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Self-Compassion and Body Dissatisfaction in Women: A Randomized Controlled Trial of a Brief Meditation Intervention

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Abstract Body dissatisfaction is a major source of suffering among women of all ages. One potential factor that could mitigate body dissatisfaction is self-compassion, a construct that is garnering increasing research attention due to its strong association with psychological health. This study investigated whether a brief 3-week period of self-compassion meditation training would improve body satisfaction in a multigenerational group of women. Participants were randomized either to the meditation intervention group (N=98; M age=38.42) or to a waitlist control group (N=130; M age=36.42). Results suggested that compared to the control group, intervention participants experienced significantly greater reductions in body dissatisfaction, body shame, and contingent self-worth based on appearance, as well as greater gains in self-compassion and body appreciation. All improvements were maintained when assessed 3 months later. Self-compassion meditation may be a useful and cost-effective means of improving body image in adult women.

Keywords Self-compassion · Meditation · Mindfulness · Body image · Body shame · Body dissatisfaction · Body appreciation

Introduction

Self-compassion—a construct derived from Buddhist psychology (Brach, 2003; Salzberg, 1997)—is garnering increasing research attention due to its strong association with mental health (see Barnard and Curry 2011 for a review). Neff (2003a, b) has proposed that self-compassion entails being moved by one's own suffering and treating oneself in a caring and empathetic way—just as one would treat a good friend. Self-compassion is relevant to all experiences of suffering, including those caused by perceived flaws, personal inadequacies, failures, or emotionally distressing life events.

More specifically, self-compassion is defined as being comprised of three interconnected components: self-kindness, common humanity, and mindfulness (Neff, 2003b). Self-kindness refers to the tendency to be caring and understanding toward the self rather than harshly judgmental. Rather than attacking and berating oneself for personal shortcomings, the self is offered warmth, comfort, and unconditional acceptance. The sense of common humanity entailed in self-compassion involves recognizing that all people are imperfect, fail, make mistakes, and experience serious life challenges, rather than feeling isolated by the experience of imperfection. Mindfulness in the context of self-compassion involves being aware of one's painful experiences in a balanced way that neither ignores nor amplifies painful thoughts and emotions. It is necessary to be mindful of one's suffering in order to be able to extend compassion towards the self. At the same time, it is important to pay attention in an equilibrated way that does not involve "over-identification," i.e., being carried away by a dramatic storyline that exaggerates implications for self-worth (Neff 2003b).

Research indicates that self-compassionate individuals are psychologically healthier than those who lack self-compassion. For instance, a recent meta-analysis by MacBeth and Gumley (2012) documented a large effect size for the relationship between self-compassion and common expressions of psychopathology such as depression, anxiety, and stress. Self-compassion is also linked to positive psychological strengths such as happiness, emotional intelligence, optimism, wisdom, curiosity, and personal initiative (Heffernan et al. 2010; Hollis-Walker and Colosimo 2011; Neff et al.

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2007). Self-compassion is associated with less rumination, perfectionism, and fear of failure (Neff 2003a; Neff et al. 2005), as well as greater capacity to effectively deal with stressors such as academic pressure (Neely et al. 2009), divorce (Sbarra et al. 2012), and chronic pain (Costa and Pinto-Gouveia 2011).

As an emotional regulatory strategy that teaches individuals how to accept themselves despite their imperfections, self-compassion has clear potential for alleviating the suffering associated with body dissatisfaction. Body dissatisfaction can be defined as a negative evaluation of one's body that involves a perceived discrepancy between an individual's assessment of her actual and ideal body (Cash and Szymanski 1995). Self-compassion may also decrease body shame—the feeling one is a bad person if sociocultural body standards are not met (McKinley 2006). Body dissatisfaction and body shame are so prevalent in females in Western societies that the phenomenon has been described as "normative discontent" (Rodin et al. 1985; Striegel-Moore and Franko 2002). Women of all ages experience serious cognitive, affective, and behavioral symptoms triggered by body dissatisfaction (Grogan, 2008), which persist across the lifespan (Tiggemann 2004; Tiggemann and Lynch 2001; Grippo and Hill 2008; Lewis and Cachelin 2001) and appears to be resistant to a variety of interventions (Pearson et al. 2012).

