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Online Self-Compassion Training vs. Expressive Writing:
A Randomized Controlled Trial

Lauren Benyo Linford

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

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ABSTRACT

Online Self-Compassion Training vs. Expressive Writing: A Randomized Controlled Trial

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Doctor of Philosophy

Self-compassion is associated with a variety of positive outcomes including well-being and positive body image. There is a need for accessible online self-compassion resources that can be disseminated to the general public. This study examined the efficacy of The Gift of Self-Compassion course (GSC): a 30-day internet-delivered self-compassion training within a non-clinical general population sample. Outcomes examined were self-compassion, well-being, and body dissatisfaction. Using a randomized controlled design, this study compared the GSC to an expressive writing (EW) curriculum. Participants were 215 adults from the general population. Seemingly unrelated regression models were used to estimate treatment differences between groups as well as the relationship between usage and outcome. Compared to control participants, GSC participants reported significantly greater improvements in self-compassion and well-being, but not measures of affect or body dissatisfaction. Our hypothesis that usage would impact outcomes was only partially supported.

Keywords: self-compassion, online intervention, well-being, body image, mindfulness

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Online Self-Compassion Training vs. Expressive Writing: A Randomized Controlled Trial

Research has found self-compassion to be associated with a number of positive psychological outcomes including general well-being and healthy body image (Barnard & Curry, 2011). An increasing number of self-compassion intervention studies demonstrate that it can be a learnable skill (Ferrari et al., 2019). However, there remains an increasing need for effective, efficient, and accessible self-compassion resources outside of clinical treatment settings (i.e., evidence-based training that is self-directed, available online, and sufficiently engaging). Linford and Warren (2022) examined one such online self-compassion curriculum using a randomized waitlist control design, finding medium to large effect sizes for self-compassion skills, subjective well-being, and body image. The purpose of the present study was to replicate and extend these findings using an expanded online curriculum (the Gift of Self-Compassion Course; GSC), an active comparison group, and other improvements in study rigor. Given the extensive evidence for self-compassion promoting a variety of positive outcomes, increased access to effective online self-compassion resources could yield significant improvements in human well-being.

What is Self-Compassion?

Over the last two decades, there has been a surge of research on self-compassion in western psychology (Bluth & Neff, 2018). Self-compassion is broadly defined as an awareness of one's own suffering (whether mental, emotional, or physical) and an inclination to relieve that suffering (Neff, 2003a). To practice self-compassion is to offer oneself kindness, support, and understanding while experiencing suffering. Such suffering might result from general difficulty (e.g. challenges, mistakes, failure, wrongdoing, etc.) whether self-inflicted or otherwise. To more clearly illustrate the concept of self-compassion, it can be useful to consider what it means to

demonstrate compassion toward someone else. This involves 1) recognizing and acknowledging the suffering or plight of another and 2) feeling moved to minimize the suffering (Neff & Germer, 2017). For example, imagine that a passerby is walking down the street and witnesses a child fall off his bicycle. A compassionate response would involve 1) acknowledging the child's plight rather than ignoring it or simply walking past and 2) making an effort to relieve the suffering of the child by offering some form of aid. Much like this benevolent passerby, those who are high in self-compassion are able to acknowledge and respond compassionately to their own suffering by offering themselves kindness, support, or soothing as they endure difficulty. Those who are self-compassionate refrain from harshly judging themselves for weaknesses or personal failings and are able to seek support from others as needed (Neff & Germer, 2017). Although the concept of self-compassion has existed for centuries in Eastern philosophy, the construct was first introduced in the psychological literature within the last two decades (Neff, 2003a; Gilbert, 2009; Brach, 2017; Germer, 2009)

A number of researchers have contributed to the emergence of self-compassion in the psychology literature. Paul Gilbert's (2009) research on self-compassion, which draws from evolutionary theory, has emphasized how compassion can help to provide soothing and regulate threat responses. Other researchers including Tara Brach (2017) and Chris Germer (2009) have developed and studied the effects of mindfulness-based self-compassion interventions. Not least of all, Kristin Neff (2003a) has contributed significantly to the conceptualization and measurement of self-compassion. A significant portion of the self-compassion literature uses Neff's (2003a) tripartite conceptualization of the construct comprising the domains of self-kindness, common humanity, and mindfulness.

Self-Kindness

The first domain of self-compassion, self-kindness, is a trait that involves treating oneself with supportive kindness (Neff, 2003a). Referring back to the example of the child on a bike, a compassionate response might involve treating the child kindly by helping the child get back up or providing words of encouragement. Practicing self-kindness means responding to one's own difficulties with gentleness, encouragement, and understanding. Much like the child who falls off the bike, we all experience difficulties, challenges, pain and personal failures that need to be met with kindness. Regardless of whether the difficulty was self-inflicted or a result of circumstances outside of one's control, this kindness is extended unconditionally. The conceptual opposite of self-kindness is self-judgement. Those who are low in self-kindness tend to berate or blame themselves unnecessarily and attribute their difficulties to their own weaknesses and personal failings (Neff, 2003b).

Common Humanity

The second component, common humanity, is an overarching understanding that suffering is a shared human experience and an opportunity for connection. It is an acceptance of the fact that all humans are imperfect and subject to pain and suffering (Neff, 2003a). For example, the person passing the child does not think poorly of the child for falling off the bike; they are able to recognize the pain that the child is enduring as a normal human experience and can empathize with this feeling. Likewise, one who practices self-compassion is able to recognize his or her own difficulties, misfortunes, or failings as part of what it means to be human. As one comes to recognize the humanity in suffering, he or she is more likely to reach out for support and understanding from others. The conceptual opposite of common humanity is isolation. Those low in self-compassion may view their own struggles, misfortunes, and weaknesses as a source of shame and feel they are unique and alone in their suffering. This may

lead them to isolate and avoid being vulnerable with others who, to them, seem to be living much easier or happier lives. Conversely, those who are self-compassionate are more likely to seek social support while passing through struggles. They find that strong connection can occur not just in spite of vulnerability and struggle, but through it (Neff & Germer, 2017).

Mindfulness

According to Neff's conceptualization, the third domain of self-compassion, mindfulness, is defined as a non-judgmental awareness and acceptance of one's own suffering (Neff, 2003a). The first step to acting compassionately is to acknowledge suffering; without recognition in the moment, one cannot provide compassion as needed. Referring back to the example of the child on the bicycle, a compassionate response would involve recognizing and acknowledging the suffering of the child and responding in a non-judgmental manner. Those who are self-compassionate are presently in tune with their own individual experience; they are able to nonjudgmentally recognize, acknowledge, and create space for difficult thoughts and feelings. The conceptual opposite of mindfulness is known as over-identification; this involves avoiding difficult thoughts and emotions or becoming overwhelmed by such painful experiences. The self-compassionate individual is able to hold these difficult thoughts and feelings in balanced awareness without avoiding them or becoming overwhelmed (Neff & Germer, 2017).

Measuring Self-Compassion

Over the last two decades, an ever-growing wealth of self-compassion research has materialized. Neff's Self-Compassion Scale (SCS; 2003b) and its abbreviated form have contributed significantly to the unification of this body of research as its use has been ubiquitous throughout the literature (Neff, 2016). The SCS is a self-report measure of trait self-compassion comprising six subscales based on Neff's (2003a) three theoretical components of self-

compassion (self-kindness, mindfulness, and common humanity) and their opposite counterparts which, she argues, represent the absence of these components (self-judgement, over-identification, and isolation).

The use of the SCS, however, has not been without controversy (Barnard & Curry, 2011; Ferrari et al., 2019). Recent critics have argued that self-compassion is not a new construct but rather a lack of neuroticism (Pfattheicher et al., 2017). In response, Neff argues that although self-compassion is negatively correlated with neuroticism, it is a distinct construct that represents one's ability to deal with distressing experiences adaptively; whereas self-compassion is a mechanism for managing distress, neuroticism is an outcome that can be associated with a lack of such a mechanism (Neff et al., 2018). Others have argued against the use of a self-compassion total score citing evidence that although the 6-factor structure was able to be reproduced, a higher order self-compassion factor failed to replicate (Hupfeld & Ruffieux, 2011; Petrocchi et al., 2014). Because of these stipulations, some researchers have opted to interpret subscale scores rather than a self-compassion total score (Petrocchi et al., 2014). However, a reliable and valid alternative to the SCS has not yet emerged to prominence.

Self-Compassion and Well-Being

The principal finding from the ever-growing body of literature is that self-compassion is positively associated with well-being and negatively associated with psychopathology (Neff & Germer, 2017). Specifically, cross-sectional research has linked self-compassion to a variety of positive outcomes, ranging from psychological functioning to emotional and social outcomes. A meta-analysis of 79 samples ($N = 16,416$) found a significant correlation between self-compassion and well-being ($r = .49$, 95% CI [.44, .49]; Zessin et al., 2015). This relationship has been documented in varying diverse samples (Allen et al., 2012; Jeon et al., 2016; Raque-

Bogdan & Hoffman, 2015; Toplu-Demirtaş et al., 2018). Similarly, self-compassion has been found to be positively associated with positive affect and negatively associated with negative affect (Barnard & Curry, 2011). Other studies have found it to be inversely correlated with negative emotional states such as depression and anxiety (Barnard & Curry, 2011; Neff et al., 2007). Furthermore, among individuals who were depressed, self-compassion predicted lower symptom severity and greater quality of life (Van Dam et al., 2011). Self-compassion has even been linked to physiological measures related to well-being. For example, those high in self-compassion have been found to exhibit a lower physiological stress response (Bluth et al., 2016; Homan & Sirois, 2017). A few studies have also found self-compassion to be positively associated with health promoting behaviors and general physical health (Brown et al., 2016; Homan & Sirois, 2017).

In addition to a cross-sectional association between self-compassion and well-being, research has found self-compassion interventions to have positive treatment effects on well-being. Such interventions have been found to have small to medium effects on well-being ($d=.51$) and life satisfaction ($g=.40$) (Ferrari et al., 2019; Kirby et al., 2017).

Various conceptualizations of well-being have been conceived; however, the most prominent in the psychological literature are subjective well-being and eudaimonic well-being (Zessin et al., 2015). Subjective well-being comprises both affective well-being (i.e. the level of experienced positive versus negative affect) and life satisfaction (i.e. a cognitive evaluation of one's own life) (Pavot et al., 1997; Zessin et al., 2015). Eudaimonic well-being consists of a sense of personal fulfillment and living life in a meaningful way (Ryan & Deci, 2001). There is evidence that self-compassion predicts measures of each of these conceptualizations of well-being (Zessin et al., 2015). The theoretical relationship between self-compassion and well-being

may be explained differently for each of these conceptualizations. From an affective framework, there is evidence to suggest that self-compassion works as an emotion regulation strategy; extending oneself compassion can effectively regulate negative emotions such as sadness, anger, or worry (Diedrich et al., 2014; Zessin et al., 2015). Self-compassion may also boost reported life satisfaction as it involves minimizing harsh judgements and criticism toward oneself, thus resulting in a more favorable view of one's life (Zessin et al., 2015). Lastly, from a eudaimonic perspective of well-being, self-compassion may foster resilience and enable the individual to persist through failures more adaptively, thus allowing the individual to achieve more of what is important to them and attain a greater sense of fulfillment (Zessin et al., 2015).

Self-Compassion and Body Dissatisfaction

There is a substantial body of evidence supporting self-compassion as a protective factor against body dissatisfaction, a highly prevalent concern in Western society, particularly among women (Turk & Waller, 2020; Braun et al., 2016). Because Western culture has long valued a thin physique, one's conformity to this standard has become a common area of self-evaluation. Body dissatisfaction occurs when an individual negatively evaluates his or her own body and perceives a discrepancy between his or her current and ideal body type (Ferreira et al., 2013). Body dissatisfaction is a well-established risk factor for eating pathology and is positively associated with psychological distress and negatively associated with well-being (Johnson & Wardle, 2005; Striegel-Moore & Bulik, 2007).

A recent meta-analytic review by Turk & Waller (2020) examined the literature on the relationship between body image and self-compassion. Across 59 studies, self-compassion was associated with fewer body image concerns ($r = -0.45$) as well as greater positive body image ($r = .52$). Self-compassion was also associated with lower eating pathology ($r = -0.34$) (Turk &

Waller, 2020). A separate review which examined 28 studies found self-compassion to be a protective factor against body dissatisfaction and eating concerns (Braun et al., 2016).

In addition to supporting the relationship between self-compassion and body image, a number of studies have provided evidence that self-compassion interventions are an effective means to improve body image disruption (Burychka et al., 2021). Turk and Waller's (2020) random-effects meta-analysis suggested that self-compassion interventions had medium to strong effects on eating pathology ($g = 0.58$) and body image disruption ($g = 0.39$) compared to control groups. Similarly, a daily diary study found that individuals who responded to self-perceived physical flaws in self-compassionate ways experienced less body shame, concern for weight gain, and self-punishment for eating behaviors (Breines & Chen, 2012). Another study administered online guided self-compassion meditations and found that participants reported significant improvements in self-compassion and body dissatisfaction compared to a waitlist (Albertson et al., 2015). Rodgers and colleagues (2018) implemented a mobile-based app using self-compassion principles and practices intended to improve body image within an adolescent population. The study found a time by group interaction for appearance self-esteem, with intervention participants reporting greater improvements compared to a waitlist control group (Rodgers et al., 2018).

