Shapira & Mongrain, 2010; Urken & LeCroy, 2020), body dissatisfaction (Seekis et al., 2020), and happiness (Shapira & Mongrain, 2010). Furthermore, effects from writing-based interventions have been maintained for up to six months (Mosewich et al., 2013; Seekis et al., 2017; Shapira & Mongrain, 2010; Urken & LeCroy, 2020). Taken together,

self-compassion writing tasks may be useful interventions for improving psychological wellbeing.

One recent study examined the impact of a self-compassion-based intervention on TB and PB. Bluth and colleagues (2021) investigated the feasibility and preliminary outcomes of the *Mindful Self-Compassion for Teens* program with a sample of transgender adolescents (N = 26). The program has been shown to increase self-compassion and other outcomes in several adolescent samples with results lasting up to six weeks post-intervention (Bluth & Eisenlohr-Moul, 2017; Bluth et al., 2016; Donovan et al., 2021). *Mindful Self-Compassion for Teens* includes eight 1.5-hour sessions in which participants learn about self-compassion and complete various activities. In their virtual format open trial, Bluth and colleagues (2021) found that self-compassion significantly increased from pre- to post-intervention, as well as from the post-intervention assessment to the 3-month follow-up. PB significantly decreased from pre- to post-intervention, whereas the decreases in TB did not reach statistical significance (Bluth et al., 2021). However, both TB and PB significantly decreased from the post-intervention assessment to the 3-month follow-up (Bluth et al., 2021). Although this intervention led to increases in self-compassion and decreases in TB and PB, it may be limited in terms of accessibility, given the time commitment involved.

Intervention Design Considerations

In addition to the type of intervention, the length and accessibility need to be considered when designing interventions. Although long-term psychotherapy can be effective for reducing suicidal thoughts and behaviours (Mehlum et al., 2019), these interventions may be inaccessible to many individuals for a variety of reasons. Treatments

may be time-consuming, costly, and/or unavailable in an individual's geographic region (Sweetman et al., 2021). Moreover, factors that may increase suicide risk can simultaneously create barriers for seeking and completing psychological treatment. For example, individuals from low socio-economic backgrounds are at an increased risk for suicide *and* are more likely to terminate their treatment prematurely (Andrés et al., 2010; Edlund et al., 2002; Olfson et al., 2009; Qin et al., 2003). Brief and accessible interventions can circumvent many potential barriers and provide essential care for individuals who may otherwise go untreated.

Developing brief and accessible interventions is especially relevant for adolescents and young adults. For instance, concerns about anonymity or fears of forced hospitalization are particularly salient barriers to speaking to a clinician about suicidal thoughts and behaviours for this age group (Aisbett et al., 2007; Cigularov et al., 2008; Rowe et al., 2014; Wilson et al., 2002). Furthermore, costs associated with psychological treatments and services may be a greater barrier for young adults compared to older populations due to lower incomes (Arria et al., 2011; Wilson et al., 2002). Therefore, youth may be more likely to use interventions that are short, self-administered, and more easily accessible than alternatives.

Another important consideration when designing interventions is elucidating which of the treatment mechanisms most actively bring about therapeutic change. Although self-compassionate writing interventions appear effective, further work is needed to pinpoint and strengthen the 'active' components. This is important for maximizing the efficiency and effectiveness of the interventions and ensuring that all included components are useful and working towards helping those who are engaging with the intervention. It is possible

that simply teaching participants about self-compassion is enough to produce increases in self-compassion.

Many extant studies compare self-compassion interventions to a waitlist control condition that does not receive any intervention (Ferrari et al., 2019; Wilson et al., 2019). This approach is problematic, as *any* intervention could result in more change in the self-compassion-related outcome variables than being on a waitlist. Only including waitlist control conditions limits our understanding of the effectiveness of self-compassion interventions relative to other existing interventions (Ferrari et al., 2019; Street & Luoma, 2002). In contrast, several studies have evaluated self-compassion interventions using active control conditions such as time management training or optimism conditions that control for active engagement in an intervention (Ferrari et al., 2019; Shapira & Mongrain, 2010; Smeets et al., 2014). Using active control conditions increases our confidence that observed differences between conditions are attributable to the self-compassion components of the intervention. Importantly, the activities used in the active control conditions often influence the outcome variables (Ferrari et al., 2019; Wilson et al., 2019). Therefore, it is important to compare self-compassion interventions to active control conditions that mimic the involvement of the intervention condition to understand the effectiveness of a self-compassion intervention on relevant outcome variables.

Current Study: Overall Aims

The current research examined the impact of a brief, virtual, self-compassion intervention on TB and PB in a young adult sample. We first conducted an open trial to pilot the intervention (Study 1). Next, we conducted an RCT that compared the intervention

to two control conditions to examine the intervention's efficacy in impacting self-compassion, TB, and PB (Study 2).

Study 1: Open Trial

Hypotheses

An open trial was conducted to assess initial feasibility, acceptability, and effectiveness of our brief self-compassion intervention. All participants completed the intervention along with pre- and post-intervention self-report assessments of TB, PB, and self-compassion. I hypothesized that participant feedback (i.e., responses to multiple-choice questions and open-ended responses) would indicate that the intervention was feasible and acceptable. I hypothesized that self-compassion would significantly increase and that TB and PB would significantly decrease, from baseline to post-intervention.

Methods

Participants

Participants (N=172) were recruited using the Western University psychology student recruitment database (SONA). Inclusion criteria were fluency in English and enrollment as a student at Western University or an affiliate college. Those who met inclusion criteria were invited to participate in the study, and participants were compensated with research credit and entry into a gift card draw. At baseline, 172 participants consented to the study. During data cleaning, 40 participants were excluded from analyses due to incomplete responses or questionable data quality (described below). Therefore, the final sample for the study included data from 132 participants. Demographic information is included in Table 1. The sample ranged from 17 to 21 years old (M = 18.7,

SD = 0.84) and most participants were White (33.3%), East Asian (19.7%), or South Asian (18.9%).

Table 1.

Participant Demographics for Study 1 and Study 2

		Study 1 Open Trial (*N* = 132)		Study 2 RCT (*N* = 136)	
Variable		**Freq.**	**%**	**Freq.**	**%**
Gender					
	Female	84	63.6%	106	77.9%
	Male	40	30.3%	28	20.6%
	Genderqueer	0	0.0%	2	1.5%
	Transgender	0	0.0%	0	0.0%
	No Response	8	6.1%	0	0.0%
Race					
	White	44	33.3%	49	36.0%
	East Asian	26	19.7%	34	25.0%
	South Asian	25	18.9%	18	13.2%
	Mixed/Multiple Selected	8	6.1%	22	16.2%
	Hispanic	2	1.5%	2	1.5%
	Middle Eastern	14	10.6%	8	5.9%
	Black	3	2.3%	0	0.0%
	Southeast Asian	1	0.8%	3	2.2%
	No Response	7	5.3%	0	0.0%
Age					
	17	15	11.4%	1	0.7%
	18	87	65.9%	106	77.9%
	19	14	10.6%	16	11.8%
	20-24	8	6.1%	9	6.6%
	>24	0	0.0%	1	0.7%
	No Response	8	6.1%	3	2.2%

Note. Table 1 describes primary demographics for the analysed samples in both Study 1 and Study 2. Freq= Frequency. RCT=Randomized Controlled Trial.

Procedure

All study procedures and materials were approved by the Western Non-Medical Ethics Review Board (Appendix A) and were completed on Qualtrics (Qualtrics, 2022).

Interested students were directed to the letter of information and consent form. After consenting to the study, participants completed the baseline assessment, which included questions about demographic information, measures of self-compassion, self-esteem, and interpersonal needs (i.e., PB and TB), and a psychoeducational video about self-compassion (see materials below). Upon completion of the baseline assessment, participants entered their email to be contacted with links for the remaining study activities. Study procedures are outlined in Table 2.

For the four days following the baseline assessment and psychoeducational video, participants were sent daily self-compassion writing tasks. The Self-Compassionate Mindstate Induction (Neff et al., 2020; Appendix B) was used as the self-compassion writing task in this open trial study. Although this task was designed as an induction, there is sufficient support to suggest that using an induction each day for multiple days will meaningfully influence self-compassion (Baum & Rude, 2013; Mosewich et al., 2013; Urken & LeCroy, 2020; Wong & Mak, 2016). This task instructs the participants to select a difficult experience in their past and discuss their thoughts and emotions surrounding the situation. There are several prompts that guide the participant to engage in the three positive aspects of self-compassion (i.e., self-kindness, common humanity, and mindfulness; Neff, 2003a). Each writing task is designed to take approximately 10 minutes. Two of the four tasks specifically asked the participants to write about a time in which they felt like a burden, whereas the other two asked the participants to write about a time in which they felt like they did not belong. These instructions were to encourage the participants to target situations specifically pertaining to feelings of PB and TB. Each task was followed by a compliance check (described below).

One week after the baseline assessment, participants were emailed a link to complete the post-intervention assessment. This assessment included the same measures as the baseline assessment, as well as an opportunity to provide feedback about the writing tasks. Participants were then provided with a debriefing form.

Table 2.

Study Procedures by Condition

	Study 1 Open Trial	**Study 2 RCT**		
	Total Sample (n = 132)	Intervention Condition (n = 51)	Writing Control Condition (n = 39)	Psychoeducation Control Condition (n = 46)
Day 1	Baseline Assessment and Video	Pre-screen + Baseline Assessment and Video	Pre-screen + Baseline Assessment	Pre-screen + Baseline Assessment and Video
Day 2	Self-Compassion TB Writing Task	Self-Compassion TB Writing Task	Control TB Writing Tasks	-
Day 3	Self-Compassion PB Writing Task	Self-Compassion PB Writing Task	Control PB Writing Tasks	-
Day 4	Self-Compassion TB Writing Task	Self-Compassion TB Writing Task	Control TB Writing Tasks	-
Day 5	Self-Compassion PB Writing Task	Self-Compassion PB Writing Task	Control PB Writing Tasks	-
Day 8	Post-Intervention Assessment	Post-Intervention Assessment	Post-Intervention Assessment	Post-Intervention Assessment
1 month later	-	Follow-Up Assessment	Follow-Up Assessment	Follow-Up Assessment

Note. Table 2 describes procedures for Study 1 and Study 2 by condition after participants complete the pre-screen questionnaire and consent to completing the study. Intervention materials described include self-compassion writing tasks (either focused on thwarted belongingness [TB] or perceived burdensomeness [PB]), control writing tasks (either focused on TB or PB), and a video on the different aspects of self-compassion ("Video").

Materials

Compliance Check (Neff et al., 2020). A compliance check was used after each delivery of each writing task. A single multiple-choice question asked participants to indicate the nature of the task they just completed and was specifically designed for the self-compassion writing task (i.e., "Please indicate what you were just asked to do: [A] Write about your feelings in an accepting and validating way, consider how going through difficult situations is part of being human, write to yourself like a supportive friend; [B] Write about the situation and try to figure out how to solve the problem; or [C] Write the details of the situation, who is involved and what was said with as much detail as possible.").

Demographics Questionnaire. Participants were asked to report their age, gender identity, and race/ethnicity. For gender identity, options included 'Female', 'Male', 'Genderqueer/Nonbinary', and 'Transgender'. If no option corresponded with a participant's gender identity, they were able to specify their identity in a text box option. For race/ethnicity, participants selected one or more of the following options: Black, East Asian, Indigenous, Latinx/Hispanic, Pacific Islander, Middle Eastern, South Asian, Southeast Asian, and White/European. If no option corresponded with a participant's racial/ethnic group, they were able to specify their identity in a text box option.

Interpersonal Needs Questionnaire (INQ; Van Orden et al., 2012). The INQ was used to measure TB and PB. The INQ contains 15 items rated on a 7-point Likert-type scale (1 = "Not true for me at all", 4 = "Somewhat true for me", 7 = "Very true for me"). The INQ includes two subscales, one for TB (9 items) and one for PB (6 items). The INQ has demonstrated good to excellent internal consistency and model fit in prior university student samples (thwarted belongingness: α = .81–.85; burdensomeness: α = .85–.90; Hill et al., 2015; Umphrey et al., 2020). Furthermore, the INQ has demonstrated good construct and convergent validity (Van Orden et al., 2012) and predictive validity (Hill et al., 2015). Descriptive statistics and internal consistency in the current samples for both the TB and PB subscales are presented in Table 3 and Table 5. Internal consistency across time points in Study 1 and Study 2 were excellent for PB (α = .93-.95) and good for TB (α = .83-.89).