Body dissatisfaction and body shame are regarded as central to the development of eating pathology (American Psychiatric Association, 2000) and are also associated with higher levels of depression and anxiety (Szymanski and Henning 2007; Van den Berg et al. 2007), lower self-esteem (Grossbard et al. 2009), poorer quality of life (Ganem et al. 2009), decreased physical activity (Ransdell et al. 1998), and other unhealthy behaviors such as smoking (King et al. 2005). As Gilbert and Miles (2002)) summarized, "When people experience their physical bodies as in some way unattractive, undesirable and a source of a 'shamed self' they are at risk of psychological distress and disorders" (p. 3).

Self-compassion is likely to lessen body dissatisfaction among women for several reasons. First, being kind, gentle, and understanding towards oneself rather than harshly judgmental, directly counters the very root of body dissatisfaction—the tendency to criticize rather then accept one's body as it is. Similarly, the sense of common humanity entailed by self-compassion should help women consider their physical appearance from a broad, inclusive perspective that mitigates body dissatisfaction and associated feelings of body shame. The element of mindfulness that is central to self-compassion should also be a mitigating factor by helping women relate to their painful thoughts (e.g., my body is unattractive) and emotions (e.g., I feel too fat to be worthy of love) in a balanced way that avoids fixating on or overidentifying with disliked body characteristics.

Correlational research suggests that self-compassion is significantly associated with body image concerns. Among breast cancer survivors, for instance, trait levels of self-compassion mediated the link between body image disturbance and psychological distress (Przezdziecki et al. 2012). Self-compassion has also been associated with less body dissatisfaction, body shame, social physique anxiety, and objectified body consciousness (Mosewich et al. 2011). In addition, a recent study of university women found that higher levels of self-compassion predicted fewer body concerns, body preoccupation, and weight worries (Wasylkiw et al. 2012).

In addition to buffering the negative effects of body dissatisfaction and shame, self-compassion may also enhance women's abilities to appreciate their bodies (Ferreira et al. 2013). Body appreciation refers to the extent to which women like, accept, and respect their bodies despite weight, shape, and imperfections, and is a positive psychological strength that has been linked to optimism and life satisfaction (Avalos et al. 2005). Because self-compassion is associated with positive mind states such as optimism, life satisfaction and gratitude (Breen et al. 2010; Neff 2003a; Neff et al. 2008; Neff et al. 2007; Shapira and Mongrain 2010), it may also enhance a sense of appreciation and respect for one's body as it is.

One way in which self-compassion may improve body image is by offering women an alternative way of valuing themselves. Women living in Western culture are taught that physical beauty is one of their most important features. In fact, women's self-esteem is largely contingent upon meeting societal standards of ideal beauty (Harter 1999). If they do not meet these standards, their sense of self-worth suffers. Like self-esteem, self-compassion is a significant source of positive self-regard. While self-esteem is contingent on success in valued domains such as appearance or social approval (Crocker and Wolfe 2001), self-compassion involves treating oneself kindly in times of failure. In fact, Neff and Vonk (2009) found that self-compassion is associated with lower levels of social comparison than global self-esteem and is less contingent on perceived appearance.

Self-compassion appears to buffer against eating pathology as well as body dissatisfaction. It has been linked to less severe binge eating (Webb and Forman 2013), as well as lower levels of disordered eating in women with clinical eating disorders (Ferreira et al. 2013). Another study found that self-compassion fully mediated the link between body dissatisfaction and restrained and disordered eating (Finely-Straus 2011). There has also been a little research examining how raising self-compassion can impact disordered eating behaviors. For instance, a study by Adams and Leary (2007) found that inducing a self-compassionate response to breaking one's diet attenuated the tendency for chronic dieters to overeat as a way to reduce bad feelings associated with the lapse. Another study by Gale et al. (2012) found that compassion-focused therapy—a general therapeutic approach designed to help patients develop a sense of compassion, warmth, and emotional responsiveness toward themselves (Gilbert, 2010)—significantly improved eating disorder symptomatology.