One proposed mechanism through which self-compassion may assuage body dissatisfaction involves social factors. As mentioned previously, Western society greatly values thin body shape and associates it with desirable factors such as happiness, power, and social success (Strahan et al., 2006). Consequently, body shape has become a significant criterion whereby individuals evaluate both themselves and others (Ferreira et al., 2013). It is theorized that body dissatisfaction has social evolutionary underpinnings; seeking to control one's weight

may function as a strategy to increase social competence (e.g. being accepted or viewed as attractive by others) (Ferreira et al., 2013; Goss & Gilbert, 2002). Among women who experience high levels of shame and low perceived social rank, Goss and Gilbert (2002) asserted that body dissatisfaction and accompanying disordered eating function to regulate negative affect such as fear of group rejection. Conversely, self-compassion is a more adaptive method of regulating threat. Rather than seeking group safety, the individual provides their own feeling of safety and comfort without experiencing body dissatisfaction, distress, or the negative physical consequences associated with disordered eating (Ferreira et al., 2013; Gilbert, 2019). Practicing self-compassion toward one's body involves holding negative body-related thoughts and feelings in non-judgmental awareness and responding to such experiences with kindness and gentleness. It also involves a recognition of such feelings towards one's body as a common experience shared by many people and understanding that one's worth is not contingent upon body shape (Ferreira et al., 2013). As practicing self-compassion functions to reduce the perceived threat of group rejection, it may consequently mitigate the desire to conform to such a standard and decrease feelings of body dissatisfaction. Others have hypothesized that self-compassion improves body dissatisfaction by increasing a sense of connection with one's own body which, in turn, decreases one's tendency toward self-objectification (Piran, 2015; Burychka et al., 2021).

Self-Compassion Interventions

From its origination in the psychological literature, self-compassion has typically been conceptualized as a trait associated with self-compassionate behaviors; however, an increasing number of experimental studies implementing self-compassion interventions provide evidence that the construct may be a learnable skill. A recent meta-analysis of self-compassion intervention randomized controlled trials (RCTs) found such interventions to yield a medium

sized effect on self-compassion ($g = .75$; CI) (Ferrari et al., 2019). These interventions have been delivered in a number of different formats, including group, individual, and online delivery.

Clinician-Led Interventions

Some of the earliest self-compassion interventions that emerged were clinician-administered in group settings. One such program is Neff and Germer's (2013) Mindful Self-Compassion program (MSC). MSC is an 8-week long group workshop that meets for about 2 hours each week. The program is facilitated by two leaders and is structured similarly to Mindfulness-based Stress Reduction (MBSR). The program utilizes group discussion and experiential exercises and teaches a combination of both formal and informal self-compassion practices (i.e. formal meditations as well as daily life applications). Although the group is geared toward non-clinical populations and is considered a skills training workshop rather than group therapy, one of the leaders is a trained therapist who is able to address clinical concerns in the group (Barnard & Curry, 2011; Neff & Germer, 2013). An RCT examining the effects of MSC found the program to produce a large effect on self-compassion ($d = 1.67$) and a medium effect on life-satisfaction ($d = .51$); effects on self-compassion remained significant at a 6-month and 1-year follow up (Neff & Germer, 2013). Several studies implementing MSC in varying samples have documented similar improvements (Bluth & Eisenlohr-Moul, 2017; Finlay-Jones et al., 2017; Friis et al., 2016).

Another notable early self-compassion intervention was Paul Gilbert's Compassionate Mind Training (CMT; Gilbert & Procter, 2006). CMT is intended primarily for clinical populations with significant psychological suffering. CMT contends that within the mind there is a compassionate pathway and a self-critical pathway and that the two interfere with one another (Ferrari et al., 2019). The primary goals of CMT are to develop compassion and self-soothing as

a skill, foster compassion and understanding toward one's own distress, and to mindfully endure difficult thoughts and emotions (Barnard & Curry, 2011; Gilbert & Irons, 2004). A pilot randomized controlled trial found that those who completed the program reported greater decreases in self-criticism and increases in self-compassion compared to the control group (Gilbert & Procter, 2006). Additionally, an RCT of a shortened version of CMT found that those who completed the program experienced significant increases in positive affect, decreases in symptom distress (i.e. anxiety, depression, stress) and improvements in heart rate variability (Matos et al., 2017).

Mindfulness-based Stress Reduction (MBSR) and Mindfulness-based Cognitive Therapy (MBCT) are two group interventions and programs which also focus on developing self-compassion. Although such programs are focused more broadly on mindfulness in general, they teach self-compassion as a core component. A meta-analysis of 26 studies examining the effects of mindfulness-based programs in nonclinical populations found that these interventions have a combined medium effect on self-compassion ($g = 0.60$) compared to control groups (Golden et al., 2021).

Other clinician-led self-compassion and mindfulness-related interventions have been implemented in individual therapy settings. Examples include interventions used in Acceptance and Commitment Therapy, Compassion-Focused Therapy (CFT), the Gestalt two-chair intervention, Mindfulness-based Stress Reduction (MBSR), and Dialectical Behavior Therapy (DBT). All of these have been associated with increases in self-compassion (Barnard & Curry, 2011).

Online & Self-Help Interventions

Although these clinician-led interventions seem to be quite efficacious, the reach of such models of treatment is small compared to the ever-burgeoning need for mental health services. In fact, the majority of people in need of intervention receive no treatment at all (Kazdin & Blase, 2011a). There are a variety of barriers preventing such treatment delivery methods from being accessible to all those who might benefit from them. Examples of such barriers include the high cost of treatment, difficulty adhering to weekly time commitments, discomfort participating in an in-person setting, health concerns, and more. Disparities in mental health treatment accessibility are glaringly greater depending on one's financial status, gender, age or cultural and racial background (Atkins & Frazier, 2011). The number of people in need of treatment is severely disproportionate to the number of trained clinicians. Furthermore, the concentration of trained clinicians is much higher in more affluent areas where disparities are smaller (Kazdin & Blase, 2011b). One proposition to minimize such disparities is to take a preventative approach to handling mental health and provide the nonclinical general public with therapeutic skills. This approach would involve disseminating highly accessible self-directed resources to the general population in order to teach coping skills and prevent onset of symptom distress.

Because of its association with positive outcomes and well-being, cultivating self-compassion may be greatly beneficial to individuals within the non-clinical general public. One delivery method that allows for scalable, accessible dissemination is self-help. In the mindfulness literature for example, recent studies examining the effectiveness of self-help delivery of mindfulness interventions have reported promising results (Jones et al., 2016). Likewise, various studies have explored the implementation of self-help style self-compassion interventions that can be completed in the absence of a trained clinician. Examples of these self-directed

interventions have been brief writing exercises or guided self-compassion meditations completed outside of a therapy room (e.g. Dundas et al., 2017; Finlay-Jones et al., 2017; Gammer et al., 2020; Krieger et al., 2019; Rodgers et al., 2018; Seekis et al., 2017; Sorensen et al., 2019).

One self-help modality that has become increasingly popular due to its practicality is online delivery. Online resources are particularly advantageous because they can be accessed on demand at the convenience of the user from a computer or a mobile device. This is beneficial for a variety of people such as those who might not be able to access therapy services due to inflexible schedules, childcare needs, high-risk health concerns, etc. Another advantage of online delivery is that it minimizes costs and facilitates accessibility to a greater proportion of people than a finite number of clinicians can reach with face-to-face services (Kazdin, 2017).

A number of online self-help style self-compassion interventions have emerged in recent years yielding positive results (e.g. Krieger et al., 2019; Mak et al., 2018; Shapira & Mongrain, 2010; Talbot et al., 2017). The format of these interventions have ranged from brief, one-time exercises to full-length self-help programs. Existing brief online interventions have implemented a self-compassion exercise or lesson in a single session. Such interventions, however, are limited in content and scope. For example, one brief intervention that has been examined consisted of “two videos and a downloadable tip sheet” (Mitchell et al., 2018; Lennard et al., 2021). Others have implemented a writing exercise or a guided meditation in a single session (Sherman et al., 2019; Butler et al., 2021). Additionally, there is limited data that improvements from single-session interventions endure with time. It is unclear whether additional content and extended practice is needed to produce lasting effects.

Other self-compassion interventions deliver content over a period of days or weeks (e.g. González-García et al., 2021; Rodgers et al., 2018). Some studies have delivered exercises from

CMT or MSC online over the course of weeks and have proven effective at increasing reports of self-compassion (Halamová. et al., 2020a; Halamová et al., 2020b; Halamová et al., 2021; Northover et al., 2021; Drabu et al., 2022). Others have had participants listen to a number of guided meditations over a period of weeks (Amy et al., 2020; Krieger et al., 2019; McEwan et al., 2018).

A number of online self-compassion interventions are in the form of a full-length self-directed course. A few of these programs have been created specifically for particular populations. Nadeau and colleagues (2021) developed Yourself Truly, a 10-week online self-compassion training with content that is specifically for women. This course uses a combination of psychoeducation, video lectures, guided meditations, journaling, and homework assignments to teach users how to be more self-compassionate specifically as it relates to women. A randomized-controlled trial of the program yielded medium effects on self-compassion (Nadeau et al., 2021). Kindness for Mums Online is a similarly formatted self-compassion course directed toward postpartum mothers. Compared to a waitlist control condition, postpartum users reported significantly greater increases in self-compassion with a large effect size (Gammer et al., 2020).

Other full-length courses have been developed for more general use. Self-compassion Online is a 6-week program with psychoeducation, meditation instruction, reflective and experiential exercises. Participants spend about 1-2 hours per week completing the program. Though a randomized controlled design was not implemented, a group of psychology trainees who used the program reported significant increases in self-compassion and happiness as well as decreases in perceived stress and depression (Finlay-Jones, 2017).

Mind-OP is another intervention that delivered videos and meditations embedded in an electronic survey that was sent weekly to users over the course of 4 weeks. Although the

intervention was found to reduce anxiety and perceived stress relative to a control group, it had no significant effect on self-compassion and adherence was low at around 30%. In fact, attrition was significantly higher in the treatment group than in the control group in which participants were sent videos with nature sounds (Beshai et al., 2020).

Mak and colleagues (2018) implemented a self-compassion intervention via a smartphone app. The program consists of 4 weekly modules completed over the course of 28 daily sessions. The program's content draws from Neff and Germer's (2013) Mindful Self-compassion program. This study recruited a considerably large general population sample (n=2161) and found that participants improved in self-compassion from baseline to program completion relative to users of a mindfulness program and a cognitive behavioral program; however, these improvements were not sustained at a 3-month follow up. Additionally, adherence was relatively low at 32.15%.

Overall, online self-compassion interventions appear to be effective at improving self-compassion and many of them have also reported secondary improvements in well-being and body image. Of the studies that used a randomized-controlled design, effect sizes on self-compassion have generally been medium to large ($d=.32-.86$), while effects on well-being have generally been small (Mak et al., 2018; Amy et al., 2020; Eriksson et al., 2018; Turk & Waller, 2020; Ferrari et al., 2019).

Our Previous Pilot Study

We (Linford & Warren, 2022) conducted a pilot study of a self-directed online self-compassion module (<https://www.mybestself101.org/self-compassion>) to examine its feasibility and its effects on self-compassion, well-being, and body dissatisfaction. The module included brief psychoeducational lessons on self-compassion and a menu of self-compassion exercises

that participants could sample from (e.g. guided meditations, journaling exercises). Participants were instructed to use the module resources for 20 minutes per day over the course of three weeks. We found that compared to a waitlist group, those who used the module reported greater increases in self-compassion (large effect size; $d = 1.3$), subjective well-being (medium effect size; $d = .74$), and greater decreases in body dissatisfaction (medium effect size; $d = -.51$). Participants generally provided positive feedback on the module, but suggested that it be formatted as a structured course with progress tracking and that it include more audio and video content to increase engagement. These findings suggest that the My Best Self 101 self-compassion module may be a promising tool for promoting self-compassion and well-being in the general population.

Gaps in the Literature

Previous self-compassion studies using self-help interventions have shown positive results, but have not provided sufficient evidence for replicability. Additionally, many of these interventions have been tested in specific groups or clinical samples, rather than focusing on promoting well-being in the general population (Finlay-Jones et al., 2017; Gammer et al., 2020; Kelman et al., 2018). While prior studies have investigated the effects of self-compassion interventions on various populations and clinical conditions, it is worthwhile to investigate whether self-compassion training could be beneficial for a broader population of individuals who do not have sufficient levels of distress to seek mental health treatment but could still derive benefits. To be widely accepted and used by the general population, an online self-compassion intervention needs to demonstrate consistent, replicable treatment effects. Therefore, there is a need for replication studies to further evaluate the effectiveness of these interventions.

A significant obstacle to internet dissemination of psychological interventions is low adherence. Previous research has found attrition rates for online, self-help interventions to range from 43% to 99% (Christensen et al., 2009). User experience research has suggested that factors that help increase adherence include user friendliness, engaging content, and having the ability to complete at one's own pace (Richards et al., 2016). Previous self-compassion intervention studies have not focused heavily on creating a positive user experience. There remains a need for an engaging, user friendly, and high-quality self-directed self-compassion course geared toward the general population.

Methodologically, a notable limitation of previous studies is that many did not implement a randomized controlled design; of those that did utilize RCT design, most did not administer an active control manipulation (Ferrari et al., 2019). A weakness of implementing a waitlist control group is that it can artificially inflate the estimated intervention effect (Cunningham et al., 2013). It is thus unclear to what extent the effect can be attributed to the specific intervention versus the act of completing an intervention-like activity. In the context of online self-compassion interventions or trainings, an active control might involve a type of parallel self-directed online task that would require the same amount of time and engagement as the experimental course. A randomized controlled trial with this type of active control would be a robust addition to the current literature.