Self-Compassion Scale (SCS; Neff, 2003b). The SCS is a self-report measure that assesses trait self-compassion. This measure contains 26 items that are rated on a 5-point Likert-type scale (1 = "Almost Never", 5 = "Almost Always) with higher scores indicating higher self-compassion. The SCS has six subscales that assess the six components of self-compassion, including self-kindness, common humanity, mindfulness, self-judgement, isolation, and overidentification. The SCS has demonstrated good to excellent internal consistency (α = .82-.92; Neff, 2003b; Overup et al., 2017; Umphrey et al., 2020) and has excellent test-retest reliability (*r*= .93; Neff, 2003b). The SCS has been shown have good construct and external validity across different populations with psychopathology (e.g., borderline personality disorder, eating pathology; Costa et al., 2016), as well as good convergent validity in both clinical samples and non-clinical samples (Neff, 2003b; Zhang et al., 2019). Descriptive statistics and internal consistency in the current samples for both

the SCS total and subscales are presented in Table 3 and Table 5. Across time points in Study 1 and Study 2, internal consistencies were as follows: total scores (α = .90-.93), self-kindness (α = .77-89), common humanity (α = .73-.83), mindfulness (α = .64-.81), self-judgement (α = .80-.86), isolation (α = .70-.74), and overidentification (α = .70-.80).

Psychoeducational Video (Bianchini et al., in preparation). We created a brief, narrative video to provide psychoeducation on self-compassion to participants and familiarize them with self-compassion and how it can be used in everyday life. Relevant literature on self-compassion is cited and an example of how self-compassion can be used is provided. Lay language is used to describe these concepts, and the information is designed for someone not familiar with the concept of self-compassion. This video is 5 minutes and is hosted on youtube.com. A transcript of the video is available in Appendix C (https://www.youtube.com/watch?v=O0_AgU0VOyU).

Video Pilot Study. To evaluate the effectiveness and acceptability of this psychoeducational video, a pilot study was conducted in undergraduate students (*n* = 20). Two participants failed our attention check[1] so 18 participants[2] were included in the analyses. Participants first took a 4-item quiz that evaluated their knowledge of self-compassion and then watched the psychoeducational video. After the video, participants completed a self-compassion writing task to apply what they learned (the same task used in both the open trial and the RCT; Neff et al., 2020). Next, participants re-took the same self-compassion quiz and responded to questions about how much they understood and

[1] The attention check in the pilot study involved asking the participants the name of the character described in the example given in the psychoeducational video.
[2] The final sample included 14 women and 4 men age 17 to 19 years old (*M* = 18.0, *SD* = 0.4). Participants were racially diverse with approximately 27% each identifying as white (*n* = 5), East Asian (*n* = 5), or South Asian (*n* = 5), 11.1 % identifying as mixed race, and 0.6% as Middle Eastern (*n* =1).

enjoyed the video. Finally, participants provided qualitative feedback about the writing task and the video.

Participants provided feedback in open-text responses and responded to several multiple-choice questions about the video. Both forms of feedback on the video were overall positive. In the multiple-choice responses, most participants indicated that they liked the video a lot (n = 10; 55.6%) or liked it somewhat (n = 7; 38.9%) and one participant indicated that they neither liked nor disliked the video. Participants indicated that they felt the video was either extremely easy (n = 12; 66.7%) or somewhat easy (n = 6; 33.3%) to understand, and all indicated that they felt they had at least a basic understanding of self-compassion after watching the video. In terms of using self-compassion in their everyday life, participants reported that they felt very capable (n = 6; 33.3%) or somewhat capable (n = 12; 66.7%) and that they were either extremely (n = 5; 27.8%) or somewhat likely (n = 13; 72.2%) to do so. Lastly, scores on the self-compassion knowledge quiz significantly increased after watching the video, suggesting that the video led to improved understanding of self-compassion (t[17] = -3.31, p = .004). These results highlight the acceptability of the psychoeducational video for use in the open trial.

Other Materials

The following measure was included in the two surveys that all participants completed; however, this measure was not related to the main aims of this study, and therefore was not included in the current manuscript.

Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The RSE is a measure of self-esteem that includes 10 items rated on a 4-point Likert-type scale (0 = "Strongly Disagree," 3 = "Strongly Agree"). Total scores range between 0 and 30. In the current

sample, including multiple time points for Study 1 and Study 2, the RSE demonstrated good internal consistency (α = .83-.88).

Power Analysis

The open trial was originally conceptualized as a brief pilot study, therefore, an official *a priori* power analysis was not conducted. We intended to have a sample of ~20 participants complete the open trial to fix any potential errors with the procedure and acquire feedback on the writing tasks. Due to an opportunity to recruit additional participants and concern that an RCT may not be completed within the timeframe for the master's thesis (e.g., due to delays with the ethics application and SONA deadlines), we included a larger baseline sample than initially proposed. A post-hoc power analysis was conducted using G*Power. For a within-groups Analysis of Variance (ANOVA) with one group and two measurement time points, for a small effect size (f = 0.15) and alpha of .05, a sample of 132 participants was estimated to have a power of 0.93, indicating that there was adequate power in this study to conduct a within-group comparison over these two time points.

Data Cleaning and Preparation.

All data were downloaded in excel files from Qualtrics (Qualtrics, 2022) and were imported into the Statistical Package for the Social Sciences Version 27 (SPSS; IBM SPSS Statistics, 2020) for cleaning and analysis. The data for each of the two assessments and the four writing tasks were cleaned separately prior to merging all the files together to create a final dataset for analysis.

Data were assessed for inconsistent responders and incomplete responses. Thirty participants completed less than 40% of an assessment and were removed for that time

point (i.e., *n* = 15 baseline; *n* = 15 post-intervention). Additionally, nine participants (*n* = 6 baseline; n = 3 postintervention) completed an assessment in less than 90 seconds, so their data were removed due to the questionable nature of their responses. For duplicates (as participants could access the survey multiple times), the first of the study attempts was retained except in cases in which the first attempt was incomplete (e.g., if the first attempt had no questions answered and the second was complete). Thus, 27 duplicates were removed at baseline and 49 duplicates were removed at post-intervention. Several participants did not provide usable data for the baseline assessment but provided usable data for the post-intervention assessment and were included in the final sample (*n* = 8). Therefore, data from 124 participants were included in the baseline assessment and 94 were included in the post-intervention. Consequently, the final analysed sample for the study included 132 participants.

Little's Missing Completely at Random (MCAR) test was used to examine the pattern of missingness at both assessment time points and was not significant for the baseline assessment (p = .303) or the post-intervention assessment (p = .485), indicating that missingness in the data was random. Missingness that was 10% or less of a scale was corrected using individual mean imputation for the RSE and INQ such that participants weren't excluded from analyses for missing single items. This technique for handling missing data can be appropriate for less than 10% missing data (Scheffer, 2002). If more than 10% of the scale was missing, listwise deletion was used. The SCS is scored using the averages of the six subscales which are then averaged to create a total score, and therefore, did not require imputation as the average of the existing values already was used.

Results

Descriptive Statistics

Descriptive statistics for main variables are presented in Table 3 and bivariate correlations among main variables are presented in Table 4. All variables were correlated in the expected directions. Outliers were assessed by computing z scores and examining boxplots using a conventional cut-off of three standard deviations from the mean (Wiggins, 2000).

Table 3.

Study 1 Descriptive Statistics for Self-Compassion, TB, and PB

Baseline				
Variable	***M*(*SD*)**	**Skewness (*SE*)**	**Kurtosis (*SE*)**	**α**
Total Self-Compassion	2.81(0.55)	0.03(0.22)	-0.35(0.44)	.90
TB	28.13(11.14)	0.38(0.22)	-0.56(0.44)	.89
PB	11.39(7.28)	1.68(0.22)	2.50(0.44)	.94
Post-intervention				
Variable	***M*(*SD*)**	**Skewness (*SE*)**	**Kurtosis (*SE*)**	**α**
Total Self-Compassion	2.94(0.65)	0.04(0.25)	0.15(0.50)	.93
TB	27.72(10.82)	0.54(0.25)	-0.31(0.50)	.87
PB	11.70(7.89)	1.54(0.25)	1.59(0.50)	.95

Note. Table 3 presents descriptive statistics for Study 1 (*n* = 94-124). *M* = mean, *SD* = standard deviation, *SE* = standard error, TB = thwarted belongingness, PB = perceived burdensomeness.

Self-Compassion. Means and standard deviations for self-compassion total average scores and subscale average scores are presented in Table 3. The total score for the

SCS reflects an average of the averages of the six subscales. These statistics were slightly lower than has been reported in other student samples (Neff, 2003b; Neff et al., 2017). Using conventional standards for skewness and kurtosis, including a skewness cut-off of +/- 2 and a kurtosis cut off of 3 (Hahs-Vaunghn, & Lomax, 2020, p.240; Brown, 2020), the skewness and kurtosis values for total scores and subscale scores were all within the bounds of normality and distributions appeared acceptable with a visual assessment. None of the subscale scores nor the total scores were outliers at baseline or post-intervention.

TB. The means and standard deviations (Table 3) of TB were relatively consistent with previous literature (Hollingsworth et al., 2018; Kwan et al., 2017; Lockman et al., 2016). Using conventional standards for skewness and kurtosis, as well as a visual assessment, the distribution of this variable was within the bounds of normality. No outliers were identified at either time point for this variable.

PB. The means and standard deviations (Table 3) of PB were also relatively consistent with previous literature (Hollingsworth et al., 2018; Kwan et al., 2017; Lockman et al., 2016). Using a visual assessment, the PB distribution appeared platykurtic and negatively skewed. As the skewness and kurtosis values fell within acceptable limits, transformation techniques were not implemented.

Using a cut of off 3 standard deviations from the mean, several outliers were identified for this variable, including three at baseline and one at post-intervention. Analyses were conducted including and excluding these cases. As the inclusion of these cases did not meaningfully change the results of the analyses, the outliers were left in the final analysed sample.

Table 4.

Bivariate Correlations for Study 1 at Baseline and Post-Intervention

Variable	1.	2.	3.
1. Self-Compassion Total	-	-.40**	-.24*
2. TB	- .43**	-	.53**
3. PB	- .28**	.45**	-

Note. Table 4 describes Pearson correlations among variables in Study 1 at baseline and post-intervention (n = 94-126). Values on the bottom of the diagonal reflect correlations at baseline, whereas values on the top of the diagonal reflect correlations at post-intervention. TB = thwarted belongingness, PB = perceived burdensomeness. * $p < .05$, ** $p < .01$.

Main Analyses

Changes From Baseline to Postintervention. This study did not include distinct conditions and there were only two assessment time points, therefore a series of paired-samples *t* tests were conducted to compare the effects of the self-compassion intervention on self-compassion, TB, and PB at baseline and post-intervention. Neither TB ($t(85) = 1.20$, $p = .587$) nor PB ($t(85) = -0.55$, $p = .234$) significantly changed from baseline to post-intervention. However, there was a significant increase in self-compassion scores ($t(85) = -3.05$, $p = .003$). When examining subscales, self-kindness ($t(85) = -2.14$, $p = .035$), overidentification ($t(85) = -2.79$, $p = .007$), and self-judgement ($t(85) = -3.90$, $p < .001$) significantly increased from baseline to post-intervention. Overidentification and self-judgement are reverse-scored subscales, therefore increases in scores indicate reductions in these negative self-compassion components.

Not all participants engaged in the writing task activities, as some participants did not complete the tasks that were emailed to them. Thus, I examined whether there were

any differences in baseline and post-intervention self-compassion scores between those who engaged in any of the four writing tasks to those who did not. I conducted two independent-samples *t* tests comparing these scores; there were no statistically significant differences between individuals who completed any writing tasks and those who did not on either baseline ($t(27) = 0.37$, $p = .717$) or post-intervention ($t(24) = -1.21$, $p = .202$) self-compassion scores.