To our knowledge, there has been no research examining the impact of self-compassion training on body dissatisfaction, especially among women who are not in therapy for more serious eating pathologies. There is some research examining mindfulness training and body dissatisfaction, however, which is relevant given that mindfulness is a core component of self-compassion. For example, Adams et al. (2013) found that participants who tried on a bathing suit while listening to a mindfulness training tape had less negative affect and body image dissatisfaction. Another study found that combining mindfulness training with mirror-exposure significantly improved weight/shape concerns and body satisfaction (Delinsky and Wilson 2006). Two mindfulness-based interventions—acceptance and commitment therapy and dialectical behavioral therapy—have also been shown to reduce body dissatisfaction (Pearson et al. 2012; Telch et al. 2001). In addition, a study evaluating mindfulness skills and interpersonal behavior found a positive relationship between body satisfaction and mindfulness (Dekeyser et al. 2008). Explicit training in self-compassion is also likely to attenuate body dissatisfaction because in addition to bringing mindful awareness to one's body-related thoughts and emotions, it fosters a sense of care and tenderness toward the self while experiencing these thoughts and emotions. Thus, self-compassion may be an especially powerful mechanism for coping with body image concerns.

Germer and Neff have developed a program designed to teach self-compassion skills to the general populace called Mindful Self-Compassion (MSC; Neff and Germer 2013). In this program, participants meet for 2.5 hr once a week for 8 weeks and also attend a half-day silent meditation retreat. Formal meditation practices are taught that are designed to foster a state of self-compassion, and informal practices are also given such as placing one's hands on one's heart in times of stress. Home practices are assigned at the end of each session such as writing a compassionate letter to oneself. Participants are asked to do 40 min of self-compassion practice each day, which can be a combination of formal and informal practices. To facilitate formal meditation practice, self-compassion meditation audio files (approximately 20 min in length) are available for participants to practice at home. Neff and Germer (2013) recently conducted a randomized controlled study of the MSC program. Compared to a wait-list control group, MSC participants demonstrated a large (43 %) and significant increase in their self-compassion levels. Participants also significantly increased in mindfulness, compassion for others, and life satisfaction while decreasing in depression, anxiety, stress, and emotional avoidance. All gains in study outcomes were maintained at 6-month and 1-year follow-up points.

The 8-week MSC program appears to be effective at teaching self-compassion and improving well-being and might also be effective at addressing body image concerns. However, the full MSC program requires a considerable time commitment from participants, including physical attendance at weekly MSC meetings. For this reason, we decided to conduct a study of a shorter intervention that only required participants to listen to recordings of the guided self-compassion meditations from the MSC program for 3 weeks, in order to determine if this would increase self-compassion and lessen body dissatisfaction in adult women. This way of delivering the intervention increased convenience, flexibility, and privacy for participants.

There is some indirect evidence that self-compassion can be increased through home study. In their trial of the Mindful Self-Compassion (MSC) Program, Neff and Germer (2013) found a significant increase in self-compassion and mindfulness among the waitlist control group as well as the intervention group (although gains for the intervention group were much larger). In an attempt to explain these findings, they contacted participants in the waitlist control group and discovered that 50 % reported reading books on self-compassion (e.g., Germer 2009; Neff 2011) or listening to the meditation podcasts available online at Neff and Germer's respective websites. While the significant increase in self-compassion displayed by the waitlist group cannot be definitively attributed to participants' use of the meditation podcasts, results are suggestive that this type of training may have some effect.