Another methodological limitation to existing self-compassion intervention studies is a lack of control for selection bias. Recruitment protocols and advertisement can influence the type of people who enroll in research which decreases external validity and can even impact effects (Choi et al., 2017). For example, advertising a "self-compassion study" might cause a self-selection bias such that the sample consists disproportionately of people who have a particular

interest in the topic. To our knowledge, no self-compassion intervention RCT has used blind recruitment scripts so that potential participants did not know the subject of the intervention. Using such a method might help generalize findings to the general public, even those who are not particularly interested in self-compassion.

One limitation of previous self-compassion intervention studies is a lack of control for selection bias. Recruitment protocols and advertising can influence the types of people who enroll in research, which can reduce the external validity of the study and even impact its findings (Choi et al., 2017). For example, advertising a "self-compassion study" might lead to self-selection bias, resulting in a sample that disproportionately consists of individuals who are already interested in self-compassion. To our knowledge, no randomized controlled trial of a self-compassion intervention has used blind recruitment scripts to ensure that potential participants do not know the subject of the intervention. Using this method could help to generalize the findings of self-compassion intervention studies to individuals who are not particularly interested in self-compassion. This could improve the external validity of the research and help to identify the most effective strategies for promoting self-compassion in a broader range of individuals.

The Present Study

Based on feedback from our pilot study, we developed a full online, structured course called The Gift of Self-Compassion (GSC). The GSC uses high-quality videos and exercises to enhance engagement and allow participants to work through the course at their own pace, tracking their progress as they go. This course is more comprehensive and extensive than previous internet-delivered interventions (e.g. Albertson et al., 2015; Mitchell et al., 2018;

Basque et al., 2021), providing a more in-depth and engaging learning experience for participants.

The purpose of the present study was to test the efficacy of the GSC course with an active randomized controlled design. This study was both an extension and conceptual replication of our preliminary pilot study. Feedback garnered from pilot study participants indicated a desire for increased structure and additional engaging content (e.g. videos, exercises, guided meditations). In response to this feedback, we expanded the module into a 30-day self-guided course with more comprehensive content and exercises. The goal of the course was to provide an engaging, reinforcing, and user-friendly learning experience for participants.

The previous study utilized a waitlist control. As a methodological improvement, the present study examined outcomes of participants using the expanded course relative to an active control, a parallel online expressive writing course (EW). Additionally, the research design of the present study more rigorously controlled for placebo or expectancy effects by using neutral or masked recruitment scripts (rather than explicitly advertising “self-compassion”). The intended population was the nonclinical general population. Our hypotheses were as follows:

- 1) Those who complete the course would report greater increases in self-compassion and well-being and greater decreases in body dissatisfaction relative to control participants.
- 2) Within the treatment group, course usage variables (i.e. percentage of course completed and total minutes spent using the course) would predict outcomes.

Method

Procedure

Participants were recruited for this study over a period of 18 months, from January 2021 to June 2022. Recruitment was conducted through social media platforms and word of mouth.

On Facebook, advertisements were posted in local community groups and groups related to mental health and self-improvement. The advertisements were also shared with Facebook and Instagram users who then disseminated them through their personal networks. In addition to social media advertisements, recruitment scripts were sent to community and educational organizations (e.g. community centers, university clubs and classes, religious congregations) to be included in their email newsletters. To reduce selection bias, the study was not advertised explicitly as a self-compassion study, but rather as a "self-help" or "personal development" study. This ensured that participants in both the experimental and control groups were unaware of which group they were in.

Those interested in participating contacted the researchers via email. They were then forwarded additional information about the study, a Qualtrics electronic survey to confirm eligibility, and a consent form. Those who completed the consent form and met all eligibility criteria were then given a random identification number at the end of the survey that corresponded to group assignment. This identification number was produced by a random number generator embedded in the Qualtrics survey. Using a simple random sampling method, subjects who received an even number were assigned to the treatment group to complete the GSC course and those who received an odd number were assigned to the control group to complete the expressive writing course (EW). After receiving this ID number, participants were sent enrollment instructions for their prospective course as well as an electronic survey with baseline measures.

Participants were given a PDF workbook in which they recorded each of the assigned activities, the amount of time they spent, and the date they completed each one. For each course, there were 30 daily assignments and participants were instructed to spend about 20 minutes

completing one assignment per day. Both treatment and control participants were allotted a total of 60 days to complete the course for compensation. Participants were compensated with a \$50 Amazon gift card for completing the course in its entirety. Those who partially completed the course were compensated with a gift card total prorated based on the percentage of the course they completed. Participants completed outcome measures prior to beginning the course and once again upon completing the course. In the follow up measure, participants reported the percentage of the course they completed, the total number of minutes they tracked using the course, and answered qualitative feedback questions about their experience.

Participants

Participants were required to be at least 18 years of age, from the United States, and to speak English. Additionally, participants were required to have internet access. Those who participated in the original pilot study were not permitted to participate in the current study. Participant inquiries that appeared to be fraudulent (i.e. a number of similarly worded emails received in a short amount of time from different email addresses) were not provided the option to enroll. Per recommendation by Teitcher and colleagues (2015), we monitored IP addresses through survey metadata to detect fraudulent multiple responses, though this is not a perfect metric as some participants may be from the same household and IP addresses can be faked. A total of 16 eligibility survey responses were excluded and not randomized to a group due to duplicate survey responses or suspicious activity (Teitcher et al., 2015).

The population targeted in this study was the general public. In order to ensure a representative non-clinical, general population sample, a measure of baseline symptom distress was examined and compared to recent general population normative data.

Sample Size

Previous self-compassion intervention studies have found large effects for self-compassion (Hedge's $g = .75$) and eating behaviors (Hedge's $g = 1.76$) as well as a small effect size for life satisfaction (Hedge's $g = .40$) (Ferrari et al., 2019). Power calculations indicated that to detect a small effect (Cohen's $d = .40$) with 80% power, a sample size of at least 200 was necessary. Independent sample power analyses were performed with the program G-Power.

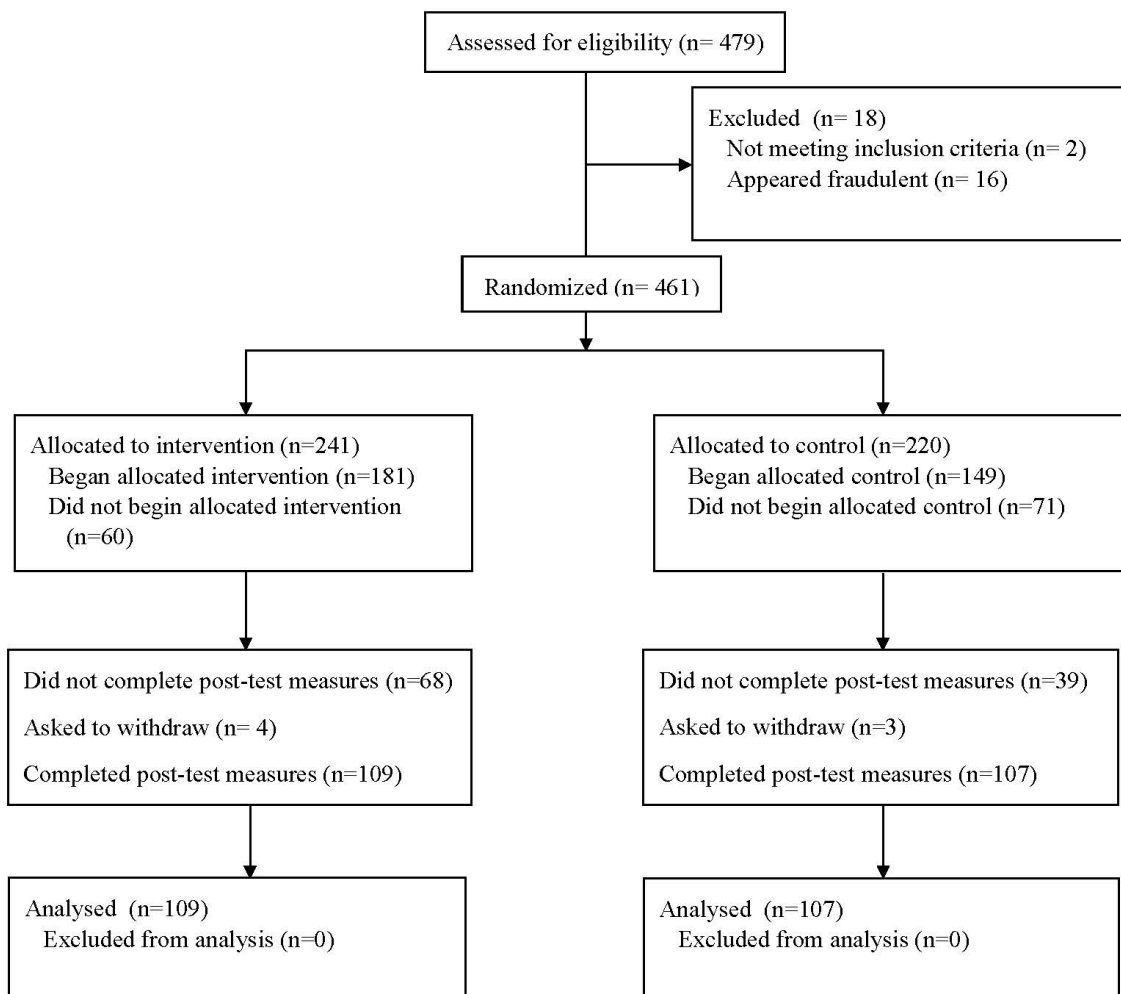
Recruitment began in February of 2021 and concluded in June of 2022. Previous research has demonstrated high attrition rates in internet-delivered interventions, some reaching as high as 50% (Eysenbach, 2005; Christensen et al., 2009). Therefore, we ceased new enrollment when the number of active participants was equal to about twice the number of participants needed to reach our goal of $N=200$. Data collection ceased 60 days after enrolling the final participant.

Participants began the intervention asynchronously and each was allotted a period of about 60 days to complete the course. Initially, 628 potential participants inquired about the study and were sent additional information including a link to an eligibility screener and consent form. A total of 479 completed the consent and eligibility screener. Of those, 18 were excluded because they did not meet eligibility criteria or they appeared fraudulent and 461 were randomized to a group (241 to treatment and 220 to control). A total of 131 participants (60 treatment, and 71 control) who provided consent and were assigned to a group never followed up to receive or begin the intervention. Three hundred thirty participants (181 treatment, 149 control) began completing their course, however, 114 participants (72 treatment, 42 control) did not complete posttest measures (7 explicitly asked to withdraw from the study and 107 did not respond to follow up measures). All explicit requests to withdraw were due to participants

feeling that they did not have enough time to commit to working on the course, technical difficulties, or reasoning was unspecified. Of the 216 participants who completed the post-test survey, all 215 were included in analyses. The final sample included in analyses consisted of 106 control participants and 109 treatment participants. In accordance with CONSORT guidelines, Figure 1 illustrates participant flow from initial recruitment to completion.

Figure 1

Flowchart of Participants' Progress Through Phases of the Study



Measures

Self-Compassion

Self-Compassion was measured with the 26-item Self-Compassion Scale (SCS; See Appendix B; Neff, 2003b) as well as the My Best Self 101 Self-compassion (MBS101-SC) measure. Internal consistency for each of the subscales of the SCS is high ($\alpha = .75-.81$; Neff, 2003b). In the present sample, internal consistency estimates for the SCS (and its subscales) supported this ($\alpha = .85-.95$). The SCS total score has been shown to correlate with related constructs such as neuroticism, self-esteem, and rumination (Neff et al., 2007). As highlighted previously, there are mixed findings regarding the replicability of an underlying latent factor to justify an overall SCS total score. Consequently, we opted to interpret subscale scores of the SCS (Petrocchi et al., 2014).

Despite these mixed results regarding the SCS total score, to our knowledge, an alternative unidimensional measure of self-compassion has not emerged. Consequently, we developed the My Best Self 101 Self-compassion (MBS101-SC) measure that is a hypothesized single-factor structure that was used in addition to the SCS. It is a 12-item 5-point Likert scale self-report measure that assesses one's trait self-compassion (See Appendix C). Preliminary independent psychometric analyses for the MBS101-SC indicated good internal consistency ($\alpha = .91$) and significant correlation with the Neff SCS total score ($r = .85$). Exploratory factor analyses (EFA) performed on a sample of 529 responses found two factors to emerge, one on which positively-worded items loaded and one on which negatively-worded items loaded (this is also a feature for which the SCS has received criticism) (López et al., 2015). Spector and colleagues (1997) argue, however, that negatively and positively worded items loading onto separate factors likely results as an artifact of item characteristics (a form of error) rather than the

presence of a true distinct construct. The EFA indicated that 70% of the total variance in item responses was explained by an underlying latent variable we identified as self-compassion. The second factor, explaining 30% of the total variance, was identified as an artifact of measurement error related to negatively worded item characteristics. We concluded that the MBS101-SC is unidimensional in nature and can be justifiably scored with an overall total score. In the original pilot study cited earlier, the MBS101-SC appeared to be reliable ($\alpha = .91$) and valid as it correlated strongly with the SCS ($r = .85$). In the present study, the MBS101-SC was found to have good internal consistency ($\alpha = .91$) and correlated highly with the SCS total score, which lends support for convergent validity of the measure.