Participant feedback. Many participants ($N = 106$) provided feedback by writing in the available textbox at the end of the post-intervention survey. Most feedback was positive. Participants described that they enjoyed the writing tasks, felt the tasks were helpful, and that they changed their thinking in a positive way ($n = 91$; 85.8%). Several individuals reported that they found the instructions to be clear ($n = 3$; 2.8%) and enjoyed the open-ended nature of the writing tasks ($n = 5$; 4.7%). In contrast, others indicated that they did not like how broad the writing tasks were (i.e., they could write about anything they wanted; $n = 4$; 3.8%) or found them to be overly repetitive ($n = 9$; 8.5%). Finally, some participants indicated that they had not been thinking of anything negative previously and felt that the writing tasks encouraged them to think about negative things ($n = 4$; 3.8%).

Study 1 Discussion

The results of the open trial indicate that this intervention is acceptable and was well-received by this student sample. Based on participant feedback, minor changes were made to the instructions to improve clarity, indicate to the participants that they would be completing very similar writing tasks each day, and to remind participants that the tasks were voluntary. Importantly, findings suggested that the intervention led to increased self-compassion scores from baseline to post-intervention.

Contrary to hypotheses, there was no significant change in TB or PB scores from baseline to post-intervention. It is possible that increasing self-compassion through this type of intervention does not result in meaningful changes in TB and PB. On the other hand, TB and PB scores may take longer than self-compassion scores to change, and the post-intervention assessment may have been too soon to capture these changes. It is also possible that increasing self-compassion only results in meaningful change in TB and PB for certain individuals, such as those with high levels of TB and PB. I sought to address these potential factors in an RCT.

Study 2: RCT

Hypotheses

For Study 2, an RCT was conducted to examine the effectiveness of the intervention compared to two control conditions. All conditions were assessed on TB, PB, and self-compassion at three time points (a baseline assessment, a post-intervention assessment, and a one-month follow-up assessment). My hypotheses were as follows:

1. Compared to the writing and psychoeducation control conditions, the intervention condition would demonstrate a significant increase in self-compassion from the baseline to one-month follow-up assessment.
2. Compared to the writing and psychoeducation control conditions, the intervention condition would demonstrate a significant decrease in TB from the baseline to one-month follow-up assessment.
3. Compared to the writing and psychoeducation control conditions, the intervention condition would demonstrate a significant decrease in PB from the baseline to the one-month follow-up assessment.

Methods

Participants

As in the open trial, participants were recruited using the Western University psychology student recruitment database (SONA). Inclusion criteria were fluency in English and being enrolled as a student at Western University or an affiliate college. Based on findings from Study 1, participants also had to endorse lifetime suicidal ideation and/or recent TB and PB. This inclusion criterion was added in order to examine if the intervention was more or less effective for individuals with elevated levels of these constructs. This was assessed using a pre-screen questionnaire (described under Procedure). Those who met inclusion criteria were invited to participate in the study and directed to the consent form. At baseline, 243 participants consented to the study and 136 were included in analyses; the reasons for excluding participants from analyses are described below (see data cleaning procedures). Demographic information can be found in Table 1. The sample ranged from 17 to 37 years old (M = 18.4, SD = 1.81). Participants were predominantly female (77.9%), and most were White (36.0%), East Asian (25.0%), or mixed-race (i.e., selected multiple categories; 16.2%). There were no significant differences between the three conditions on age ($F[2, 132] = 0.60$, $p = .551$), gender (χ^2 [4, N = 136] = 1.91, $p = .752$), or race/ethnicity ($\chi^2[12, N = 136] = 10.63$, $p = .561$).

Procedure

All study procedures and materials were approved by the Western Non-Medical Ethics Review Board (Appendix D) and were completed on Qualtrics (Qualtrics, 2022). Participants signed up for the study using the university research participation system and were directed to a pre-screen questionnaire to determine their eligibility for the study. This

pre-screen measure contained five items with dichotomous “yes”/”no” response options. Three of these questions were intended to assess inclusion criteria: lifetime suicidal ideation, recent TB, and recent PB, as these characteristics were inclusion criteria for participating. Two additional items asked about general stress to reduce the obviousness of the selection criteria. Eligible participants were then randomized and viewed the letter of information and consent form for one of three conditions (i.e., the intervention condition, the writing control condition, or the psychoeducation control condition).

After consenting to the study, all participants completed a baseline assessment that included a demographics questionnaire and measures of self-compassion, PB and TB, suicidal ideation, depressive symptoms, difficulties with emotion regulation, self-esteem, fear of self-compassion, and perfectionism. Each condition then followed a different procedure following the baseline assessment (described below and outlined in Table 2). All conditions received an email inviting them to complete a post-intervention assessment one week following the baseline assessment. One month after the post-intervention assessment, all participants were contacted via email to complete a follow-up assessment and were provided with a debriefing form. A one-month follow-up period enabled comparison with previous studies examining the effects of self-compassion interventions of similar duration as the current study (Huellemann, 2020; Mosewich et al., 2013; Urken & LeCroy, 2020; Wong & Mak, 2016). The baseline, post-intervention, and follow-up assessments all included the same battery of measures.

Intervention Condition. The self-compassion intervention was identical to that used in the open trial (Study 1). In brief, immediately following the baseline assessment, participants watched the 5-minute psychoeducational video on the concept of self-

compassion and how it can be applied in everyday life. During the four days following the baseline assessment, those in the intervention condition were emailed links to complete the daily self-compassion writing tasks (Neff et al., 2020) used in Study 1.

Writing Control Condition. The writing control condition did not receive the educational video on self-compassion but completed daily control writing tasks during the four days following the baseline assessment. Participants were emailed the links to the writing tasks daily and each was followed by a compliance check. The control writing task (Appendix E) was created by the authors of the self-compassion writing task (Neff et al., 2020) and was designed to mirror the format of that task without inducing self-compassion. Specifically, participants were asked to describe a difficult experience in their past and respond to prompts about the situation. Prompts then encouraged the participant to describe the situation rather than discuss it from a self-compassionate perspective. As with the intervention condition, each writing task is designed to take ~10 min**.** The control writing tasks also alternated between asking the participant about a time they felt like a burden and a time they felt like they did not belong. The writing control condition accounted for any effects on the outcome variables attributable to daily engagement in writing.

Psychoeducation Control Condition. Immediately following the baseline assessment, participants in the psychoeducation control condition watched the video on self-compassion and how it can be applied in everyday life (i.e., the same stimulus as the intervention condition). This condition did not complete any writing tasks. The psychoeducation control condition controlled for the effects of receiving new information on the concept of self-compassion.

Materials

Study 2 used the psychoeducational video, SCS, INQ, RSE, demographics questionnaire, and compliance check used in Study 1. Additional materials in this study that were not included in the open trial are described below.

Centre for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a self-report questionnaire that assesses depressive symptoms over the past week. There are established associations between depressive symptoms and suicidality (Hawton et al., 2013; Richards, 2011), as well as between depressive symptoms and TB and PB (Cheavens et al., 2016; Pfeiffer et al., 2014). Therefore, analyses were conducted with and without depression as a covariate to understand the impact of depression on the outcomes of interest. This measure contains 20 items that are rated on a 4-point scale (0= "Rarely or none of the time [Less than 1 day]", 1= "Some or a little of the time [1-2 days]", 2= "Occasionally or a moderate amount of time [3-4 days]", or 3 = "Most or all of the time [5-7 days]"). Total possible scores range from 0-60, with higher scores indicating more severe depressive symptoms. The CES-D has shown excellent internal consistency (αs =.93-.95) in community older adult and adolescent inpatient samples (Cheavens et al., 2016; Stewart et al., 2017) and adequate test-retest repeatability (Radloff, 1977) in general population and inpatient samples. In the current sample, the CES-D demonstrated good to excellent internal consistency (α = .89-.90) across assessments.

Other Measures

The following measures were included in the three surveys that all participants completed; however, these measures were not related to the main aims of this study, so they were not included in the current manuscript.

Difficulties in Emotion Regulation Scale - Short Form (DERS-SF; Kaufman et al., 2016). The DERS-SF was used to assess emotion regulation deficits. This measure contains 18 items that are rated on a 5-point scale regarding how often the items apply to the responder (1 = "Almost Never [0=10%]", 5 = "Almost Always [91-100%]") with higher scores indicate greater emotion regulation difficulties. Internal consistencies in the current sample across time points were αs = .73-.93.

Depression Symptom Index - Suicidality Subscale (DSI-SS; Joiner et al., 2002). The DSI-SS was used to measure suicidality over the last two weeks and contains 4 multiple-choice items. Internal consistency was α = .91 across all time points.

Fear of Compassion Scale (FCS; Gilbert et al., 2011). Fear of self-compassion was assessed using the Fear of Compassion for Self-subscale of the FCS. The subscale contains 13 items and is rated on a 5-point Likert-type scale (0 = "Don't agree at all," 4 = "Completely agree"). Total scores range from 0 to 52 with higher scores indicating greater fear of self-compassion. The FCS demonstrated excellent internal consistency in the current sample across time points (α = .91-.93).

Frost Multidimensional Perfectionism Scale (F-MPS; Burgess et al., 2016). The F-MPS was used to measure perfectionism. This scale contains 35 items rated on a 5-point Likert scale (1 = "Strongly disagree", 5 = "Strongly agree") and higher scores indicate higher perfectionism. Total scores range from 5 to 175. Internal consistencies ranged from α = .83-.94.

Data Analysis

The *a priori* proposed analyses to examine the hypotheses for Study 2 were a series of three 3 X 3 repeated-measures mixed ANOVAs to examine within-group and between-

group effects of time (baseline, post-intervention, one-month follow-up), condition (intervention, writing control, psychoeducation control), and their interaction. The outcomes were self-compassion, TB, and PB.

Power Analysis

An *a priori* power analysis was conducted in G*Power for a repeated-measured mixed 3x3 ANOVAs including within-between interactions. This power analysis recommended at least 69 participants for a small-medium effect size (f = 0.175) with a power of .80 and an alpha of .05, which would result in 23 participants in each condition for each time point. Therefore, our final analysed sample size of 136 should provide us with sufficient power to conduct these analyses.

Data Cleaning and Preparation

All data were downloaded in excel files from Qualtrics (Qualtrics, 2022) and were imported into SPSS Version 27 (IBM SPSS Statistics, 2020) for cleaning and analysis. The data for each of the three assessments and the eight writing tasks (four self-compassion tasks and four control tasks) were cleaned separately prior to merging all the files together to create a final dataset for analysis.

Data were assessed for outliers, unreliable responders, and incomplete responses. At baseline, 243 participants consented to the study and 195 participants completed the baseline survey. Participant data were removed from analysis for each time point if they completed less than 40% of that time point (i.e., n = 8 at baseline; n = 21 at post-intervention; n = 0 at follow-up), failed any attention check (i.e., n = 11 at baseline; n = 16 at post-intervention; n = 21 at follow-up), or they completed the assessment in less than 3 min (i.e., n = 2 at baseline; n = 1 at post-intervention; n = 0 at follow-up). Duplicate

responses were removed for each time point (i.e., n = 7 at baseline; n = 5 at post-intervention; n = 8 follow-up) with the first of the study attempts retained except in cases in which the first attempt was incomplete. One participant was removed for providing inconsistent demographic information between time points, which may indicate that their data is of questionable quality. Outliers were assessed by computing z scores and examining boxplots using a cut-off of three standard deviations from the mean. Outliers for the main variables (n = 1) were winsorized for analyses. Similar to Study 1, several participants did not provide usable data for the baseline assessment but provided usable data for the post-intervention assessment or the follow-up assessment (n = 8) and were included in the final sample.