For these reasons, the current study investigated whether listening to self-compassion meditation audio recordings could increase self-compassion and improve body image concerns among adult women. This was not an online intervention, which would have involved having participants interact synchronously with teachers through a web conferencing site. Rather, we simply offered women access to audio podcasts, which they could download and listen to on their own. Specifically, we examined the impact of 3 weeks of self-compassion meditation training on five variables: self-compassion, body dissatisfaction, body shame, body appreciation, and contingent self-worth based on appearance. We decided to recruit participants on the Internet since we wanted to study a large sample of women of all ages, and the Internet was a convenient way to recruit this demographic. All survey questionnaires were also completed online in order to facilitate data collection.

The study implemented a 2 (experimental vs. waitlist control group)×2 (baseline, posttreatment) randomized study design, yielding a between-groups comparison condition. We hypothesized that controlling for age and prior meditation experience, women who partook in the self-compassion meditation training would experience higher levels of self-compassion and body appreciation, as well as lower levels of body dissatisfaction, body shame, and contingent self-worth based on appearance compared to a waitlist control group. Although comparison to a waitlist control group was not as robust as comparison to an active control group, we decide to use a waitlist since this was a preliminary study primarily

aimed at determining whether listening to audio podcasts of self-compassion meditations is effective in the first place.

We also examined whether changes in self-compassion (as calculated by pre–postdifference scores) experienced by the intervention group would predict improvements in body dissatisfaction, to explore self-compassion as a mechanism of program effectiveness. We expected there to be a practice effect, so that the total number of times per week participants practiced self-compassion meditation would predict pre–postchanges in other study outcomes. Finally, we expected that all gains associated with the intervention would be maintained at 3-month follow-up.

Method

Participants

Participants were recruited through an advertisement inviting women with body image concerns to participate in a study involving meditation. The advertisement was posted on a variety of Internet sites, particularly sites containing information about body image, disordered eating, and eating disorders. We targeted women with body image concerns so we could conduct the study with women who were experiencing some level of body dissatisfaction-related distress. Advertisements were also placed on Facebook, LinkedIn, Twitter, Yahoo groups, and various other websites related to body image such as wearetherealdeal.com and weightless (blogs.psychcentral.com/weightless/). Several individuals with listservs or group e-mail newsletters dealing with body dissatisfaction and/or eating disorders also e-mailed their list information about the study, and LinkedIn and Yahoo groups for therapists were used to refer suitable participants to the study. Snowball sampling was also utilized. The most common places that women reported finding out about the study were websites (35 %) followed by referrals from friends and therapists (23 %), and Facebook (20 %).

The only requirements to participate were being female, over 18, and having Internet access. The chance to win a gift card (four $25 and one $100) was offered as an incentive for starting and completing the study. Initially, 479 adult women expressed interest in participating in the study, and after electronically signing a consent form, they were randomized to either the intervention group or the waitlist control group. Of this total, 32 women did not complete the initial pre-test survey (12 from the intervention group and 20 from the control group) and 242 (133 from the intervention group and 109 from the control group) did not complete the posttest survey, either due to technical difficulties, because they indicated they did not have time, or for unknown reasons. In addition, nine participants in the intervention group who completed the posttest survey were eliminated from the study because they indicated they did not listen to the mediation podcasts at all. The final pool of participants therefore included 228 adult women: 130 in the control group and 98 in the intervention group.

Participants ranged in age from 18 to 60. Of the intervention participants (M age=36.42, SD=1.31) 43 % reported having no prior meditation experience, 45 % had meditated occasionally, and 12 % were regular meditators. Of the control-group participants (M age=38.42, SD=1.42) 44 % reported never having meditated, 45 % had mediated occasionally, and 11 % were regular meditators. t tests indicated that there were no significant differences between the two groups on age and prior meditation experience as well as the five dependent study variables: self-compassion, body dissatisfaction, body shame, body appreciation, and contingent self-worth based on appearance, (ps>.05). The majority of participants (95 %) were white and reported either living in the USA (80 %), Canada (10.4 %), Australia (4.4 %), the UK (4 %), or another country (1.2 %).