Life Satisfaction

Because satisfaction with life is one of the core components of subjective well-being, life satisfaction was measured with the 5-item Satisfaction with Life Scale (SWLS) (See Appendix D; Diener et al., 1985). The SWLS measures the extent to which one feels satisfied with his or her life. Although dispositional and contextual factors can have some effect on responses, the stability of SWLS scores over time suggest that variance in scores are determined to a greater extent by life satisfaction as a trait (Eid & Diener, 2004). The SWLS has proven to be essentially unidimensional, with 73% of the variance in item responses accounted for by an underlying latent variable identified as life satisfaction (Slocum-Gori, 2009). Previous studies have found internal consistency estimates for SWLS to be high (Cronbach's alpha ranging .79-.89) and test-retest reliability was estimated to be .83 after a one-month period (Alfonso et al., 1996; Pavot & Diener, 1993; Pavot et al., 1991; Pavot et al., 1997, Pavot et al., 1998). In the present study, the SWLS was found to have high internal consistency ($\alpha = .90$) and correlated highly with other measures of well-being ($r = .53-.80$). Responses were summed to generate a total score.

Positive and Negative Affect (PANAS)

Because affective experience is a core element of well-being, the Positive and Negative Affect Schedule (PANAS) was used to measure positive and negative affect (Watson et al., 1988). Each of the 20 PANAS items is either a positive or negative affect word (such as “excited” or “scared”), each of which corresponds to one of two subscales (See Appendix E). Respondents are asked to report on a five-point Likert scale to what extent they are presently experiencing each emotion. In the present study, items from each of the two subscales were summed to generate a positive affect and negative affect total score. Previous studies found internal consistency estimates of the PANAS to be .85 for the negative affect subscale and .89 for the positive affect subscale. Eight-week test-retest reliability was estimated to be .54 for the positive affect subscale and .45 on the negative affect subscale. Negative Affect scores correlated highly with measures of depression (BDI) ($r = .56$), and distress/dysfunction (HSCL) ($r = .65$) in a non-clinical adult sample. Positive Affect scores correlated negatively with these same measures (BDI $r = -.35$; HSCL $r = -.29$) (Watson et al., 1988). In the present study, the PANAS was found to have high internal consistency (.88 for both subscales). Furthermore, the positive affect subscale correlated with other well-being measures ($r = .55-.73$) and the negative affect subscale correlated with measures of distress ($r = .73$).

Overall Well-Being

Overall well-being (a combination of subjective and eudaimonic well-being) was measured with the Survey on Flourishing (SURF). The 19-item SURF is our original comprehensive measure of well-being that uses 5-point Likert-style items to assess various facets of well-being including life satisfaction, relationship support, affective experience, eudaimonia, meaning, and purpose (See Appendix F). A preliminary internal consistency estimate for the

SURF measure was high ($\alpha = .95$). Scores on SURF correlated positively with other measures of well-being including the PERMA profiler ($r = .79$) (Butler & Kern, 2016), the Satisfaction with Life Scale ($r = .75$) (Diener et al., 1985), and the Positive Affect subscale of PANAS ($r = .69$), and correlated negatively with the negative affect subscale of PANAS ($r = -.58$) (Watson et al., 1988). In the present study, internal consistency was high ($\alpha = .94$). The measure correlated with other measures of wellbeing ($r = .53-.80$) and was negatively associated with measures of distress ($r = -.64--.74$).

Body Dissatisfaction

Body Dissatisfaction was measured with the shortened version of the Body Shapes Questionnaire (BSQ-16b) (Evans & Dolan, 1993). Based on experiences from the last 4 weeks, this measure asks the respondent to rate to what extent they feel unsatisfied with their body shape with a series of Likert-style items (see Appendix G). Previous studies have found the BSQ-16b to be highly correlated with the full length BSQ which has high internal consistency and converges with measures of disordered eating and body mass (Evans & Dolan, 1993). Although the BSQ was originally normed on female samples, it has been found to be reliable and valid in mixed-gendered samples (Conti et al., 2009; Rosen et al., 1996). In the present sample, the BSQ-16b had good internal consistency ($\alpha = .96$).

Symptom Distress

Because we targeted the non-clinical, general public, we administered a non-specific symptom distress screener, the Kessler Psychological Distress Scale (K6), to ensure that our sample was representative of the general population. The K6 is an efficient, 6-item screener for diagnosable mental disorders (See Appendix H). Despite its brevity, the K6 has been found to surpass the General Health Questionnaire (GHQ-12), a widely used screener, at identifying

International Statistical Classification of Diseases, Tenth Revision (ICD-10) mental disorders (Kessler et al., 2003). In a general public sample of 155 respondents, Kessler and colleagues (2003) found that the total classification accuracy of the K6 was .92 ($SD = .02$). Additionally, K6 total scores correlated with scores from the Comprehensive International Diagnostic Interview-Short Form (CIDI-SF; $r = .65$). Our sample mean was compared to normative data gathered from the 2018 National Health Interview Survey conducted by the Center for Disease Control. The scale was scored by summing items and generating a total score (0-24).

Feedback Measures

Upon completing post-test measures, GSC users were provided with a brief feedback questionnaire to assess their subjective experience with the course. This 6-item survey asked participants to rate how helpful they found the content and how likely they would be to recommend the course to a friend. The participants are then asked a few open-ended questions about what they found most helpful, how it could be improved, and any additional feedback they would like to provide. These feedback measures can be found in Appendix I.

Study Curricula

Self-compassion Curriculum

The Gift of Self-Compassion (GSC) course is a 30-day online course delivered via the Teachable platform. Prior to beginning the course, the participants download the accompanying PDF workbook in which they track the time they have spent completing the course and complete short writing assignments related to the lessons. Throughout the course and on every page, there is a discussion thread where users can choose to comment or interact with other users. The course consists of two primary sections: a psychoeducational section on the conceptual fundamentals of self-compassion and an experiential section on the practice of self-compassion.

The psychoeducation portion of the course, called “The Fundamentals of Self-Compassion,” covers fundamental concepts related to self-compassion so the participant can develop a conceptual understanding of self-compassion, what it is, what it is not, and how to practice it prior to beginning any practices. The section comprises five lessons, each of which consists of a short video (each custom made for the course), a supplemental reading, and an accompanying workbook assignment. The five lessons in this section define self-compassion as well as the three components of self-compassion, introduce mindful awareness as it relates to self-compassion, review common misconceptions, and discuss why practicing self-compassion is beneficial. The lessons in “The Fundamentals of Self-Compassion” can be found outlined in Appendix J.

The second main section, “The Practice of Self-Compassion” is the largest section of the course. Unlike the first portion, which orients the participant to the concept self-compassion through psychoeducation, this section is experiential and focuses on practicing self-compassion. This section introduces the participant to a variety of evidence-based self-compassion strategies and practices including guided meditations, breathing exercises, mental exercises, and writing exercises. Each lesson consists of either a 10-15 minute guided self-compassion meditation (each recorded specifically for this course), a short writing exercise, or another type of experiential practice. Examples of exercises include a compassionate grounding guided practice, a supportive touch exercise, and writing a self-compassionate letter. The exercises included in “The Practice of Self-Compassion” section are outlined in Appendix J.

Control Course

Those assigned to the control group completed a 30-day modified version of Pennebaker’s (1997) expressive writing paradigm. This task has been implemented as an active

control in various psychological intervention RCTs and has repeatedly shown modest therapeutic effects (Frattaroli, 2006; Spijkerman et al., 2016). As such, this task is intended to control for placebo or expectancy effects of participants. The original task instructs participants to write about an emotionally painful experience for 20 minutes a day over the course of four days (Pennebaker, 1997). Previous studies implementing expressive writing alongside a longer-term psychological intervention have used an adapted version expanded over an extended period of time which has also demonstrated therapeutic effects (e.g. Potts et al., 2016; Trompetter et al., 2015).

To mirror the time requirements of the self-compassion training, we instructed participants to write for 20 minutes per day over the course of 30 days. Much like the GSC course, participants downloaded a PDF companion workbook where they were to record their writing assignments and took baseline measures prior to beginning the course. The expressive writing condition comprised 30 different daily lessons. The first lesson provides an overview of what expressive writing is and presents research discussing the potential benefits of expressive writing. For the next 29 days, the participant is asked to write about a different emotion (e.g. sadness, anger, joy, stress, bravery, grief, fulfillment, etc.) based on a prompt. Participants were instructed to write in detail about past experiences where they have felt a particular emotion. For each of the 29 writing assignments, the participant was also offered the alternative prompt: “Write about something that is emotionally important/relevant to you right now”. The participant was allowed to elect to write on this alternative prompt for any or all the daily assignments. The outline for the expressive writing course can be found in Appendix K.

Analyses

First, data were cleaned and prepared and screened for outliers. All outliers were fenced to plus or minus two interquartile ranges from the median. We used a series of two-sample t-tests to do baseline analyses and determine whether demographic data and baseline measures were equivalent between groups. We also performed t-tests to compare our samples' K6 symptom distress means to general population normative data. Regression models were used to examine the relationship between group assignment and our primary outcomes. One common limitation in clinical research is multiplicity of analyses which increases the chance of finding an effect due to noise (Shulz et al., 2010). Because we had multiple outcome variables, our primary hypothesis involved nine different regression models for the primary outcomes and 3 different models for the secondary usage outcomes. To reduce bias associated with multiple comparisons, we used Zellner's (1962) seemingly unrelated regression (SUR) which allows multiple regression models to be run at once while error terms are assumed to be correlated across models. This model assumes all error terms to be correlated across models and corrects for error associated with multiple comparisons. Separate within group SUR models were estimated to determine whether outcome scores on each variable varied as a function of GSC course usage. These analyses were performed with the "sureg" command in Stata 16. Baseline outcome scores and demographic variables were controlled for in the models.

Additionally, post-hoc regression-based moderation analyses were performed to investigate whether gender or baseline self-compassion, well-being, or body dissatisfaction scores moderated the effects of the self-compassion intervention on any of the variables in question. These types of analyses can provide valuable insights into the mechanisms underlying the effects of an intervention and can help to identify subgroups of individuals who may respond differently to the intervention.

Results

Usage Data Between Groups

Attrition and adherence were tracked for each group. Of the participants who were randomized to a group, 45.2% of GSC users and 48.6% of EW users completed post-test measures (attrition for GSC and EW was 54.8% and 51.4% respectively). Although 461 participants received their assigned course materials, a smaller proportion completed pretest measures and began the intervention (see Table 1). As they completed the course, participants tracked their total practice minutes and the percentage of the course they completed was tracked by the researchers. Total minutes spent using the intervention was 638.4 ($SD=149$) for the GSC condition and 586.9 ($SD=106.0$) for the EW condition. Average course completion was 65.8% for GSC and 78.5% for EW, although there was considerable variation depending on whether the participant went on to complete posttest measures or not (see Table 1).

Table 1***Usage Data***

	GSC	EW
Number randomized/received group assignment and intervention	241	220
Number began intervention	182	150
Number completed intervention 100%	73	91
Adherence percentage ^a	45.2%	48.6%
Percent who completed intervention 100% ^b	67.0%	85.0%
Mean Course Completion percentage	65.8%	78.5%
Mean Course Completion Percentage: Completers ^c	90.3%	96.1%
Mean Course Completion Percentage: Non-completers ^d	28.9%	26.6%
Average number of minutes spent using course	638.4	586.9

^aPercentage of those randomized to a group who completed follow up measures

^bOf those who completed baseline measures, percentage who completed 100% of the course

^cOf those who completed the posttest measures, average course completion percentage

^dAverage course completion percentage of those who did not complete posttest measures,

Baseline Analyses

We measured symptom distress at baseline to ensure that our overall sample was non-clinical and representative of the general population. An independent sample t-test revealed that, compared to general population normative data, our sample did not vary significantly on K6 symptom distress scores [$t(25981)=1.5, p=.14$]. Baseline analyses were also performed to determine whether participants in either group varied significantly on the basis of demographic characteristics or baseline outcome measures. Two-sample t-tests performed on group means of

demographic variables indicated that the treatment and control group did not vary significantly on the basis of sex [$t_{sex}(214) = 1.2, p = .24$], race [$t_{race}(214) = -1.2, p = .24$], age [$t_{age}(214) = -.74, p = .46$], income [$t_{invomr}(214) = -.51, p = .61$] or BMI [$t_{BMI}(214) = -.14, p = .89$] (see Table 2). The groups likewise did not vary significantly with regards to baseline measures of psychological well-being, body dissatisfaction, self-compassion, or symptom distress (See Table 3).

Table 2***Participant Baseline Characteristics***

Baseline characteristic	GSC		EW		Full Sample		t-test	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>t(df)</i>	<i>p</i>
Gender							1.2(214)	.24
Female	86	78.9	91	85.0	177	81.8		
Male	23	21.1	16	15.0	39	18.1		
Race							-1.2(214)	.24
White	94	86.2	91	85.1	185	85.7		
Hispanic	2	1.8	7	6.5	9	4.2		
Black	1	.9	4	3.7	5	2.3		
Native American	0	0	2	1.9	2	.9		
Asian	8	7.3	2	1.9	10	4.6		
Pacific Islander	1	.9	0	0	1	.5		
Other	3	2.8	0	0	3	1.4		
Undisclosed	0	0	1	.9	1	.5		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	27.0	11.1	26.0	9.5	26.5	10.3	-.74(214)	.46
Annual Income	65589	62390	69309	64261	67432	63203	.43(214)	.66
BMI	26.7	6.3	25.6	6.8	25.6	8.1	-.14(214)	.89

Note. $N = 216$.