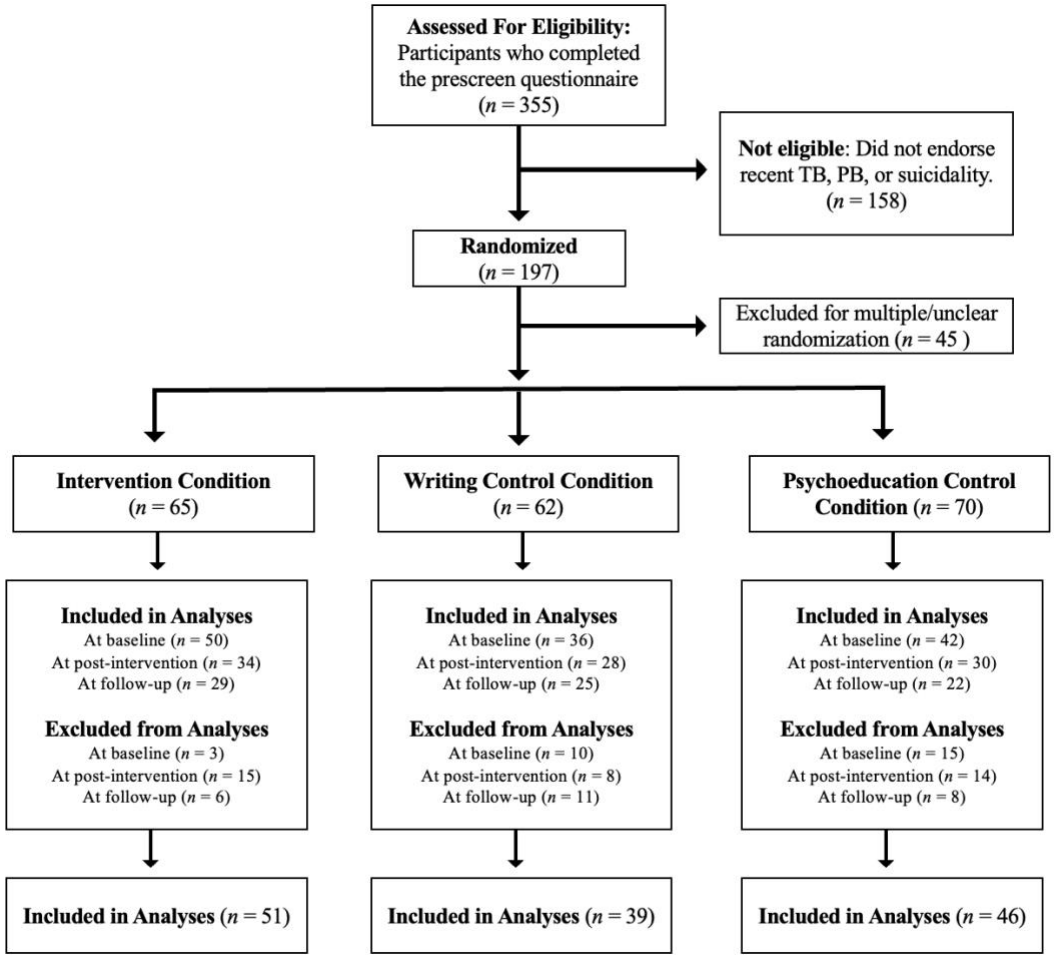
In addition to participants who completed a time point several times, 40 participants were randomized more than once as they accessed the initial survey link multiple times. The data from these participants were examined and participants were retained if they were randomized to the same condition multiple times (n = 4). Participants who were randomized to different conditions (i.e., n = 36) were removed as they would have received intervention materials/information that were not intended to be completed within the same condition (e.g., the control writing tasks *and* the video or the self-compassion writing tasks). Additionally, the randomization information of several participants could not be located with the identifier they used in the study; therefore, these participants were removed from the datasets (n = 9). Thus, the final analysed sample included 136 participants. Figure 1 describes which participants were removed and which were retained for the final sample.

Little's MCAR test was used to examine the pattern of missingness at all three assessments and was not significant for the baseline assessment (p = 1.00), the post-intervention assessment (p = 1.00) or the follow-up assessment (p = 1.00), indicating that missingness in the data was random. Missingness that was 10% or less of a scale was corrected using individual mean imputation for the DSI-SS, INQ, FMPS, FCS, RSE, DERS, and CES-D. As in Study 1, the SCS is scored using the averages of the six subscales which are then averaged to create a total score, and therefore, did not require imputation. In the ANOVA analyses, missingness was addressed with listwise deletion. This method results in participants with any missing data on any of the analyzed variables being dropped from analyses and is the method of handling missing data in ANOVAs.

Lastly, three one-way ANOVAs were conducted to evaluate if there were any baseline differences across conditions in the variables of interest (self-compassion, PB, TB). Results were not statistically significant, indicating that random assignment to condition was successful (Self-compassion: F[2, 124] = 1.92, p = .152; TB: F[2, 125] = 0.29, p = .747; PB: F[2, 125] = 0.25, p = .779).

Figure 1.

Flow Diagram of Study 2 RCT Design



Note. Figure 1 shows the number of participants were included in analyses across conditions.

Results

Descriptive Statistics

Descriptive statistics for self-compassion, depressive symptoms, TB, and PB are presented in Table 5 and bivariate correlations among main variables are presented in Table 6. All variables were correlated in the expected directions. Using conventional standards for skewness and kurtosis, the distributions of self-compassion, depressive symptoms, TB,

and PB were within the bounds of normality and no transformation techniques were used. Baseline means and standard deviations were compared to similar student samples in the literature. SCS total scores were slightly lower than other comparable samples (Fong & Loi, 2016; Ko et al., 2018; Long & Neff, 2018), including the sample in Study 1. As expected, TB and PB scores in the current sample appeared elevated compared to other university student samples (Hollingsworth et al., 2018; Lockman & Servaty-Seib, 2016) and the baseline means for Study 1. Lastly, the baseline mean for depressive symptoms in the current sample indicates symptoms in the clinical range (i.e., >23; Henry et al., 2018). These findings are consistent with our pre-screening approach that specifically recruited individuals who reported lifetime suicidal ideation, TB, and/or PB.

Adherence to Interventions

Of the 51 participants who were included in the self-compassion intervention condition in the final sample, only 23 completed at least one of the self-compassion writing tasks (45.1%; n = 8 completed one task, n = 4 completed 2, n = 5 completed 3, and n = 6 completed 4). Of the 39 participants who were included in the writing control condition in the final sample, only 10 completed at least one of the control writing tasks (25.6%; n = 4 completed one task, n = 1 completed 2, n = 2 completed 3, and n = 3 completed 4).

Table 5.

Study 2 Total Sample Descriptive Statistics for Self-Compassion, Depressive Symptoms, TB, and PB

	Baseline				**Post**				**Follow-up**			
Variable	***M*(*SD*)**	**Skew (*SE*)**	**Kurtosis (*SE*)**	**α**	***M*(*SD*)**	**Skew (*SE*)**	**Kurtosis (*SE*)**	**α**	***M*(*SD*)**	**Skew (*SE*)**	**Kurtosis (*SE*)**	**α**
Total SC	2.48 (0.59)	-0.04 (0.22)	-0.45 (0.43)	.92	2.51 (0.59)	0.41 (0.25)	-0.24 (0.50)	.93	2.76 (0.63)	0.01 (0.28)	0.40 (0.55)	.93
TB	31.71 (10.16)	0.27 (0.21)	-0.19 (0.43)	.85	31.09 (10.74)	0.11 (0.25)	-0.43 (0.50)	.87	29.87 (9.33)	0.25 (0.28)	-0.85 (0.55)	.83
PB	14.48 (8.48)	1.04 (0.21)	0.37 (0.43)	.93	14.20 (8.52)	1.08 (0.25)	0.69 (0.50)	.95	15.68 (9.39)	0.85 (0.28)	-0.06 (0.55)	.96
Total CES-D	27.60 (11.51)	0.27 (0.21)	-0.39 (0.43)	.90	25.21 (10.85)	0.33 (0.25)	-0.25 (0.50)	.90	26.40 (10.84)	-0.06 (0.28)	-0.45 (0.55)	.89

Note. Table 6 presents descriptive statistics for Study 2 (*n* = 76-128). *M* = mean, *SD* = standard deviation, *SE* = standard error, TB = thwarted belongingness, PB = perceived burdensomeness, SC = Self-Compassion, Post = Post-intervention, CES-D = Centre for Epidemiological Studies Depression Scale.

Table 6.

Bivariate Correlations for Study 2

Baseline			
Variable	**1.**	**2.**	**3.**
1. Self-Compassion Total	-	-	-
2. TB	- .36**	-	-
3. PB	- .49**	.55**	-
4. Total CES-D	-.46**	.57**	.60**
Post-intervention			
Variable	**1.**	**2.**	**3.**
1. Self-Compassion Total	-	-	-
2. TB	- .25*	-	-
3. PB	- .44**	.48**	-
4. Total CES-D	- .43**	.59**	.58**
Follow-up			
Variable	**1.**	**2.**	**3.**
1. Self-Compassion Total	-	-	-
2. TB	- .32**	-	-
3. PB	- .34**	.42**	-
4. Total CES-D	-.40**	.55**	.59**

Note. Table 7 describes Pearson correlations among variables in Study 2 at baseline, post-intervention, and follow-up (n = 76-128). Overidentification, self-judgement, and isolation scores are reverse coded, thus higher scores indicate lower levels of those constructs. TB = thwarted belongingness, PB = perceived burdensomeness, CES-D = Centre for Epidemiological Studies Depression Scale.* p < .05, ** p < .01.

Main Analyses

Estimated marginal means for all outcomes are presented in Table 7, and results from the mixed ANOVAs are reported in Table 8.

Hypothesis 1: Self-Compassion: In the ANOVA examining self-compassion as the outcome variable, Box's Test of Equality of Covariance Matrices (p = .076) and Mauchly's Test of Sphericity (p = .399) were not significant, indicating that the assumptions of sphericity and homogeneity of covariance matrices were not violated. Levene's Test of Equality of Error Variances was significant for the post-intervention time point (p = .009), indicating that the assumption of homogeneity of variances was violated, limiting the interpretability of the findings. There was a statistically significant main effect of time (F[2,120] = 22.90, p < .001) with a large effect size (η_p^2= .276). There was no significant main effect of condition (F[2, 60] = 0.95, p = .393) or interaction between time and condition (F[4,120] = 0.96, p = .434). These results indicate that self-compassion significantly increased over the course of the study across all conditions, but these changes were not unique to any one condition. The main effect of time was no longer significant when controlling for depressive symptoms at baseline (F[2,118] = 0.48, p = .953).

Hypothesis 2: TB: The mixed ANOVA for TB did not violate the assumptions of sphericity and homogeneity of covariance matrices (i.e., Box's Test of Equality of Covariance Matrices p = .360 and Mauchly's Test of Sphericity p = .785); however, Levene's Test of Equality of Error Variances was significant for the follow-up time point (p = .024). Thus, the assumption of homogeneity of variances was violated, limiting the interpretability of the findings. There was a statistically significant main effect of time (F[2, 120] = 4.76, p = .01) with a medium effect size (η_p^2= .074); however, there was no

significant main effect of condition (F[2,60] = 1.05, p = .358) or interaction between time and condition (F[4,120] = 0.66, p = .619). These results indicate that TB significantly decreased over the course of the study across all conditions, but that these changes were not unique to any one condition. The main effect of time was no longer significant when controlling for depressive symptoms at baseline (F[2,118] = 1.71, p = .185).

Hypothesis 3: PB*:* For PB, the assumptions of homogeneity of variances (Levene's Test; all p's > .05) and of sphericity were met (Mauchly's Test; p = .587), but the assumption of homogeneity of covariance matrices was violated (Box's Test; p < .001), again limiting the interpretability of the findings. There was no significant effect of time (F[2,118] = 0.69, p = .506), condition (F[2,59] = 0.16, p = .854), or condition by time interaction (F[4,118] = 0.97, p = .426).

Table 7.