Table 3***Participant Baseline Outcome Measures***

Baseline Score	GSC		EW		Full Sample		t-test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t(df)</i>	<i>p</i>
Subjective Well-being	88.6	17.7	87.1	18.4	87.8	18.0	-.62(214)	.54
Life Satisfaction	23.7	6.8	22.8	6.8	23.3	6.8	-.93(214)	.35
Positive Affect	3.2	.64	3.1	.67	3.2	.66	-1.8(214)	.07
Negative Affect	2.4	.77	2.5	.75	2.4	.76	.44(214)	.66
Self-Compassion	44.4	10.5	43.2	11.7	43.8	11.1	-.81(214)	.42
Self-Kindness	26.5	6.9	26.0	7.1	26.2	7.0	-.55(214)	.58
Mindfulness	22.9	5.4	22.2	5.1	22.5	5.2	-.96(214)	.34
Common Humanity	22.5	5.8	21.2	5.7	21.9	5.7	-1.7(214)	.08
Body Dissatisfaction	44.6	15.5	45.3	17.8	36.2	13.8	.30(214)	.76
Symptom Distress	2.4	.70	2.5	.70	2.4	.70	1.2(214)	.22

Note. *N*=216

Outcome

For all outcome variables, pretest and posttest means for each group can be found in Table 4. Cross-sectional posttest between group effect size estimates can also be found in Table 4. A visual of scores from pretest to posttest can be seen in Figure 2.

Table 4***Means at Pretest and Posttest and Between Groups Effect Sizes***

Baseline Score	GSC		EW		Cohen's d	95% CI
	Pre	Post	Pre	Post		
Subjective Well-being	88.6	102.3	87.1	98.4	.23	-.04, .50
Life Satisfaction	23.7	26.8	22.8	25.4	.23	-.03, .50
Positive Affect	3.2	3.5	3.1	3.4	.16	-.10, .43
Negative Affect	2.4	2.0	2.5	2.1	-.16	-.43, .10
Self-Compassion	44.4	59.6	43.2	52.5	.60	.32, .86
Self-Kindness	26.5	34.9	26.0	31.9	.42	.15, .70
Mindfulness	22.9	29.1	22.2	26.1	.53	.26, .80
Common Humanity	22.5	29.0	21.2	25.3	.63	.34, .91
Body Dissatisfaction	44.6	35.2	45.3	35.3	.01	-.27, .26

Note. Effect sizes are based on cross-sectional, between group posttest scores. $N=216$

Well-being and Related Variables

After controlling for demographic variables and baseline scores, GSC participants reported higher levels of well-being post-intervention relative to the control group. Specifically, GSC participants reported higher subjective well-being scores ($p=.046$; $d=.23$, 95% CI [-.04, .50]). These effects persisted even after controlling for sex, race, income, and age. Although regression analyses revealed this effect across time, the cross-sectional between group effect size at posttest for well-being was within margin of error (see Table 4). Although life satisfaction and positive/negative affect improved significantly from pretest to posttest, there was no significant between group effect. These results can be seen in Table 5.

Table 5**Regression Analyses Predicting Primary Well-being and Related Outcomes ($N = 216$)**

	Well-being		Life Satisfaction		Positive Affect		Negative Affect	
	β	95% CI	β	95% CI	β	95% CI	β	95% CI
Intervention ^a								
GSC	3.5*	[.07, 6.8]	1.2	[-.02, 2.4]	.04	[-.11, .18]	-.11	[-.25, .03]
Course								
Baseline	.51**	[.45, .56]	.55**	[.49, .62]	.60**	[.52, .68]	.50**	[.42, .57]
Score								
Sex ^b								
Female	4.8*	[.46, 9.1]	1.7*	[.10, 3.2]	.11	[-.08, .29]	-.13	[-.31, .05]
Race ^c								
Hispanic	5.0	[-3.2, 13.2]	2.1	[-.82, 5.1]	.06	[-.29, .42]	-.18	[-.53, .17]
Black	-3.6	[-14.5, 7.3]	-1.0	[-4.9, 2.9]	.30	[-.17, .77]	-.18	[-.64, .28]
Native	4.3	[-12.8, 21.4]	.53	[-5.6, 6.7]	.41	[-.33, 1.1]	.07	[-.65, .79]
American								
Asian	3.4	[-4.5, 11.2]	.02	[-2.8, 2.8]	-.10	[-.44, .24]	-.006	[-.34, .33]
Pacific	2.8	[-21.2, 26.8]	3.5	[-5.1, 12.1]	.12	[-.91, 1.1]	-.04	[-1.05, .97]
Islander								
Other	-2.6	[-16.6, 11.4]	-1.1	[-6.1, 3.9]	.22	[-.38, .83]	.29	[-.30, .88]
Undisclosed	-11.4	[-35.6, 12.9]	-1.1	[-9.8, 7.6]	-.14	[-1.2, .90]	.48	[-.55, 1.5]
Age	.01	[-.15, .17]	-.04	[-.10, .02]	.004	[-.003, .01]	.001	[-.006, .008]
Constant	49.8**	[42.1, 57.5]	12.3**	[9.7, 15.0]	1.3**	[.96, 1.7]	1.0**	[.71, 1.3]
R ²	.48		.50		.46		.41	

Note. *indicates $p < .05$ and ** indicates $p < .001$. $N = 216$ ($n = 109$ for GSC, and $n = 107$ for EW).

^aCompared to EW course; ^bCompared to male subjects; ^cCompared to White subjects

Self-Compassion

After controlling for demographic variables and baseline scores, GSC participants were significantly more self-compassionate post-intervention relative to the control group. Specifically, GSC participants reported higher self-compassion total scores ($p < .001$; $d = .60$, 95% CI: [.86, .32]) and higher scores on self-kindness ($p < .001$; $d = .42$, 95% CI: [.69, .15]), mindfulness ($p < .001$; $d = .53$, 95% CI: [.80, .26]), and common humanity ($p < .001$; $d = .63$, 95% CI: [.91, .36]). These effects persisted even after controlling for sex, race, income, and age. See Table 6 for regression analyses.

Table 6**Regression Analyses Predicting Primary Self-Compassion Outcomes (N = 216)**

	Self-Compassion Total Score		Self-Kindness		Mindfulness		Common Humanity	
	β	95% CI	β	95% CI	β	95% CI	β	95% CI
Intervention ^a								
GSC Course	7.1**	[4.3, 9.9]	2.83**	[1.2, 4.5]	2.6**	[1.4, 3.8]	3.1**	[1.8, 4.5]
Baseline Score	.43**	[-.36, .50]	.42**	[-.35, .49]	.52**	[-.45, .60]	.46**	[-.39, .54]
Sex ^b								
Female	3.2	[-.37, 6.7]	1.1	[-1.0, 3.2]	.72	[-.82, 2.3]	1.2	[-.55, 2.9]
Race ^c								
Hispanic	6.5	[-.27, 13.2]	2.3	[-1.7, 6.4]	2.6	[-.31, 5.6]	2.0	[-1.2, 5.3]
Black	3.8	[-5.2, 12.8]	-.93	[-6.3, 4.4]	.42	[-3.5, 4.3]	-.15	[-4.5, 4.2]
Native American	2.9	[-11.1, 16.9]	.002	[-8.4, 8.4]	1.2	[-4.9, 7.3]	3.1	[-3.6, 9.9]
Asian Pacific Islander	-1.6	[-7.3, 5.6]	.90	[-3.0, 4.8]	1.2	[-1.6, 4.0]	.97	[-2.2, 4.1]
Other Undisclosed	12.7	[-7.0, 32.4]	6.4	[-5.4, 18.1]	4.2	[-4.4, 12.8]	6.4	[-3.2, 15.9]
Age	.06	[-.07, .20]	.06	[-.02, .13]	.05	[-.004, .11]	.07*	[-.005, .13]
Constant	29.0**	[23.4, 34.5]	18.4**	[15.0, 21.8]	12.2**	[9.6, 14.9]	12.5**	[9.7, 15.3]
R ²	.35**		.32**		.41**		.38**	

Note. *indicates $p < .05$ and ** indicates $p < .001$. $N = 216$ ($n = 109$ for GSC, and $n = 107$ for EW).

^aCompared to EW course; ^bCompared to male subjects; ^cCompared to White subjects

Body Dissatisfaction

After controlling for baseline scores, body mass index, and demographic variables (sex, race, income, and age), there was no significant between group difference in body dissatisfaction; Although body dissatisfaction in both groups improved significantly from pretest to posttest, those who completed the GSC did not differ significantly from EW participants on reports of body dissatisfaction (see Table 7).

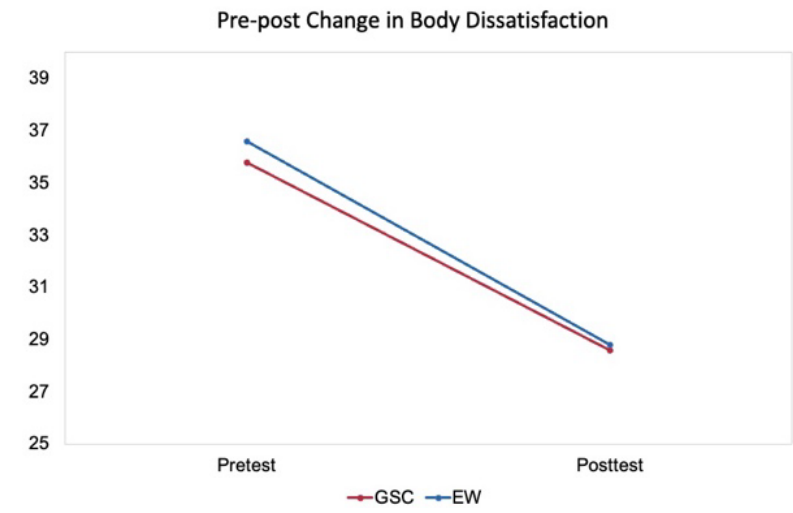
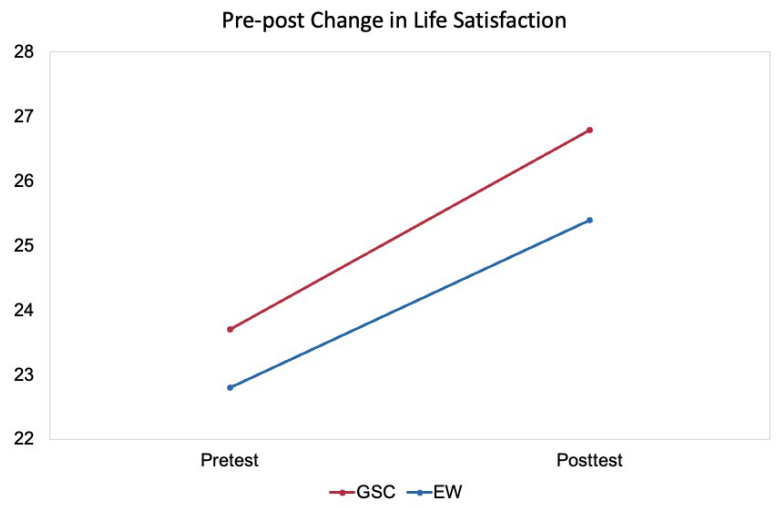
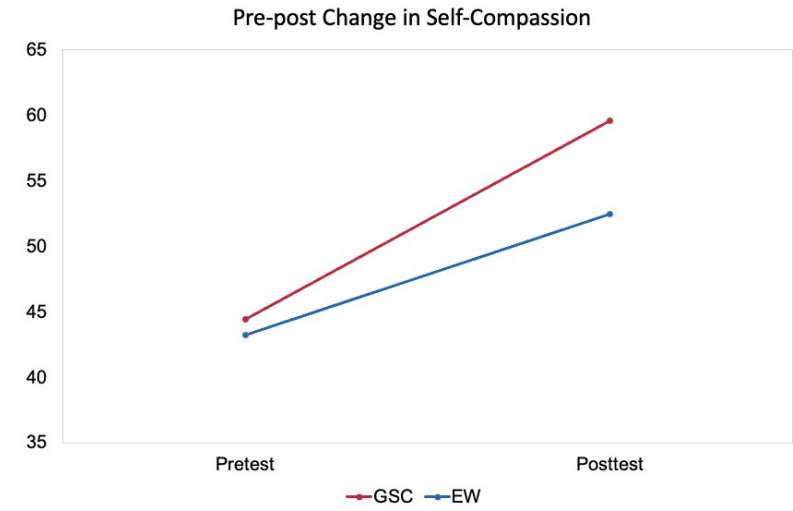
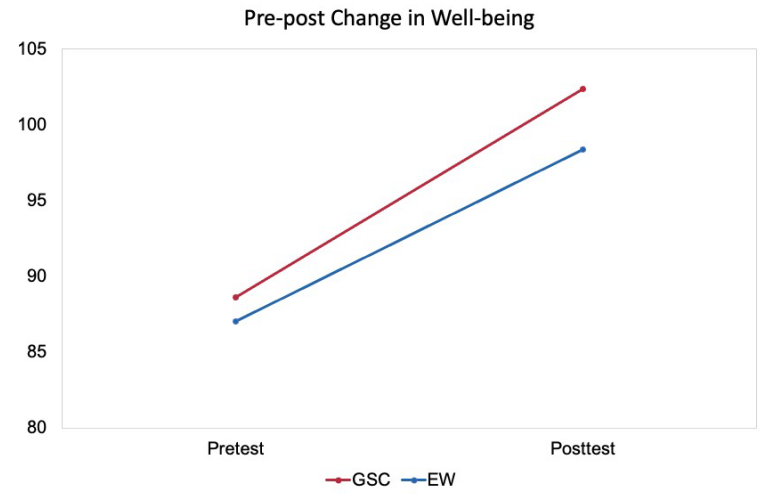
Table 7***Regression Analyses Predicting Body Dissatisfaction (N = 216)***

	Body Dissatisfaction	
	β	95% CI
Intervention ^a		
GSC Course	-.15	[-2.4, 2.1]
Baseline Score	.57**	[.50, .64]
BMI	.12	[-.05, .30]
Sex ^b		
Female	-1.8	[-4.7, 1.2]
Race ^c		
Hispanic	-5.0	[-10.5, .43]
Black	5.9	[-1.4, 13.3]
Native American	-3.4	[-14.8, 8.0]
Asian	-.32	[-5.6, 4.9]
Pacific Islander	1.9	[-14.1, 17.9]
Other	7.6*	[-1.7, 17.0]
Undisclosed	4.6	[-11.6, 20.8]
Age	.04	[-.08, .15]
Constant	6.9*	[1.9, 11.9]
R ²	.62**	

Note. N = 216 (n = 109 for GSC, and n = 107 for EW)

Figure 2

Pre-Post Change in Average Outcome Scores by Group



GSC Course Usage and Outcome

Our second hypothesis predicted that engagement levels or amount of course usage would predict outcome variables. Within the GSC group, regression analyses indicated that the percentage of the course completed was not a significant predictor of outcomes including subjective well-being, self-compassion, or body dissatisfaction. Notably, 67% of participants who completed post-test measures reported completing 100% of the course, suggesting a probable restriction of range in predictive power. Total minutes spent using the course was slightly predictive of self-compassion outcomes, but not well-being or body dissatisfaction. These results can be found in Table 8. Figure 3 provides a visualization of the outcome-usage relationship.

Table 8***Regression Analyses for Predicting Final Outcome Scores for GSC Participants as a Function of Usage (N = 109)***

	Well-being ^a		Self-Compassion ^b		Body Dissatisfaction	
	β	95% CI	β	95% CI	β	95% CI
Baseline Score	.53**	[.44, .63]	.43**	[.30, .56]	.64**	[.55, .73]
Percent Course Complete	-.07	[-.20, .07]	-.07	[-1.2, .23]	-.05	[-.13, .02]
Total Practice Minutes	.01	[-.01, .03]	.01*	[.005, .03]	.001	[-.01, .01]
Constant	54.6**	[38.9, 70.3]	37.2**	[225.4, 49.0]	10.1**	[2.5, 17.7]
R ²	.47		.26		.62	

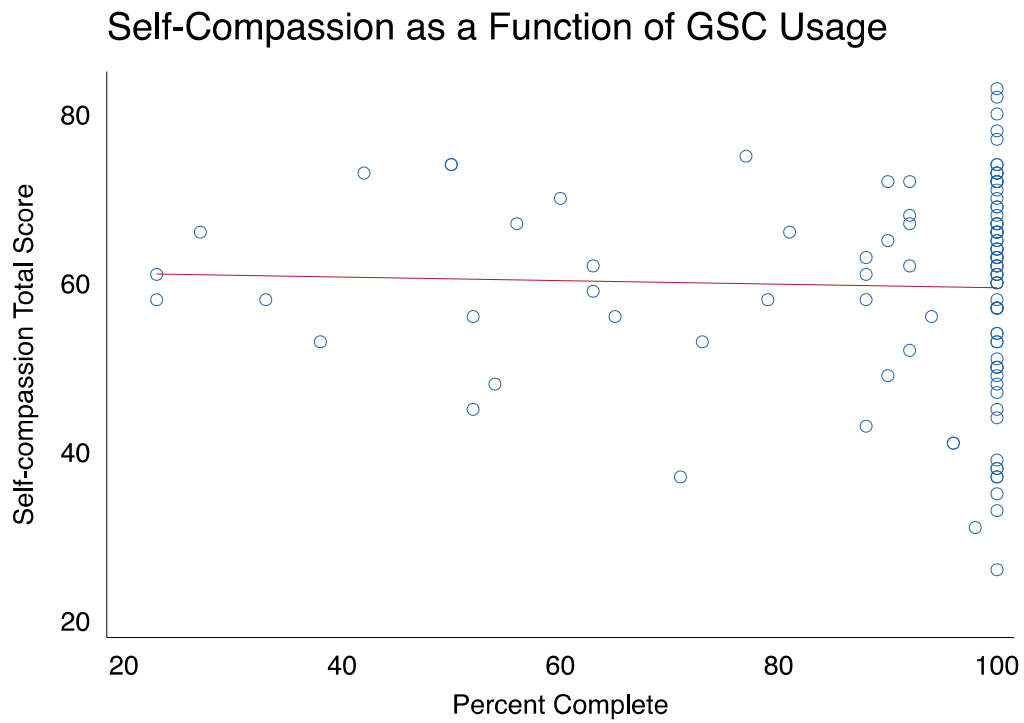
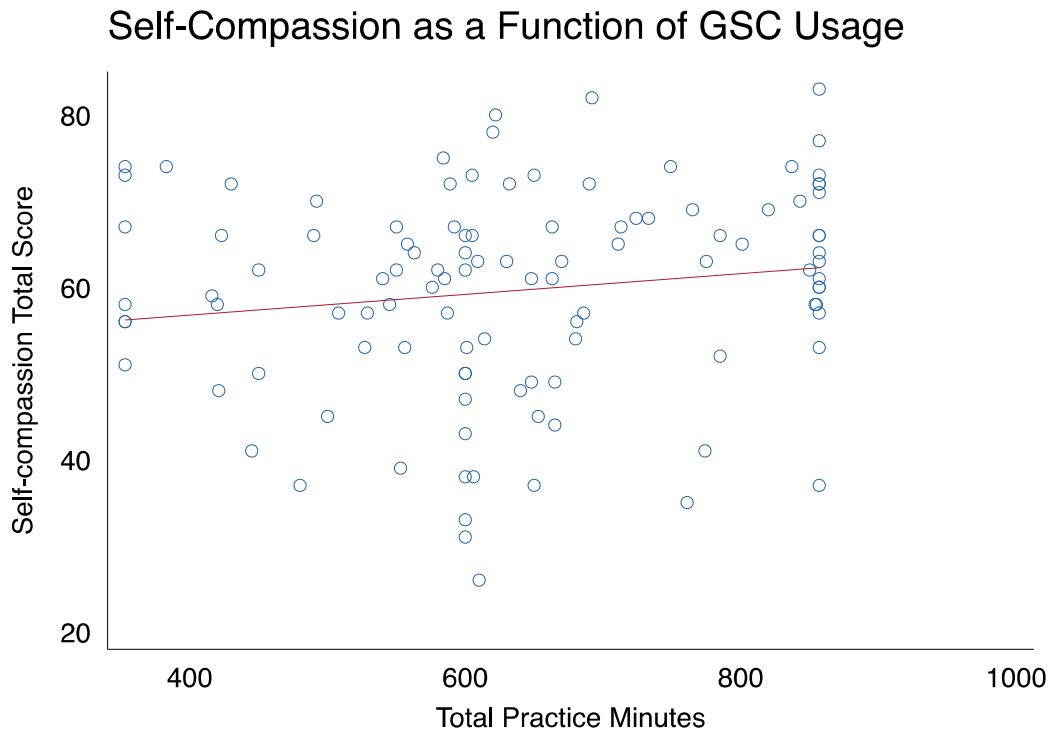
Note. *indicates $p < .05$ and ** indicates $p < .001$.

^aAs measured by the Survey on Flourishing

^bAs measured by the MBS101-SC total score

Figure 3

Association Between Self-Compassion Scores and Usage Variables for GSC Users



Post-Hoc Moderation Analyses

The results of the post-hoc regression analysis showed that the effects of the self-compassion intervention were not significantly moderated by gender, baseline well-being scores, or baseline self-compassion scores. However, there was a significant moderation of the intervention's effects by baseline well-being in the treatment group (p -value = .004). This indicates that individuals with higher levels of well-being at the start of the study may have experienced greater increases in self-compassion following the intervention. Future research should aim to replicate and build upon these findings.

Discussion

The purpose of this study was to evaluate the efficacy of an online self-directed self-compassion curriculum (the Gift of Self-Compassion course; GSC) and to replicate earlier pilot study results with more rigorous methodology. We hypothesized that, consistent with the pilot study outcomes, participants would report increases in self-compassion, subjective well-being, and decreases in body dissatisfaction relative to an active control group. Additionally, we hypothesized that within the self-compassion group, increased usage of the course would predict greater treatment gains.

Several of the effects found in the previous waitlist-controlled pilot study were also found in the present study, albeit with more modest effect sizes (as expected due to the more rigorous study design). Compared to the active control group, those who completed the GSC reported greater increases in self-compassion with moderate effect sizes (as measured by the self-compassion total score and subscale scores of self-kindness, mindfulness, and common humanity). This finding is consistent with previous literature which has found general self-compassion intervention effects to be moderate ($g=0.75$) and effects of internet self-compassion

interventions to be moderate to strong ($d=.32-.86$), though many of the previous studies did not utilize an active control (Mak et al., 2018; Amy et al., 2020; Eriksson et al., 2018; Ferrari et al., 2019).

Based on pre-post scores alone, both interventions proved therapeutic for well-being. This is consistent with hypotheses as the expressive writing paradigm (even in its extended form) has demonstrated modest therapeutic effects in previous studies. Relative to effects of the expressive writing paradigm, however, the GSC yielded mixed results with regard to well-being variables. Relative to the EW course, the GSC had a medium effect on a measure of well-being (i.e. the SURF which measures eudaimonic well-being); however, it had no effect on life satisfaction or positive or negative affect. Previous literature has revealed self-compassion interventions to have a small effect on life satisfaction and positive affect compared to control conditions (Ferrari et al., 2019). There are several possibilities to explain this lack of effect. It is possible that because self-compassion interventions generally have a small effect on these variables the true effect is harder to detect. The control condition, expressive writing, has been found to have modest therapeutic effects which may have had an impact on well-being, thus eliminating the between group effect that was found present in previous waitlist-controlled trials (Reinhold et al., 2018). Additionally, the study's sample was composed of individuals from the general population, as indicated by baseline analyses showing non-clinical levels of distress. This may have contributed to a ceiling effect on well-being and other outcomes, as larger effect sizes would be needed to detect changes in a population that is already relatively healthy and well-functioning.

Notably, intervention effects on life satisfaction and affect were not significant while the subjective well-being effect was significant but small, despite the fact that these variables are

highly correlated. It is important to note that the measure of well-being, or SURF, was developed to measure eudaimonic well-being. In addition to life satisfaction and affect, eudaimonia emphasizes personal growth, meaning, and social wellness (Niemiec, 2014). It is possible that although it has less impact on affect or life satisfaction, using GSC and increasing in self-compassion allows the individual to experience a greater sense of personal growth and meaning and may even positively impact social relationships through shared suffering. It is also worth noting that when demographic variables were controlled for, sex was significantly predictive of well-being and life satisfaction outcomes with female participants reporting greater increases in these variables. One possibility to explain this would be that the course and its content felt more impactful or relevant for women compared to men.

Although our previous pilot study and other controlled trials have found self-compassion interventions to have a medium to strong effect on body image relative to controls, there was no significant between group effect on body dissatisfaction in the current study. Those who used the GSC decreased in body dissatisfaction over time, however, this change did not vary significantly from the EW condition. Again, many of the previous studies have used non-RCT designs or did not use active control groups which can inflate effect sizes. Additionally, many of the previous studies have recruited female only samples (where the prevalence of body image disturbance is higher) or participants with higher baseline body dissatisfaction. The present study, however, examined body image effects in a mixed-gender general population sample, therefore it may be that a sample with lower levels of body dissatisfaction is less susceptible to treatment effects.

Our second hypothesis, that GSC usage variables (minutes spent using the intervention and percent completion) would predict outcomes, was only partially supported. Usage variables did not predict well-being or body dissatisfaction; however, self-reported usage minutes did

predict self-compassion outcomes. Specifically, those who spent more time in the GSC curriculum reported greater improvements in self-compassion. Of note, as can be observed in Figure 3, a high percentage of those who completed posttest measures completed the course in its entirety, thus restricting the range and predictive power of the completion percentage variable.

Another important aim of this study was to determine the level of engagement and adherence of participants. Consistent with previous literature on online interventions, the attrition rate for GSC after randomization was 54.8%. Upon receiving intervention assignments, more people initially dropped out of the control group and chose not to start the intervention relative to the treatment group. However, over the course of the intervention, more people dropped out of the GSC group. One possibility for this could be that people may feel initially more interested or intrigued in learning about self-compassion than doing an expressive writing task. Although engagement data were not considerably higher than in previous studies, they support the GSC as comparable to other existing self-compassion interventions.