Estimated Marginal Means for Self-Compassion, TB, and PB at Each Time Point by Condition in ANOVA Analyses

	Intervention Condition (n = 25)	**Writing Control Condition** (n = 22)	**Psychoeducation Control Condition** (n =16)
Baseline *M*(*SE*)			
Self-Compassion	2.43(0.12)	2.35(0.13)	2.26(0.15)
TB	34.20(1.94)	31.59(2.07)	30.38(2.42)
PB	16.32(1.82)	14.67(1.99)	14.00(2.28)
Post-intervention *M*(*SE*)			
Self-Compassion	2.56(0.12)	2.37(0.13)	2.39(0.15)
TB	30.84(2.18)	30.84(2.32)	27.06(2.72)
PB	14.44(1.75)	14.19(1.91)	13.63(2.19)
One-Month Follow-up *M*(*SE*)			
Self-Compassion	2.89(0.13)	2.57(0.14)	2.61(0.16)
TB	30.20(1.93)	30.77(12.06)	25.88(2.42)
PB	14.24(1.85)	15.91(2.02)	13.19(2.31)

Note. Table 7 describes estimated marginal means for the three outcome variables in Study 2 using ANOVA analyses (n = 62-63). *M* = mean, *SE* = standard error, TB = thwarted belongingness, PB = perceived burdensomeness.

Table 8.

Study 2 Repeated Measures Mixed ANOVA Results

	SCS				**TB**				**PB**			
Predictors	*df* (1,2)	*F*	*p*	η_p^2	*df* (1,2)	*F*	*p*	η_p^2	*df*(1,2)	*F*	*p*	η_p^2
Between-Subjects Effects												
Condition	2, 60	.95	.393	.031	2, 60	1.05	.358	.034	2, 59	0.16	.854	.005
Within-Subjects Effects												
Time	2, 120	22.90***	<.001	.276	2, 120	4.76**	.01	.074	2, 118	0.69	.506	.011
Time x Condition	4, 120	.96	.434	.031	4, 120	.663	.619	.022	4, 118	0.97	.426	.032

Note. Table 8 describes repeated measures mixed ANOVA results for self-compassion, thwarted belongingness, and perceived burdensomeness in Study 2 (n = 62-63). TB = thwarted belongingness, PB = perceived burdensomeness, CES-D = Centre for Epidemiological Studies Depression Scale. * $p < .05$, ** $p < .01$, *** $p < .001$.

Exploratory Analyses

Although we had planned to use ANOVA techniques at the outset to test the hypotheses for this study, there were more substantial issues with the data than expected, which made ANOVA less suited for the current study. First, there was a significant amount of missing data due to attrition between the assessment time points, and repeated measures ANOVA uses listwise deletion to address this concern. This technique of handling missing data results in drastically reduced sample size and consequently reduces statistical power. Furthermore, several ANOVA assumptions were violated for the main variables likely due to differences in sample size across the conditions. Additionally, to try to increase participation rates, participants had access to follow-up surveys for up to 45 days post baseline (post-intervention survey) and up to 65 days post post-intervention (one-month follow-up survey), depending on when participants registered for or completed the study. With this flexibility, participants differed significantly on the number of days between assessments with some completing the post-intervention survey after many participants had completed the one-month follow-up. Specifically, the range in 'days since baseline' assessment for post-intervention and one-month follow-up were 6-45 (*M*[*SD*] = 9.63[7.66]) and 17-55 (*M*[*SD*] = 29.13[6.45]), respectively. Therefore, treating time as a continuous variable (versus categorical) would more accurately capture "time" in the current study.

Unlike ANOVAs, mixed models can treat repeated factors as continuous and incorporate the different spacing of the assessment points. Moreover, these types of models are better equipped to handle missing data in situations when missingness is more substantial. For these reasons, we explored treatment effects using a mixed model approach.

Longitudinal Mixed Models

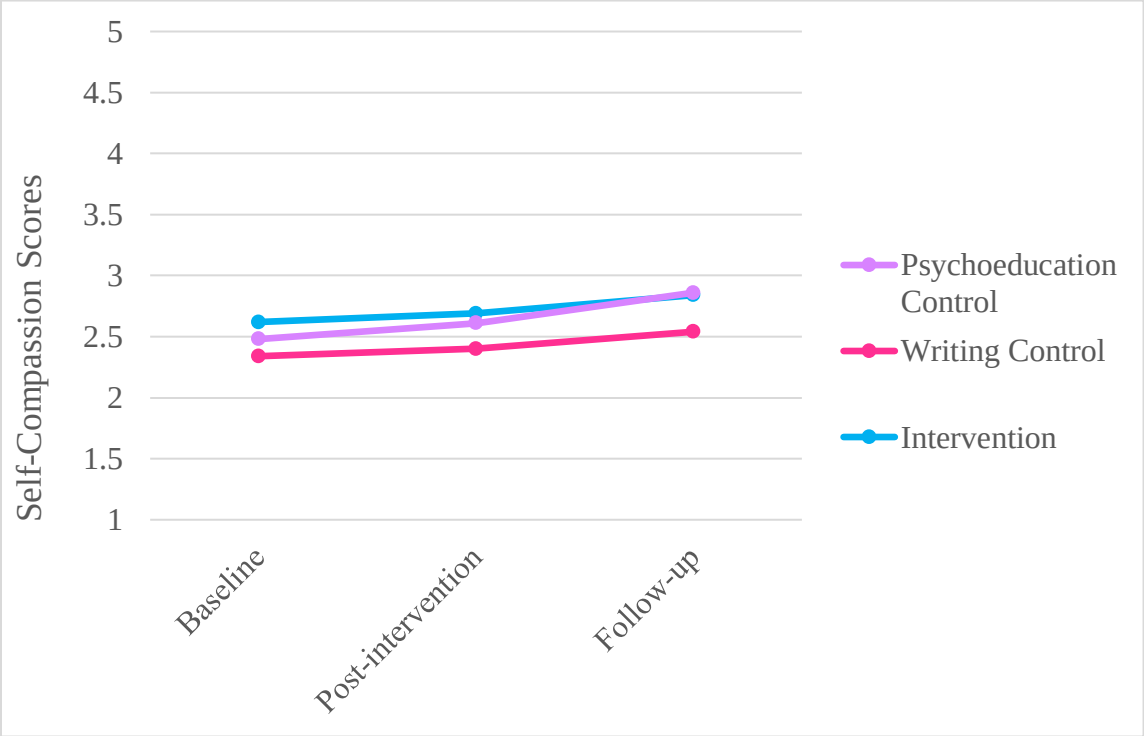
Three mixed models were conducted in SPSS version 27 (IBM SPSS Statistics, 2020) to examine the impact of condition (e.g., self-compassion, writing control, psychoeducation control) on change in self-compassion, TB, and PB over approximately one month. The University of California, Los Angeles (UCLA) Statistical Computing Workshop was used as a guide for these analyses (UCLA, 2021; https://stats.oarc.ucla.edu/spss/seminars/spss-mixed-command/). We used an intent-to-treat approach; therefore, all individuals who completed the baseline assessment were included in analyses (n = 128). Maximum likelihood estimation (MLE) was used to handle missing data. For all outcome variables, time was modelled continuously as the within-person factor (i.e., level 1) and condition was modelled as the between-person factor (i.e., level 2). The interaction between time and condition examined whether change (slope) in outcomes differed by condition. Condition was coded such that the self-compassion intervention served as the reference group. All models specified random intercepts and random linear slopes with an unstructured covariance matrix. Results of the mixed models are presented in Table 9. All analyses were run with and without depressive symptoms (i.e., CES-D total scores) as a covariate.

Self-Compassion Outcome. There was a significant effect of time (γ [*SE*] = 0.013(0.002), t = 6.40, p < .001), indicating that self-compassion scores increased over time across conditions. There was no significant effect of condition, indicating neither the writing control condition (γ [*SE*] = -0.15(0.12), t = -1.19, p = .235) nor the psychoeducation control condition (γ [*SE*] = 0.13(0.12), t = 1.14, p = .258) differed from the intervention condition on self-compassion scores over the three time points. Further, there was no

significant effect of the interaction between condition and time. Specifically, neither the writing control condition (γ [*SE*] = -0.006(0.003), *t* = -1.84, *p* = .070) nor the psychoeducation control condition (γ [*SE*] = -0.005(0.003), *t* = -1.61, *p* = .112) significantly differed from the intervention on linear change in self-compassion over time (Figure 2). Including depression as a covariate did not change the results.

Figure 2.

Plot of Self-Compassion Over Time by Condition in Study 2 in Mixed Models



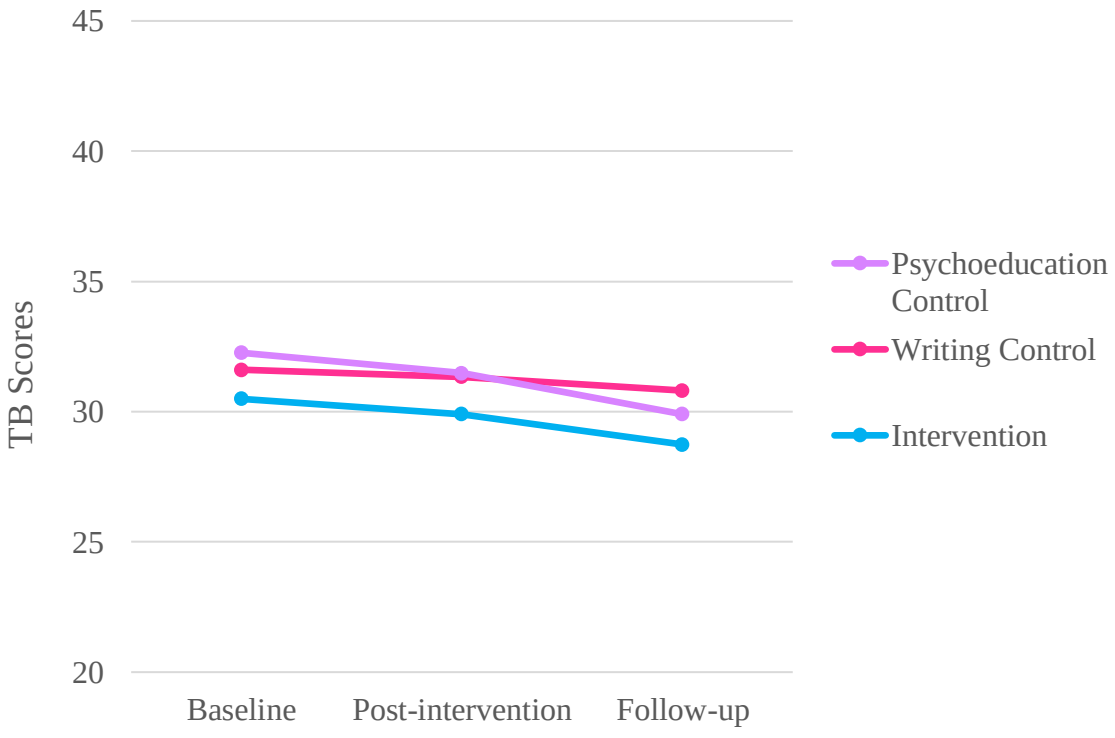
Note. Figure 2 depicts the estimated marginal means of self-compassion scores over time by condition in Study 2 in the mixed models (*n* = 128). Given the variation in when participants at each time point completed each assessment, means for the average completion time (in days) were used. Specifically, baseline reflects time at 0 days, post-intervention reflects time at 9.63 days, and follow-up reflects time at 29.13 days.

TB Outcome. There was a significant fixed effect of time (γ [*SE*] = -0.08(0.04), *t* = -2.11, *p* = .039), indicating that TB scores decreased over time across conditions. There

was no significant effect of condition; neither the writing control condition (γ [*SE*] = -0.65(2.91), *t* = -0.30, *p* = .768) nor the psychoeducation control condition (γ [*SE*] = -1.77(2.10), *t* = -0.84, *p* = .401) significantly differed from the intervention condition on TB scores. Additionally, there was no significant interaction effect between condition and time. Specifically, neither the writing control condition (γ [*SE*] = 0.05(0.06), *t* = 0.90, *p* = .373) nor the psychoeducation control condition (γ [*SE*] = 0.02(0.06), *t* = 0.35, *p* = .730) differed from the self-compassion intervention on linear change in TB (Figure 3). Including depression as a covariate did not change the results.

Figure 3.