Strengths

This study had a number of noteworthy strengths. First, the study was designed as a conceptual replication. Over the last decade, social scientists have made efforts to improve the quality of research produced and solve the current replication crisis (Nosek et al., 2015). One suggestion for improvement, particularly in the applied sciences, is to disseminate interventions whose effects have been shown to replicate. Despite such challenges, few researchers take the time and resources required to replicate the effects found in their studies. The inferences made by this study (that using the GSC can help users to improve in self-compassion and subjective well-being) bolster the findings in our previous study. For the outcomes that did not replicate (i.e.

body dissatisfaction and positive/negative affect), the two studies paired together suggest that the effects of GSC on these variables are inconclusive.

Furthermore, the present study employed a more rigorous design by utilizing an active control group. A recent meta-analysis of self-compassion interventions revealed that effect sizes for well-being and self-compassion outcomes were less pronounced when compared to studies that used waitlist control groups (Ferrari et al., 2019). It is probable that the use of an active control group provides a more accurate representation of the true intervention effect. In our initial pilot study, which employed a waitlist control, the beta version of GSC produced large effect sizes on self-compassion, as well as a medium effect size on well-being and body dissatisfaction. This study revealed more modest effect sizes with a small effect on self-compassion and well-being and no effect on affect or body image. Waitlist controlled trials only allow us to determine whether the intervention is more helpful than time alone. An active control on the other hand, helps us to determine the usefulness of the content of the intervention rather than whether or not the act of doing an intervention is therapeutic. Of note, the intervention used by the active control group, an expressive writing intervention, has been found to produce small treatment effects on well-being and depressive symptoms. This suggests that between group improvements observed by those that used the GSC were significant beyond such effects. Previous self-compassion interventions have utilized non-active control conditions or attention control activities. Thus, the inclusion of a control condition that was a structured intervention with previous evidence for its therapeutic effects strengthens the findings.

Another strength of the study was the provisions implemented to mitigate self-selection bias and increase external validity by advertising the study as a “self-help” or “personal development” experience. Only participants in the experimental group were informed that the

study involved learning self-compassion and this was not disclosed until after they received their randomized group assignment. Our previous pilot study explicitly advertised a “self-compassion intervention” which may have augmented selection bias and expectancy effects. With such explicit advertisement, it becomes difficult to determine whether the intervention is generalizable to the broader population or only people who are interested in learning about self-compassion and mindfulness strategies (Kirsch, 1985). To our knowledge, the present study is the first self-compassion intervention RCT that has not disclosed the content of the intervention during the recruitment phase. These provisions are likely to increase the overall generalizability of the findings to the broader general population. The effects found with this non-descript recruitment method lend evidence to suggest that even those who would not be inclined to seek training in self-compassion might benefit from learning such skills.

The design of the study was naturalistic and representative of how usage and engagement with the course content would be outside of a research setting. Unlike our pilot study where participants all began the course at synchronized times and reported weekly to the researchers on their progress, participants in the present study completed the interventions asynchronously with little oversight. As a result, the attrition rate was much higher than the initial pilot study (54.8% vs. 10.5%). This rate of attrition is in line with typical attrition rates reported in the online dissemination literature (Eysenbach, 2005; Christensen et al., 2009). As mentioned previously, participants were instructed to complete as much or as little of the course as they would like in a 60-day time period. Although 54.8% of those who began the intervention did not complete follow up measures, of the participants who completed posttest measures, 90.3% completed the course in its entirety despite this not being a requirement. This provides support that GSC is not only helpful but also reinforcing and engaging for a substantial proportion of people.

Limitations

This study also had several limitations. One factor that negatively impacts generalizability was unbalanced demographic characteristics of the sample. The intended sample was the general population. Ideally, the sample would have been demographically representative of the general population and reported non-clinical levels of distress. Although baseline levels of distress were similar to general population norms, the sample was disproportionately young, white, and female. Karyotaki and colleagues (2015) found that demographics may play a role in determining treatment effects, therefore, these sample characteristics may negatively impact generalizability.

Another limitation of the study was possible imprecision due to the anonymity of online recruitment. The study was advertised on various websites and social media platforms. In addition to the 16 survey responses that were discarded, a number of email inquiries came through that appeared to be malicious or fraudulent. Any suspicious inquiry emails (e.g. several received at once that were worded similarly) were marked as spam by researchers and were not evaluated for eligibility. After a period of 30 days, these emails were automatically deleted. It is estimated that between 50 and 100 of such spam inquiries were received, though an exact number is unknown due to the automatic deletion.

A third limitation was the attrition and lack of user information from those who did not complete posttest measures. As a result of significant attrition and lack of follow up data, we are unable to determine their outcomes and how different levels of course engagement impact outcomes. Because a high percentage of people who did complete the post-test measures completed the course in its entirety, there is restricted range in the predictive power of percent completion of the course. It is possible that this variable would have more predictive power had

those who were lost to follow up completed post-test measures. Additionally, we have no qualitative feedback from those who did not complete the post-test to determine their satisfaction with the course and reasons for lower engagement.

Finally, two of the measures used in the study (SURF and the Self-Compassion measure) were developed by our research team and have not been widely validated. As mentioned in the method section, data from an initial validation study that is yet to be published and current study psychometrics provided evidence for internal consistency and convergent validity. Additionally, using multiple methods of measurement strengthens the findings. However, this remains a limitation as these measures have not yet been validated by independent researchers.

Future Directions

The present intervention is part of a larger project by the researchers to develop online positive psychology interventions to improve overall well-being in the general population. Other interventions currently in development within this project include online courses and modules that focus on various well-being-related constructs including gratitude, savoring, mindfulness, personal growth, purpose, values, supportive relationships, and more. Beta versions of these interventions can be found at mybestself101.org. These web-based tools are intended to be easily accessible and personalized to each user's needs. After completing a baseline assessment, which measures their normative levels of the relevant constructs (e.g. self-compassion, gratitude, savoring) and their interest in improving them, the user is matched with the most appropriate intervention. This matching is based on the user's standing normative standing, the strength of the association between the constructs and well-being, and the user's level of interest. Unlike the present study, which offered the GSC to all participants regardless of their baseline levels or interest, future applications of this tool will focus on providing it to those who are likely to

benefit the most from it, specifically those who are interested in self-compassion and have low levels of self-compassion.

With respect to increasing empirical support for the GSC, future research should continue to bolster the findings that have been found in the present study as well as the original pilot study. The Chambless criteria for identifying empirically supported treatments suggests that to be considered “well-established” an intervention should be proven efficacious by at least two different independently conducted and well-designed randomized controlled trials (Chambless & Hollon, 1998). Recent recommendations from the Society of Clinical Psychology have upgraded this recommendation and suggest that each intervention have an entire synthesized body of literature to receive a “very strong” designation (Tolin et al., 2015). Of course, there is a great deal of research to be done before the GSC could reach such a designation, but future directions would include extensive investigation by independent researchers. Such research should aim to increase the generalizability and external validity of the findings in the present study by exploring samples with more diverse demographic characteristics.

To improve adherence to and completion of the self-compassion intervention, future research could investigate the minimum effective dose of the intervention. The current version of the intervention is a 30-day course designed to develop a habit of self-compassion and mindfulness practice. However, it is possible that users could benefit from a shorter, more focused version of the intervention. Further research should examine the outcomes of such abbreviated interventions and assess whether their effects are sustained over time. This could help to identify the most effective and feasible way to deliver the self-compassion intervention to a broader range of individuals.

There remains a great disparity between the number of people in need of mental health services and the number who are able to receive them (Kazdin & Blase, 2011a). Although the present study and previous research have highlighted the efficacy of online self-compassion interventions, the challenge of attrition and adherence to such programs persists. If online interventions are to be used as a preventative approach to quell the need for mental health services, it is necessary to explore effective models of dissemination which maximize engagement. Data for efficacy paired with high attrition rates suggests that although these interventions have proven therapeutic, they may not be inherently reinforcing enough to keep users engaged over time. It may be necessary to pair online interventions with other external incentives or rewards to encourage users to adhere to the programs. Future research should explore alternative dissemination models that reinforce and engage users effectively. Ideas might include partnering with insurance providers or employee wellness programs to incentivize usage and engagement. This type of model could promote higher levels of engagement through external reinforcers such as financial incentives and could benefit users, providers, and employers alike. With additional external reinforcement, it is more likely that users experience the benefits associated with self-compassion interventions. In these contexts, the GSC has the potential to help users develop and maintain self-compassion skills that can improve their daily lives and overall well-being.

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Appendix A

Content from Beta-Version of GSC used in Previous Pilot Study

Section Title	Description
Self-Compassion	Basic overview and introduction to self-compassion
Self-Compassion Questionnaire	Self-compassion questionnaire that allows the participant to evaluate their current levels of self-compassion and receive a normative score
What is Self-Compassion?	Psychoeducational material about what self-compassion is. Includes a writing exercise and YouTube video.
Building Blocks of Self-Compassion	Introduces the three components of self-compassion: self-kindness, mindfulness, and common humanity.
Resistance and Acceptance	Discusses the role of emotional acceptance in self-compassion. Provides YouTube videos that illustrate this concept.
What Self-Compassion is Not	Discusses several common misconceptions about what self-compassion is. Common misconceptions include self-indulgence, narcissism, and self-pity.
Benefits of Self-Compassion	Outlines some of the positive correlates and benefits of self-compassion based on peer-reviewed literature.
Self-Compassion Strategies	Provides a menu of different self-compassion strategies and practices including meditations, writing exercises, and thought exercises.
Personal Experiment	Outlines the structure of the 3-week intervention, the amount of time to spend on psychoeducation vs. practice, and how to track progress.
Self-Compassion Resources	Provides several links to helpful external sources, websites and YouTube videos related to self-compassion.

*The module can be accessed at <https://www.mybestself101.org/self-compassion>

Appendix B

Self-Compassion Scale (SCS)

Instructions: Please read each statement carefully before answering. Below each item, indicate how often you behave in the stated manner, using a 1 to 5 scale:

Almost Never				Almost Always
1	2	3	4	5

1. I'm disapproving and judgmental about my own flaws and inadequacies.
2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I'm feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm intolerant and impatient towards those aspects of my personality I don't like.
12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don't like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.
19. I'm kind to myself when I'm experiencing suffering.
20. When something upsets me I get carried away with my feelings.
21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
22. When I'm feeling down I try to approach my feelings with curiosity and openness.
23. I'm tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion.
25. When I fail at something that's important to me, I tend to feel alone in my failure.
26. I try to be understanding and patient towards those aspects of my personality I don't like.

Appendix C

My Best Self 101 Self-Compassion Measure (MBS101-SC)

Instructions: Please indicate how much you agree with each of the following statements, based on your experiences over the past few weeks.

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Somewhat Disagree
- 4 = Neutral
- 5 = Somewhat Agree
- 6 = Agree
- 7 = Strongly Agree

1. I am highly self-critical.
2. I am kind to myself, especially when I need it most.
3. When I'm sad, down, or discouraged, I often blow things out of proportion.
4. My flaws and shortcomings are often a source of struggle, shame, or self-judgment.
5. When I'm struggling with something, I remember that other people experience things like this too.
6. When I'm having a hard time, I can put words to how I'm feeling.
7. I treat myself similar to the way I would treat someone I really care about.
8. Struggling or suffering makes me feel more isolated or separated from others.
9. I am able to offer myself love and validation when I need it.
10. When I'm going through a hard time, I remember that struggle is a normal part of life.
11. I'm good at noticing what I'm feeling.
12. When I make a mistake, I remember to be patient and loving toward myself.

Appendix D

Satisfaction with Life Scale (SWLS)

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Somewhat Disagree
- 4 = Neutral
- 5 = Somewhat Agree
- 6 = Agree
- 7 = Strongly Agree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Appendix E

Positive and Negative Affect Schedule

This scale consists of a number of words that describe different feelings and emotions. Read each item and indicate to what extent you **generally** feel this way.

1= Very slightly or not at all

2 = A little

3 = Moderately

4 = Quite a Bit

5= Extremely

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

Appendix F

The Survey on Flourishing (SURF)

Please indicate how much you agree with each of the following statements, based on your experiences over the past few weeks.

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Somewhat Disagree
- 4 = Neutral
- 5 = Somewhat Agree
- 6 = Agree
- 7 = Strongly Agree

1. My life is full of joy.
2. Other people genuinely appreciate me and care about me.
3. I often feel like I should be happier than I am.
4. The things I do in life are valuable and worthwhile.
5. I am very satisfied with the way I am living my life.
6. I usually wake up excited for the day ahead.
7. I feel a strong sense of purpose and meaning in my life.
8. My relationships are supportive and rewarding.
9. Most days, I experience more negative emotions than positive ones.
10. I feel a genuine sense of connection to other people.
11. I regularly spend time doing things I enjoy.
12. I often feel like no one understands me.
13. I feel happy and peaceful most of the time.
14. There is very little (if anything) I would change about my life.
15. I do many things that contribute to others' well-being.
16. I often feel like it's a struggle to get through the day.
17. I can achieve all the goals I set for myself.
18. I feel intense gratitude to be alive.
19. I would say I'm making very good progress in life

Appendix G

Body Shapes Questionnaire 16-b

Instructions: We would like to know how you have been feeling about your appearance over the **PAST FOUR WEEKS**. Please read each question and select the appropriate answer below each item.