Plot of TB Over Time by Condition in Study 2 in Mixed Models



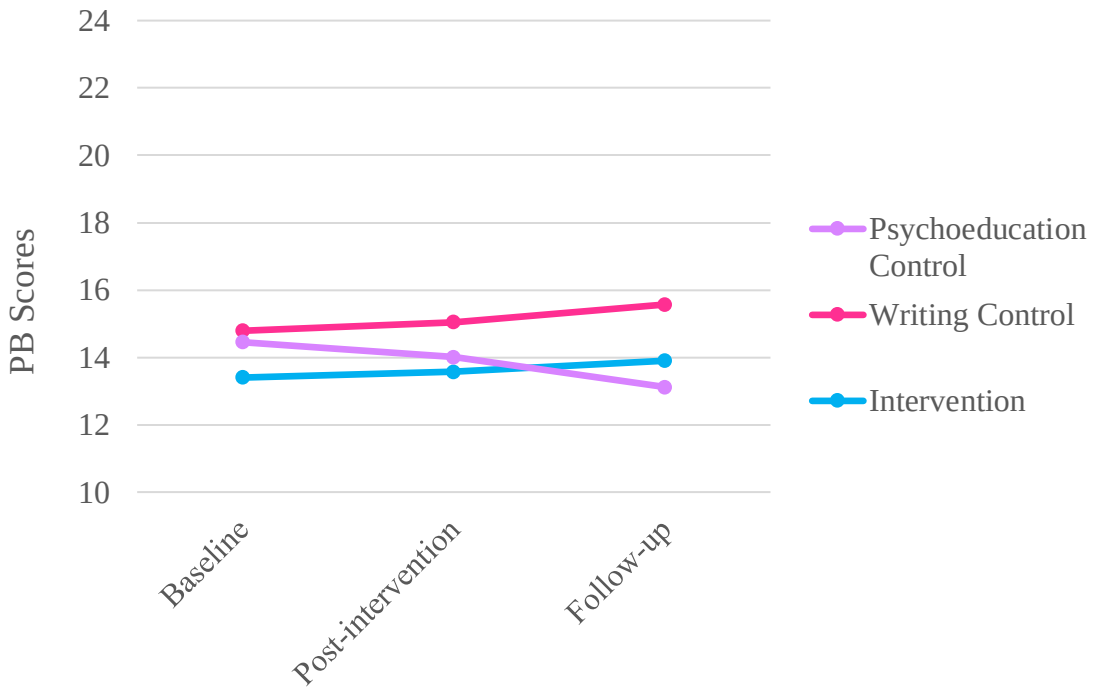
Note. Figure 3 depicts the estimated marginal means of thwarted belongingness (TB) scores over time by condition in Study 2 in the mixed models (*n* = 128). Given the variation in

when participants at each time point completed each assessment, means for the average completion time (in days) were used. Specifically, baseline reflects time at 0 days, post-intervention reflects time at 9.63 days, and follow-up reflects time at 29.13 days.

PB Outcome. Finally, there was no significant fixed effect of time (γ [*SE*] = -0.05(0.03), t = -1.73, p = .087) on PB, indicating that PB scores did not demonstrate linear change over time. Further, there was no significant effect of condition, as neither the writing control condition (γ [*SE*] = 0.34(1.79), t = 0.19, p = .851) nor the psychoeducation control condition (γ [*SE*] = -1.04(1.72), t = -0.61, p = .543) significantly differed from the intervention condition on PB scores over the three time points. Lastly, there was no significant interaction between condition and time (Figure 4). Neither the writing control condition (γ [*SE*] = 0.07(0.04), t = 1.76, p = .082) nor the psychoeducation control condition (γ [*SE*] = 0.06(0.04), t = 1.51, p = .137) differed from the self-compassion intervention condition on linear change in PB scores (Figure 4). Including depression as a covariate did not change the results.

Figure 4.

Plot of PB Over Time by Condition in Study 2 in Mixed Models



Note. Figure 4 depicts the estimated marginal means of perceived burdensomeness (PB) scores over time by condition in Study 2 in the mixed models (n = 128). Given the variation in when participants at each time point completed each assessment, means for the average completion time (in days) were used. Specifically, baseline reflects time at 0 days, post-intervention reflects time at 9.63 days, and follow-up reflects time at 29.13 days.

Table 9.

Mixed Model Estimates for Fixed Effects and Variance Components for Self-Compassion, TB, and PB

	Fixed Effects					**Variance**		
Parameter	**Intercept γ (*SE*)**	**Time γ (*SE*)**	**Condition**	**Condition γ (*SE*)**	**Time x Condition γ (*SE*)**	**Within-person γ (*SE*)**	**Intercept γ (*SE*)**	**Residual γ (*SE*)**
Self-Compassion	2.48 (0.08)***	0.01 (0.002)***	WC	-0.15 (0.12)	-0.006 (0.003)	0.00005 (0.00002)*	0.27 (0.04)***	0.06 (0.009)***
			PC	0.13 (0.12)	-0.005 (0.003)			
TB	32.26 (1.42)***	-0.08 (0.03)*	WC	-0.65 (2.19)	0.05 (0.06)	0.01 (0.01)	79.50 (13.04)***	28.14 (4.31)***
			PC	-1.77 (2.10)	0.02 (0.06)			
PB	14.45 (1.16)***	-0.05 (-0.03)	WC	0.34 (1.79)	0.07 (0.04)	0.002 (0.004)	54.96 (8.54)***	16.42 (2.35)***
			PC	-1.05 (1.72)	0.06 (0.04)			

Note. Table 9 describes effects in the exploratory mixed models that were examined in Study 2 (n = 128). For condition effects, the writing control condition and the psychoeducation control condition were compared to the intervention condition, which was the reference condition. *SE* = standard error, TB = thwarted belongingness, PB = perceived burdensomeness, PC = Psychoeducation Control Condition, WC = Writing Control Condition, * $p < .05$, ** $p < .01$, *** $p < .001$.

Study 2 Discussion

The results of the RCT indicate that compared to the control conditions, there was no significant impact of the self-compassion intervention on self-compassion, TB, or PB, indicating that our hypotheses for Study 2 were not supported. Self-compassion significantly increased from baseline to follow-up and TB significantly decreased from baseline to follow-up across all conditions. There were no significant changes in PB from baseline to follow-up.

These findings may indicate that the self-compassion intervention was not effective and that the changes in the outcome variables reflect typical fluctuations in self-compassion and TB. We selectively recruited individuals who endorsed lifetime suicidality, feeling like a burden, or feeling like they did not belong. Therefore, it is possible that the participants in the sample regressed to the mean after being more elevated on TB than the average student population. In contrast, the self-compassion intervention may have been effective at increasing self-compassion and decreasing TB, but simply learning about self-compassion via a psychoeducational video or completing control writing tasks may also result in similar changes. This explanation would suggest that while potentially effective, there is nothing uniquely beneficial about this self-compassion intervention compared to other activities. Finally, there are several limitations to the current study design that also may have impacted the results of Study 2, such as low engagement in the intervention, which are discussed further in the following section.

General Discussion

Suicidal thoughts and behaviours are prevalent among young adults. Developing accessible interventions that can influence predictors of suicidality is crucial (Fitzpatrick

& River, 2018; Statistics Canada, 2017). The current project sought to examine the impact of a brief, online self-compassion intervention on correlates of suicidal ideation, namely TB and PB. Study 1 included an open trial of this intervention to determine feasibility and acceptability. Although TB and PB did not significantly change from baseline to post-intervention in Study 1, there were significant increases in self-compassion. Building on Study 1, Study 2 was an RCT that compared the self-compassion intervention to two stringent control conditions. In Study 2, self-compassion significantly increased and TB significantly decreased over the three assessment time points, but PB did not significantly change over time. Moreover, contrary to hypotheses, there were no effects of condition on change in the outcomes over time, indicating that the self-compassion intervention was no more effective than the control conditions at targeting self-compassion, TB, or PB.

The Impact of the Intervention on Self-Compassion

The increases in self-compassion found in both Study 1 and Study 2 across all conditions indicate that psychoeducation and general and specific writing tasks may be effective ways to increase self-compassion scores in university samples. These findings are consistent with the larger literature that suggests that self-compassion is a malleable construct that can be increased through a variety of interventions (Ferrari et al., 2019). Many studies demonstrate that self-compassion can be increased and that such increases can be achieved through self-compassion writing tasks (Leary et al., 2007; Shapira & Mongrain, 2010; Seekis et al., 2017). Specifically, there was a large effect of time for self-compassion ($\eta_p^2 = .276$), and on average, self-compassion scores increased by 0.341 points (14.5%) from the baseline assessment to the follow-up assessment. This finding indicates that participants were viewing themselves in a kinder and more open way at the end of the

study compared to at the beginning. Although numerous self-compassion interventions and inductions currently exist, few are brief and accessible (Ferrari et al., 2019). Most existing self-compassion interventions last several weeks or months and many require in-person attendance (Ferrari et al., 2019). The results of Study 1 and Study 2 demonstrate that self-compassion can increase up to a month after brief interventions and that such interventions can be administered remotely.

Although self-compassion increased in both studies over time, these increases were not dependent on condition. These findings contrast with the main hypothesis that a self-compassion specific writing intervention would lead to greater changes in self-compassion than general writing tasks or learning about self-compassion. Findings suggest that it may be relatively easy to increase self-compassion using a variety of methods and that a 5-minute psychoeducational video was as effective as four writing tasks at increasing self-compassion. It is worth noting that most studies that examine the effectiveness of self-compassion writing tasks have done so in comparison to a waitlist control condition (Ferrari et al., 2019; Wilson et al., 2019). By using psychoeducation and writing task controls, we were able to isolate potential effects specific to writing about self-compassion (versus learning about self-compassion or writing generally). Taken together, findings suggest that increases in self-compassion in this study were not driven by self-compassionate writing. However, as we did not include a waitlist control, it is difficult to say how much any increase in self-compassion can be attributed to the effects of any activities and repeated contact versus typical fluctuations over time.

It is also possible that the effectiveness of the intervention was not able to be captured in the current RCT due to the lack of engagement with the intervention activities.

Although we expected some level of attrition due to the longitudinal nature of the study, few participants completed *any* of the writing tasks. Indeed, less than half completed any of the writing tasks (45.1%; 23/51) and less than 12% (n=6/51) completed the full intervention. Engagement was even lower in the writing control condition, in which a quarter completed any of the writing tasks (25.6%; 10/39) and only three participants completed all four writing tasks (7.7%). Thus, it is possible that limited change in the outcome variables was due to the low 'dose' of any of the intervention-related activities and that changes would have been present if the intervention was completed. However, we did conduct exploratory analyses comparing those in the intervention condition who did versus did not engage with any of the writing tasks. These two subsamples did not significantly differ in self-compassion scores at post-intervention ($t[32] = -1.30$, $p = .202$) or follow-up ($t[27] = -1.11$, $p = .277$), suggesting that the self-compassion intervention may have been ineffective regardless of the dose.

The Impact of the Intervention on TB and PB

While self-compassion scores demonstrated small changes in both studies, TB and PB scores did not change consistently. TB scores decreased over time in Study 2 (but not Study 1), indicating that the study activities may have increased feelings of belongingness in this sample. This finding is consistent with prior research demonstrating correlations between self-compassion and belongingness (Dolezal et al., 2021; Fang, 2020). The significant decreases in TB only in the RCT could indicate that compassion-based learning and activities only result in changes in TB for certain populations. Although self-compassion and PB also have been associated in the literature (Dolezal et al., 2021; Fang, 2020), it is possible that the interventions used in the current study are better suited for

targeting TB than PB. Importantly, however, decreases in TB scores were not specific to the self-compassion writing intervention and such decreases may reflect regression to the mean. Indeed, given our recruitment strategy, participants included in the RCT tended to have higher PB and TB scores at baseline compared to other student populations and any decreases in TB over time may reflect natural increases in feelings of belongingness over time.

Strengths and Limitations

The current study has several strengths to acknowledge. We developed and piloted the video used in the intervention, producing an accessible video for self-compassion psychoeducation. Further, we included two studies to examine the effectiveness of this intervention. Specifically, having an open trial to examine acceptability and initial effects and an RCT to compare the intervention to control conditions, increase understanding of the impact of this intervention. Finally, our RCT employed a strong research design, as it involved pre-screening, random assignment to group, two strong control conditions that incorporated different aspects of the intervention, and multiple assessments.

Importantly, there were also notable limitations. First, the samples in both studies were undergraduate students. Although these samples reflected the age group that we aimed to target with these interventions, the findings of this project may not generalize to other samples. Specifically, North American undergraduate student samples tend to be homogeneous in age and education, be of mid to high socioeconomic status, and predominantly white (Henrich et al., 2010). Indeed, our samples had limited ethnic/racial diversity with over half of both samples being White or East Asian. Another limitation is that relatively few participants had complete data for all time points. There was significant

attrition over the course of both studies, which affected statistical power and limited potential follow-up analyses. Although we attempted to oversample to account for attrition, many participants only completed some of the time points. There were also technical issues related to being fully online that occurred throughout the project. Although the procedures were created with many important considerations in mind (e.g., maximizing participant confidentiality, collecting participant information to provide research credits, ensuring repeated access to study activities), the study design was very susceptible to user error. For example, individuals who accessed the Study 2 baseline survey multiple times were then randomized multiple times, with many participants being randomized to multiple conditions. This error required the need to remove data from these participants as they would have received activities for more than one condition. Improved clarity of instructions and better online study procedures may prevent such events from happening in future projects.

Moreover, although we anticipated attrition over time, we did not expect the limited engagement with the study activities. Of those in the open trial, 64% completed any writing task, and of those who were assigned writing tasks in the RCT (i.e., intervention or writing control conditions), only 37% completed any of the tasks. While the intervention was well-received based on feedback in the open trial, the lack of engagement with the writing tasks, particularly in the RCT, suggests that certain aspects of this intervention could be improved. First, the intervention was hosted on Qualtrics (Qualtrics, 2022) and required participants to complete activities in the survey textboxes. It is possible that participants may have been more engaged with the writing tasks had these tasks been in a different format such as on a website or app that was more user-friendly/engaging. Second,

participants were provided links to the study activities via email. It is possible that text or app notifications would be more impactful for accessing and being reminded to complete the study activities. Third, the repetition of the writing tasks may have impacted engagement. The four writing tasks were administered four days in a row and were identical except for the interpersonal construct they focused on (e.g., TB or PB). Increased variation in the writing tasks or additional time in between each task may have made the tasks more enjoyable. Exploring changes to the format could be important for future studies to understand how to make these activities as user-friendly and effective as possible.

In addition to the tasks themselves, the context in which students were completing the tasks may have impacted engagement in the study activities. The samples included undergraduate students recruited from the psychological research participation system, who were completing the study for research credits. Thus, the motivation for most participants to complete the study was to receive research credits rather than to engage in the study for other reasons (e.g., seeking an intervention to help with mental health concerns). Given these limitations, it is difficult to draw strong conclusions about these findings and the overall effectiveness of this intervention.

Conclusions and Future Directions

In summary, the current study contributes to a growing literature on brief, accessible interventions. Results indicate that the intervention examined in this study is no more effective at increasing self-compassion and decreasing TB than watching a psychoeducational video or completing control writing tasks in an undergraduate sample. Future studies should examine if changes to this intervention result in stronger effects that are over and above that of control conditions, or if different intervention elements result in

meaningful differences between conditions. Accessible interventions that can significantly increase self-compassion and decrease TB and PB can be an important alternative to existing interventions; however, more research is needed to determine how to develop such an intervention that demonstrates meaningful effects.

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Appendices

Appendix A: Institutional Review Board Approval for Study 1

Date: 8 July 2021

To: Dr Lindsay Bodell

Project ID: 119193

Study Title: An Examination of Two Different Self-Compassion Interventions

Short Title: SC Pilot Project

Application Type: NMREB Initial Application

Review Type: Delegated

Full Board Reporting Date: August 6 2021

Date Approval Issued: 08/Jul/2021 20:24

REB Approval Expiry Date: 08/Jul/2022

Dear Dr Lindsay Bodell

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. **All other required institutional approvals and mandated training must also be obtained prior to the conduct of the study.**

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Daily_Writing_Draw_Entry 2021.05.06	Online Survey	06/May/2021	1
Pilot_Daily_Writing_Task_PB 2021.05.06	Online Survey	06/May/2021	1
Pilot_Daily_Writing_Task_TB 2021.05.06	Online Survey	06/May/2021	1
Single_Session_Psychoeducation_Video_Group_Compensation_Info_Entry 2021.05.06	Online Survey	06/May/2021	1
Single Session Psychoeducation Video Group Debriefing 2021-05-06	Debriefing document	06/May/2021	1
Single Session Psychoeducation Video Group SONA Recruitment 2021.05.06	Recruitment Materials	06/May/2021	1
Daily_Writing_Baseline_Compensation_Entry 2021.05.05	Online Survey	06/May/2021	1
Daily_Writing_Postintervention_Compensation_Entry 2021.05.06	Online Survey	06/May/2021	1
Psychoeducation Video Transcript 26.06.2021	Other Data Collection Instruments	26/Jun/2021	2
SC Pilot Project Protocol Outline 26.06.2021	Protocol	26/Jun/2021	2
Daily Writing Group Debriefing 26.06.2021	Debriefing document	26/Jun/2021	2
Daily Writing Tasks SONA Recruitment 26.06.2021	Recruitment Materials	26/Jun/2021	2
Daily Writing Group Consent Form 29.06.2021	Implied Consent/Assent	29/Jun/2021	2
Single Session Psychoeducation Video Group Consent Form 29.06.2021	Implied Consent/Assent	29/Jun/2021	2

Pilot_Daily_Writing_Group_Baseline_Assessment 29.06.2021	Online Survey	29/Jun/2021	2
Pilot_Single_Session_Psychoeducation_Video_Group_Study 29.06.2021	Online Survey	29/Jun/2021	2
Pilot_Daily_Writing_Group_Postintervention_Assessment 26.06.2021	Online Survey	26/Jun/2021	2
PB Writing Task Email Script 29.06.2021	Recruitment Materials	29/Jun/2021	1
PB Writing Task Reminder Email Script 29.06.2021	Recruitment Materials	29/Jun/2021	1
Postintervention Survey Email Script 29.06.2021	Recruitment Materials	29/Jun/2021	1
TB Writing Task Email Script 29.06.2021	Recruitment Materials	29/Jun/2021	1
TB Writing Task Reminder Email Script 29.06.2021	Recruitment Materials	29/Jun/2021	1

Documents Acknowledged:

Document Name	Document Type	Document Date	Document Version
Resources 2021.04.28	Other Materials	28/Apr/2021	1

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson , Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix B: Self-Compassion Writing Task (Neff et al., 2020)

Self-Compassionate Mindstate Induction

[Bolded text in brackets is information for researchers only. Note hat the examples of self- compassionate writing given below should be changed so that they are appropriate for the cultural context of participants and the purposes of the study.]

Please think about a particular situation you are experiencing right now that is painful or difficult. It could be some struggle in your life, or perhaps you are feeling inadequate in some way. Please don't think of a situation in which you are upset with someone else, but instead think of a situation where you are feeling badly about yourself or else you are going through a hard time. Decide on a single situation that you will focus on throughout this study.

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this painful or difficult situation.

[1. Mindfulness writing prompt]

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

In the space below, please write about what thoughts and emotions are coming up for you right now regarding this difficult situation.

Note any uncomfortable emotions you may have, such as feeling stressed, ashamed, sad, anxious, and so on.

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

(For example, "*I feel frustrated about the fact that my mom doesn't understand why I don't want to come home for Thanksgiving. It's only natural that I want to spend time with my friends. I also feel guilty though because I don't want to hurt her feelings. This is really hard for me right now...*")

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

[SPACE FOR WRITING]

[2. Common humanity writing prompt]

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

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

(For example, "*I am not the only one who struggles with these types of holiday situations. Part of being human is learning how to get through times like these. Most people have a difficult transition when they go away to college. It's not just me...*")

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

[SPACE FOR WRITING]

[3. Self-kindness writing prompt]

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

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

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

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

[SPACE FOR WRITING]

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

Notice if anything is particularly comforting or helpful.

Take a few slow, deep breaths as you read your own words. Let yourself receive this support.

Appendix C: Psychoeducational Video Transcript

(Text in **bold** appears on screen, text that is *italicized* is spoken)

Self-Compassion

This short video is going to provide information on a concept called self-compassion and explain how self-compassion can be used in your everyday life.

What is self-compassion?

- **A way of responding to yourself during difficult times**
- **Being open and kind to yourself**
- **Treating yourself like a friend**

First, let's talk about what self-compassion is. When you're having a bad day, there are many different ways of reacting and responding to the difficulties you're going through. Self-compassion is one way of treating yourself when you are experiencing any sort of pain or difficulties. It involves being open and kind to yourself, being aware and sensitive to the pain you're going through, and wanting to reduce your own suffering through kindness. A good way to think about it is treating yourself as you would a friend.

The three parts of self-compassion:

- **Self-Kindness**
- **Common Humanity**
- **Mindfulness**

There are three main parts of self-compassion. The first part is self-kindness. This means treating yourself with kindness and understanding, and not being judgmental towards yourself. The second part of self-compassion is common humanity. This means recognizing that pain is a universal experience, and you're not alone. Everyone experiences difficulties in life, and everyone deserves compassion when they're going through something painful. The last part is called mindfulness. This means being aware of and acknowledging the current situation that is causing you pain and viewing it with balance, rather than minimizing or overexaggerating it.

Self-compassion ≠ self-indulgence

Self-compassion is not the same as being overly self-indulgent or passive. Self-compassion involves not judging yourself for your mistakes, but that doesn't mean that mistakes go unaddressed. Self-compassion actually helps people improve and grow,

because it motivates them to be the best version of themselves. Self-compassion is a healthy way of responding that helps you to acknowledge pain and mistakes, but not be consumed with them or treat yourself harshly because of them.

Self-compassion ≠ self-esteem.

Self-compassion also is not the same thing as self-esteem. Self-esteem involves comparing yourself to other people and basing your value on that comparison. Self-compassion, on the other hand, involves a non-judgmental view that you deserve kindness and compassion regardless of anything you do or say.

Why is self-compassion important?

- **Healthy way of coping**
- **Associated being happy, being motivated and life satisfaction**
- **Self-criticism can lead to feeling anxious or depressed**
- **Reduces fear of failure**

So why is self-compassion important? There is a lot of research that shows that self-compassion is a really healthy way of coping with difficulties, and self-compassion is associated with better wellbeing, being happier, being motivated and feeling more satisfied with life. Being self-critical, which is the opposite of self-compassion, is associated with many negative things, such as feeling anxious or depressed. Being self-critical can make these feelings worse, while being self-compassionate can relieve these negative feelings. Lastly, self-compassionate people aren't scared of failure because it doesn't affect the compassion that they feel for themselves., Because failure is no longer scary, self-compassionate individuals are more likely to take on new challenges, are more likely to stick with a task that they're trying to accomplish and are less like to procrastinate

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What does self-compassion look like?

- **Anyone can do it!**
- **Treating yourself like a friend**
- **Can be formal or informal**

What does self-compassion look like? Anyone can practice self-compassion, it is a skill that can be learned. Self-compassion involves treating yourself the same way you would treat a friend. Practicing self-compassion can be formally sitting down to write compassionately towards yourself or practicing meditation, or it can be informal and simply changing how you speak to yourself on a daily basis when you're experiencing something difficult. Overall, self-compassion involves being kind and open towards yourself.

Meet Claire

1. **Self-Kindness**
2. **Common Humanity**
3. **Mindfulness**

Now we're going to talk through an example of what self-compassion looks like. This is Claire, she's an undergraduate student looking for a job for the summer, and she just got rejected from the third job interview in a row. She is feeling very self-critical of herself, because she feels like she should've gotten a job by now. She recently learned about self-compassion and is going to try using it in this situation.

First, Claire treats herself kindly and without judgement, and reminds herself that she isn't a bad person for not getting the most recent job she interviewed for. She tells herself that it's okay to feel disappointed about the situation, and she deserves compassion because trying to find a job and dealing with disappointment is difficult

Second, Claire reminds herself that everyone experiences difficulties. She's not the only person in the world who is having a hard time finding a job, and everyone experiences rejection and disappointment sometimes.

Lastly, Claire tries to be mindful and balanced in how she views the situation. She acknowledges that just because she didn't get this job doesn't mean she will never get a job, and not getting this job doesn't mean she can't keep trying. She decides that she is going to ask a friend to practice an interview with her to see if there is anything she can improve on.