- 1 = Never
- 2 = Rarely
- 3 = Sometimes
- 4 = Often
- 5 = Very Often
- 6 = Always

1. Have you been so worried about your shape that you have been feeling you ought to diet?
2. Have you been afraid that you might become fat (or fatter)?
3. Has feeling full (e.g. after eating a large meal) made you feel fat?
4. Have you noticed the shape of other women and felt that your own shape compared unfavorably?
5. Has thinking about your shape interfered with your ability to concentrate (e.g. while watching television, reading, listening to conversations)?
6. Has being naked, such as when taking a bath, made you feel fat?
7. Have you imagined cutting off fleshy areas of your body?
8. Have you not gone out to social occasions (e.g. parties) because you have felt bad about your shape?
9. Have you felt excessively large and rounded?
10. Have you thought that you are in the shape you are because you lack self-control?
11. Have you worried about other people seeing rolls of fat around your waist or stomach?
12. When in company have you worried about taking up too much room (e.g. sitting on a sofa, or a bus seat)?
13. Has seeing your reflection (e.g. in a mirror or shop window) made you feel bad about your shape?
14. Have you pinched areas of your body to see how much fat there is?
15. Have you avoided situations where people could see your body (e.g. communal changing rooms or swimming baths)?
16. Have you been particularly self-conscious about your shape when in the company of other people?

Appendix H

Kessler Distress Scale (K6)

The following questions ask about how you have been feeling during the past 30 days. For each question, please select the option that best describes how often you had this feeling.

During the past 30 days, about how often did you feel...

- 1= None of the time
- 2 = A little of the time
- 3 = Some of the time
- 5= Most of the time
- 6 = All of the time

1. ...nervous?
2. ...hopelss?
3. ...restless or fidgety?
4. ...so depressed that nothing could cheer you up?
5. ...that everything was an effort?
6. ...worthless?

Appendix I

GSC Feedback Questionnaire

1. On average over the three weeks, about how many times per week on average were you able to use the module or implement the strategies?
2. About how many minutes on average did you spend each time you practiced?
3. The self-compassion module (the set of online resources you were instructed to use) is designed to help people learn about self-compassion and to help people practice this skill more effectively. How helpful do you feel the course was at helping you to increase self compassion?
 - 1 - Not at all helpful
 - 2 - A little helpful
 - 3 - Moderately helpful
 - 4 - Very helpful
 - 5 - Extremely helpful
4. Overall, how helpful was the **informational content** on self-compassion (not including the strategies)?
 - 1 - Not at all helpful
 - 2 - A little helpful
 - 3 - Moderately helpful
 - 4 - Very helpful
 - 5 - Extremely helpful
5. How helpful were the **strategies** provided in learning how to more effectively practice self-compassion?
 - 1 - Not at all helpful
 - 2 - A little helpful
 - 3 - Moderately helpful
 - 4 - Very helpful
 - 5 - Extremely helpful
6. How likely would you be to recommend this course to a friend?
 - 1 - Extremely unlikely
 - 2 - Unlikely
 - 3 - Neutral
 - 4 - Likely
 - 5 - Extremely likely
7. What things did you find most helpful about the self-compassion course?
8. What would make the self-compassion course more helpful for you? What suggestions for improvements do you have?
9. Any other comments or feedback you'd like to provide about the self-compassion course or your experience practicing the strategies?

Appendix J

Self-Compassion Exercises Included in the GSC Course

Course Introduction		
Lesson	Format	Description
Lesson 1.1 Your Self-Compassion Journey Begins Here	Video (4:26)	Gives overview of GSC course
Lesson 1.2 Workbook Download	Text	Instructions for downloading PDF Workbook
Lesson 1.3 Baseline Questionnaires	Survey	Participants are able to complete SURF and MBS101-SC to begin tracking progress
Lesson 1.4 About your instructor	Video (3:50)	Short introduction video from the instructor
Lesson 1.5 How to make the most of this course	Video (4:55)	Discusses tips for completing the course including willingness to stay engaged and experiment, participating with others
Lesson 1.6 How to join the private Facebook group (optional)	Text	Participants are given access to an optional Facebook group in which they can connect with other users of GSC
Lesson 1.7 QUICK Self-Compassion practices	Text + Audio	Instructions as well as guided audio meditation to help users breathe, name emotions, create space, and offer nurturing
Lesson 1.8: Self-Compassion Strategies Menu	Text, Link	Provides participants with link to beta version of GSC which has a list of different self-compassion resources, strategies, and practices they can choose from
The Fundamentals of Self-Compassion		
Lesson 2.1 What is self-compassion?	Video (3:48), Text	Gives conceptual introduction to self-compassion as a construct, what it means and what it looks like
Lesson 2.2 Building blocks of self-compassion	Video, Text, Workbook exercise	Introduces 3 components of self-compassion: self-kindness, mindfulness, and common humanity. Workbook assignment to recall self-critical thoughts and practice communicating self-kindness
Lesson 2.3 The “Magic” of mindful awareness	Video (5:35), Text	Gives introduction to the concept of mindfulness (e.g. awareness, openness to difficult experiences) as it relates to self-compassion

Lessons 2.4 Misconceptions about self-compassion	Video (6:20), Text	Addresses some of the common misconceptions about self-compassion (e.g. it's self-indulgent, selfish, etc.)
Lesson 2.5 Why self-compassion matters	Video (3:46), Text, Workbook exercise	Discusses why self-compassion is important and benefits associated with it, in workbook participant discusses how they feel they could benefit from self-compassion
The Practice of Self-Compassion		
Lesson 3.1.1 Introduction to the Practice Section	Text	Gives instructions for the practice section and how it will work
Lesson 3.1.2 A Taste of Self-Compassion	Audio (7:19)	Guided practice that focuses on awareness of a difficult experience and providing gentle support
Lesson 3.2 Compassionate Grounding	Audio (9:58), Text	Guided practice that focuses on coming into the body and grounding in the physical experience to break out of unhelpful self-criticism
Lesson 3.3 Becoming Aware of the Self-Critical Voice	Audio (9:47), Text	"Leaves on a Stream" guided practice to help begin noticing the critical voice
Lesson 3.4 Working with Challenging Emotions	Text, Practice, Workbook exercise	Discusses "three As": Acknowledge, Allow, Accommodate as well as a number of techniques to deal with challenging emotions. Mental practice involves recalling a difficult experience and practice leaning into the emotion. Workbook exercise involves reflection on the previous exercises and identifying how they can be applied to every day life.
Lesson 3.5.1 Nurturing: A Supportive Touch	Text, Practice	Participant practices using supportive gestures including putting a hand on the heart, cradling the face, giving oneself a hug or gentle squeeze, etc. Noticing how the self-nurturing feels
Lesson 3.5.2 Nurturing: Finding Your Phrases	Text, Practice	The participant identifies "What do I need?" and formulates a supportive phrase/affirmation to meet that need
Lesson 3.6 A "Compassionate" Benefactor	Text, Audio (7:07)	Guided practice in which individual imagines receiving compassion and acceptance from a trusted loved one. The participant is able to practice receiving compassion.
Lesson 3.7 RAIN of Self-Compassion	Text, Audio (8:32)	Lesson gives overview of Tara Brach's (2017) RAIN practice. Guided meditation walks participant through

		steps of RAIN (recognize, allow, investigate, nurture).
Lesson 3.8 Notice and Pivot	Text, Practice	Discusses self-criticism as a misguided stress response and how to redirect it as self-compassion. Participant identifies common self-critical thoughts and instead of challenging or disproving, simply “pivoting” toward self-kindness, mindfulness, and common humanity.
Lesson 3.9 Active Self-Compassion	Text, Practice	Discusses how self-compassion can be “active” and involve behaviors such as setting boundaries, completing goals, and taking action. Participant identifies ways in which they can practice self-compassion his or her life by taking action.
Lesson 3.10 Metta Practice: Fostering Connection	Text, Audio (11:54)	Guided practice that helps individual cultivate feelings of goodwill toward self and others.
Lesson 3.11 Working with Challenging Thoughts	Text, Workbook exercise	Participant is introduced to concept of cognitive defusion and 3 steps to work with difficult or self-critical thoughts: Notice, Name, Neutralize. Participant then documents thoughts in the workbook.
Lesson 3.12 Self-Compassion Letter	Text, Workbook exercise	Participant is given instructions to write a self-compassionate letter to him or herself. Instructions include identifying an area of difficulty, noticing related self-critical thoughts, and providing words of compassion
Lesson 3.13 Affectionate Breathing	Text, Audio (15:17)	Participant is able to practice calming the physiological response associated with self-criticism through breathwork.
Lesson 3.14 Tackling Perfectionism	Text	Discusses ways to challenge perfectionism and how mindfulness and self-compassion can help with this
Lesson 3.15 Self-Compassion in Relationships	Text, Audio (9:40)	Discusses how self-compassion can benefit and deepen relationships, guided meditation that helps to increase your capacity to hold difficult emotions while responding compassionately (to self and others)

Lesson 3.16 Loving Your Mess	Text, Audio (9:41)	Gives anecdote that emphasizes the beauty in imperfection, guided meditation invites participant to visualize a place in nature and how things (including nature and ourselves) can be beautiful despite imperfections.
Lesson 3.18 From struggle to connection	Text, Practice	Discusses common humanity and getting out of the comfort zone to connect. Gives opportunity to connect with another person about difficult shared experiences.
Lesson 3.18 Self-Compassion and Your Body	Text, Link	Participants are linked to body appreciation mini-module on mybestself101.org
Lesson 3.19 Values: A Wellspring of Self-Compassion	Text, practice	Discusses values and how living by values can be an act of self-compassion, provides values clarification exercise
Lesson 3.20 Loving Who You Are	Text, Audio (11:13)	Guided practice that focuses on recognizing and appreciating one's positive qualities
Lesson 3.21 Create your Own Practice	Text, Workbook exercise	Participants are given an overview of some of the general principles from the course and asked to create their own, custom-made practice and record it in the workbook.
Lesson 3.23 Your Self-Compassion Toolkit	Text, Workbook exercises	User is asked to write in workbook about self-compassion practice and which practices have been the most impactful.
Bonus Exercises		
Lesson B.1 Self-Compassion Tree Exercise	Video, exercise, printout	Uses tree drawing and visualization to practice self-compassion
Lesson B.2 Self-Compassion Stone exercise	Video, exercise, printout	Activity to help identify how life would look different with more self-compassion
Lesson B.3 Emotional Intelligence – Body Awareness Exercise	Video, exercise, printout	Helps to identify how self-criticism manifests in the body
Lesson B.4 Self-compassion Rose Exercise	Video, exercise, printout	Gives opportunity to imagine oneself as a rose and offer kindness and compassion to childhood and current self
Lesson B.5 Compassionate Awareness Exercise	Video, exercise, printout	Practices grounding and connecting with five senses while practicing compassion

Lesson B.6 Understanding the Self-Critic	Video, exercise, printout	Helps to understand the motivations of one's "self-critic"
Your Journey Continues!		
Lesson 4.1 Epilogue	Video (2:46)	Gives wrap-up and review of course
Lesson 4.2 Progress Questionnaire	Survey	Participant is able to take SURF and MBS101-SC measures once again to track progress
Lesson 4.3 Course Feedback	Text	Participants are offered the opportunity to provide course feedback

Appendix K

Outline of Expressive Writing (EW) Course

Introduction to expressive writing course: In this intro, the participant is given the opportunity to complete baseline measures and is given information via text and video about the potential benefits of expressive writing. The outline for the rest of the course is outlined. Each day, participants will be asked to spend 20 minutes completing one of two writing prompt options:

Option #1: Write about something that is emotionally important/relevant to you right now.

Option #2: See List below for each daily prompt

Day 2: Write for 20 minutes about your fears or a time where you experienced fear.

Day 3: Write for 20 minutes about a time that you passed through great adversity.

Day 4: Write for 20 minutes about an experience that brought you great joy.

Day 5: Write for 20 minutes about a time that you felt proud.

Day 6: Write for 20 minutes about a time you felt grief.

Day 7: Write for 20 minutes about a time you felt embarrassment or shame.

Day 8: For 20 minutes, write a letter to your childhood self.

Day 9: For 20 minutes, Describe your greatest insecurity and why you struggle with it.

Day 10: Write about the last bad day you had and describe how you could've made it better.

Day 11: Write about how you were raised by your parent(s). Include the good, the bad, and the ugly.

Day 12: Write about your greatest source of guilt.

Day 13: Describe what falling in love feels like or what you imagine it might feel like.

Day 14: Write about something that frustrates you.

Day 15: Write about the last time you cried.

Day 16: Write about a subject you find to be taboo in our society.

Day 17: Write your life story, including what you hope your future looks like.

Day 18: Write about the things you like and dislike about yourself.

Day 19: Write about something you wish you could overcome or let go of.

Day 20: Write about a time when you gave up on a dream.

Day 21: What has been altered in your life since the pandemic? What difficulties have come from it? Has any good come from it for you personally?

Day 22: How are you feeling about everything that is happening in the world?

Day 23: Write about a time that you felt truly alone or lonely.

Day 24: Write for 20 minutes about things that have been worrying you lately.

Day 25: Reflect on a time in which someone made a positive difference in your life.

Day 26: Write about a time that someone was critical of you and how you felt.

Day 27: Write about a time when you failed at something.

Day 28: Write about a time when you received horrible news and how you felt.

Day 29: Write a letter to your body. If your body could talk, what would it say?

Day 30: What are some struggles you face with your mental health?

Day 31: Write for 20 minutes about your experience with this writing course? What have you learned about yourself? What parts did you enjoy?