Overall, through treating herself in a self-compassionate way instead of being self-critical, Claire feels better about herself, is more motivated to continue searching for a job, and she stopped blaming herself for dealing with something difficult.

Thank you!

Thank you for watching this brief video on self-compassion.

Appendix D: Institutional Review Board Approval for Study 2

Western Research

Date: 2 November 2021

To: Dr Lindsay Bodell

Project ID: 118669

Study Title: An Examination of the Impact of a Brief Self-Compassion Intervention on Thwarted Belongingness and Perceived Burdensomeness

Short Title: Comparing Three Psychological Wellbeing Interventions

Application Type: NMREB Initial Application

Review Type: Delegated

Meeting Date: 03/Sep/2021 12:30

Date Approval Issued: 02/Nov/2021 17:56

REB Approval Expiry Date: 02/Nov/2022

Dear Dr Lindsay Bodell

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. **All other required institutional approvals and mandated training must also be obtained prior to the conduct of the study.**

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Psychoeducation Video Transcript 26.06.2021	Other Data Collection Instruments	26/Jun/2021	1
Intervention_Study_Draw_Entry 04.08.2021	Online Survey	04/Aug/2021	1
Intervention_Study_SONA_and_Draw_Entry 04.08.2021	Online Survey	04/Aug/2021	1
Intervention_Study_SONA_Entry 04.08.2021	Online Survey	04/Aug/2021	1
1 mo. Follow-Up Survey Email Script 03.08.2021	Recruitment Materials	03/Aug/2021	1
Postintervention Survey Email Script 03.08.2021	Recruitment Materials	03/Aug/2021	1
Protocol Outline 02.10.2021	Protocol	02/Oct/2021	2
Intervention_Study_Neural_TB_Writing_Task_1 02.10.2021	Online Survey	02/Oct/2021	2
Intervention_Study_Neutral_PB_Writing_Task_2 02.10.2021	Online Survey	02/Oct/2021	2
Intervention_Study_Neutral_PB_Writing_Task_4 02.10.2021	Online Survey	02/Oct/2021	1
Intervention_Study_Neutral_TB_Writing_Task_3 02.10.2021	Online Survey	02/Oct/2021	1
Intervention_Study_PBSC_Writing_Task_4 02.10.2021	Online Survey	02/Oct/2021	1
Intervention_Study_PBSC_Writing_Task_2 02.10.2021	Online Survey	02/Oct/2021	2
Intervention_Study_TBSC_Writing_Task_1 02.10.2021	Online Survey	02/Oct/2021	2
Intervention_Study_TBSC_Writing_Task_3 02.10.2021	Online Survey	02/Oct/2021	1
Intervention_Study_Intervention_Group_Baseline_Battery 02.10.2021	Online Survey	02/Oct/2021	2
Intervention_Study_Psychoeducation_Control_Group_Baseline_Battery 02.10.2021	Online Survey	02/Oct/2021	2

Intervention_Study_Writing_Control_Group_Baseline_Battery02.10.2021	Online Survey	02/Oct/2021	2
Intervention_Study_Postintervention_Assessment 02.10.2021	Online Survey	02/Oct/2021	2
Debriefing Form 06.10.2021	Debriefing Letter	06/Oct/2021	1
SONA Recruitment 06.10.2021	Recruitment Materials	06/Oct/2021	2
Intervention_Study_1mo_Follow-Up_Assessment 06.10.2021	Online Survey	06/Oct/2021	2
Writing Task Email Script 06.10.2021	Recruitment Materials	06/Oct/2021	2
Writing Task Reminder Email Script 06.10.2021	Recruitment Materials	06/Oct/2021	2
Intervention Group Consent:LOI Form 06.10.2021	Written Consent/Assent	06/Oct/2021	2
Writing Control Group Consent:LOI Form 06.10.2021	Written Consent/Assent	06/Oct/2021	2
Psychoeducation Control Group Consent:LOI Form 01.10.2021	Written Consent/Assent	01/Oct/2021	2
Intervention_Study_Baseline_Entry_Survey 08.10.2021	Online Survey	08/Oct/2021	2

Documents Acknowledged:

Document Name	Document Type	Document Date	Document Version
Supplemental Procedure Table 07.26.2021	Supplementary Tables/Figures	26/Jul/2021	1
Intervention_Study_Prescreen 04.08.2021	Screening Form/Questionnaire	04/Aug/2021	1
Resources 04.08.2021	Other Materials	04/Aug/2021	1

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson , Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix E: Control Writing Task (Neff et al., 2020)

Control Condition

[Bolded text in brackets is information for researchers only. Note that the examples of self- compassionate writing given below should be changed so that they are appropriate for the cultural context of participants and the purposes of the study.]

Please think about a particular situation you are experiencing right now that is painful or difficult. It could be some struggle in your life, or perhaps you are feeling inadequate in some way. Please don't think of a situation in which you are upset with someone else, but instead think of a situation where you are feeling badly about yourself or else you are going through a hard time. Decide on a single situation that you will focus on throughout this study.

We would now like you to take part in a brief exercise, to see if it is helpful in dealing with this painful or difficult situation.

[1. Description writing prompt]

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

In the space below, please write about what exactly is occurring in this difficult situation. Try to be as descriptive as possible.

(For example, *"Our family is having an argument about whether or not I should go home for Thanksgiving break. I want to stay in Austin but my mother feels upset because...*)

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

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

[SPACE FOR WRITING] [2. People involved writing prompt]

(For example, *"My mother, sister, and brother are taking different sides in the dispute over Thanksgiving. My brother supports me, but my sister doesn't. My sister is two years older and my brother one year younger...* ")

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

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

(For example, "*I told my mom that I really didn't want to come back for Thanksgiving and that I wanted to rest and hang out with my friends. She told me that I should think of her feelings more...*")

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

[SPACE FOR WRITING]

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

[Compliance check]

Curriculum Vitae

GENEVIEVE BIANCHINI, B.A. (Hons.)

EDUCATION

2022 **Western University, London, ON**
Candidate for Master of Science, Clinical Psychology
Supervisor: Dr. Lindsay Bodell, Ph.D.

2019 **Queen's University, Kingston, ON**
Bachelor of Arts Honours (Psychology) with Distinction
Honours Thesis Supervisor: Dr. Jeremy Stewart, Ph.D.

SCHOLARSHIPS AND GRANTS

2022/23 **Graduate Research Awards Fund**
Western University
Amount: $525 CAD

2021/22 **Social Sciences and Humanities Research Council of Canada**
Canadian Graduate Scholarship, Master's
Amount: $17,500 CAD

2021/22 **Graduate Research Awards Fund**
Western University
Amount: $750 CAD

2020/21 **Ontario Graduate Scholarship**
Western University
Amount: $15,000 CAD

2016 **William Mitchell Silliman Scholarship**
Queen's University
Amount: $1645 CAD

HONOURS AND AWARDS

Dean's Honour List, Queen's University
2016, 2018

Dean's Honour List with Distinction, Queen's University
2015, 2017

Dean's Special Award, Queen's University
2016, 2018

PEER-REVIEWED JOURNAL ARTICLES

Holden, R. R., Lambert, C. E., **Bianchini, G.**, Wong, R. E., Towheed, S., Yeung, C., & Fekken, G. C. (2018). Response surface modeling of how love mitigates the association between a need to belong and suicidality. *Personality and Individual Differences, 134*, 210-213. https://doi.org/10.1016/j.paid.2018.06.025

CONFERENCE PRESENTATIONS

Bianchini, G., & Bodell, L. (2022, June). *A longitudinal examination of the impact of self-compassion on thwarted belongingness, perceived burdensomeness, and suicidal ideation.* Presentation accepted to the annual Canadian Psychological Association convention, Calgary, AB, Canada.

Bianchini, G., Ochshorn, S., & Bodell, L. (2022, June). *Developing a psychoeducational self-compassion video: A pilot study*. Presentation accepted to the annual Canadian Psychological Association convention, Calgary, AB, Canada.

Bianchini, G., Schmidt, K. M., & Bodell, L. (2022, June). *Examining the effectiveness of a brief self-compassion intervention on thwarted belongingness and perceived burdensomeness.* Poster accepted to the Suicide Research Symposium, Virtual.

Bianchini, G., Schmidt, K. M., & Bodell, L. (2022, November). *Eating pathology improves with a brief, self-compassion intervention.* Poster accepted to the annual Association for Behavioral and Cognitive Therapies Convention, New York City, NY, USA.

Heisel, M. J., Vandermeer, M. R. J., Hocke, R., Cha, Y. C., **Bianchini, G.,** Ali, S., & Yeschin, M. (2022, May). *The Geriatric Suicide Ideation Scale: A Systematic Review & Psychometric Meta-Analysis*. Poster presented at the National Conference on Suicide Prevention, Montreal, QC, Canada.

Vandermeer, M. R. J., Heisel, M. J., Hocke, R., Cha, Y., **Bianchini, G.,** Ali, S., & Yeschin, M. (2022, June). *The Geriatric Suicide Ideation Scale: A Systematic Review & Psychometric Meta-Analysis*. Poster accepted to the annual Canadian Psychological Association convention, Calgary, AB, Canada.

Kinnear, A., **Bianchini, G.,** & Bodell, L. P**.** (2021, June) *Functions of Eating Disorders During COVID-19: A Qualitative Study of Individuals with Eating Disorder Behaviors and Clinicians who Treat Eating Disorders.* Poster presented at the annual International Conference for Eating Disorders, Virtual.

Holden, R. R., Ramadan, Z., Lambert, C. E., **Bianchini, G.**, Yeung, C., Wong, R. E., Towheed, S., & Fekken, G. C. (2018, July). *Incorporating retest stability into personality scale construction*. Poster presented at the annual Canadian Psychological Association convention, Montreal, QC, Canada.

RESEARCH EXPERIENCE

Schulich Medical School, Western University **2021 - Present**
Supervisor: Dr. Marnin Heisel
Research Assistant

- Contributing to lab projects (i.e., systematic review, suicide intervention studies)
- Assisting in research dissemination (i.e., suicide prevention research seminar series)

LoveLab, University of Calgary **2017 - Present**
Supervisor: Dr. Susan Boon
Research Assistant

- Responsible for administration of various studies and participant debriefing
- Assisting in qualitative data analysis

TEACHING EXPERIENCE

PSYCHOL2310 Abnormal Psychology **2021**
Teaching Assistant

- Led and graded weekly tutorials covering topics in clinical psychology
- Provided additional support to students (e.g., explaining course material and assignments)

PSYCHOL1000 Introduction to Psychology **2020**
Teaching Assistant

- Led weekly tutorials covering topics in psychology
- Provided additional support to students (e.g., explaining course material and assignments)

VOLUNTEER AND WORK EXPERIENCE

Canadian Mental Health Association – London/Middlesex **2022 - Present**
Support Line Volunteer

- Complete initial and ongoing training on providing support to callers
- Provide confidential listening and emotional support to callers
- Complete detailed documentation of calls

Sexual Health Resource Centre **2015 - 2019**
Executive

- Provided information and confidential support to clients
- Completed accompaniments for sexual assault survivors to hospital Sexual Assault Unit
- Delivered sexual health education in schools, residences, and community centres

UNIVERSITY INVOLVEMENT

Western Undergraduate Psychology Journal
2022
Graduate Reviewer

- Review and make recommendations for submitted manuscripts
- Provide feedback for authors on how to improve their submissions

Clinical Student Advisory Committee **2021 - Present**
Graduate Student Representative
- Advocating for graduate student needs by acting as a liaison between students and faculty
- Involved with coordination of the annual clinical proseminar series

Clinical Psychology Equity, Diversity, and Inclusion Committee **2021 - Present**
Member
- Contributing to initiatives targeting underrepresented groups including developing a guide to applying to clinical psychology, developing a clinical mentorship program, and conducting information sessions about clinical psychology
- Development of project proposals for committee initiatives

Equity, Diversity, and Inclusion Committee of Graduate Students in Psychology **2021 - Present**
Member
- Advocating for the success and wellbeing of underrepresented students
- Reviewing and contributing to committee project proposals