Measures

Baseline and postintervention measures were completed online 1 or 2 days prior to and after the end of the 3-week program. Participants in the intervention group were also given all the study measures again 3 months after completion of the program to determine if any improvements that were found would be maintained over time. About half (N=51) of these participants completed the 3-month follow-up assessment. Participants in the intervention group were also provided with an opportunity at the end of the second survey to comment on their experience. Those in the waitlist-control group received the audio podcasts 3 weeks after the intervention group completed their trial, but were not surveyed again.

Self-Compassion The Self-compassion Scale (SCS; Neff 2003a) is a self-reported, 26-item measure with responses ranging from 1 (almost never) to 5 (almost always). It contains six subscales (negative subscales are reverse-coded): self-kindness (e.g., I try to be loving towards myself when I am feeling emotional pain), self-judgment (e.g., I am disapproving and judgmental about my own flaws and inadequacies), common humanity (e.g., When things are going badly for me, I see the difficulties as part of life that everyone goes through), isolation (e.g., When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world, mindfulness (e.g., When I am feeling down I try to approach my feelings with curiosity and openness), and overidentification (e.g., When I am feeling down I tend to obsess and fixate on everything that is wrong). The subscales of the SCS may be examined separately, or else a total self-compassion score can be used given that a single higher-order factor of "self-compassion" has been found to

explain the intercorrelations between subscales (Neff 2003a). Note that the self-judgment, isolation, and overidentification subscales of the SCS are reverse-coded so that higher scores indicate higher levels of self-compassion. Internal consistency reliability for the total scale was α=.95, and ranged from .70 to .84 for the subscales.

Body Dissatisfaction To measure body dissatisfaction we used the Body Shape Questionnaire (Cooper et al. 1987), a widely used scale that measures concerns about body shape and body dissatisfaction. We used the shortened 16-item version of the scale approved for use by the scale authors (Evans and Dolan 1993). Items are worded negatively to gauge body dissatisfaction (e.g., Has being with thin women made you feel self-conscious about your shape?) and range from 1 (never) to 6 (always). Items are averaged to obtain a mean. Higher scores indicate a higher level of body dissatisfaction. Internal consistency reliability was α=.93.

Body Shame The eight-item Body Shame subscale of the Objectified Body Consciousness Scale (McKinley and Hyde 1996) measures how an individual feels about herself if she does not fulfill cultural expectations for her body (e.g., When I cannot control my weight, I feel like something must be wrong with me). Items are rated on a scale ranging from 1 (strongly disagree) to 7 (strongly agree), and higher scores indicate a higher level of body shame. Internal consistency reliability was α=.86.

Body Appreciation While there are numerous instruments that measure negative body image, the self-reported, 13-item Body Appreciation Scale (Avalos et al. 2005) is the first instrument to conceptualize and assess body image as a positive dimension (e.g., I feel good about my body; I feel that my body has at least some good qualities). Items range from 1 (never) to 5 (always). Higher scores indicate a higher level of body appreciation. Internal consistency reliability was α=.94.

Contingent Self-Worth based on Appearance The Contingencies of Self-Worth Scale (CSW; Crocker et al. 2003) is a 35-item scale that focuses on seven different domains of self-worth contingency, but only the Appearance subscale was used in the current study. Items are rated on a scale from 1 (strongly disagree) to 7 (strongly agree). The CSW for Appearance subscale consists of five questions (e.g., When I think I look attractive, I feel good about myself). Higher scores indicate higher levels of self-esteem contingency based on appearance. Internal consistency reliability was α=.76.

Intervention

The intervention given to participants lasted 3 weeks. Research on mindfulness training suggests these types of short practice periods can be efficacious (Britton et al. 2010; Glück and Maercker 2011; Tang et al. 2007). Each week, participants received a link to a different podcast (mp3 audio file) containing a 20-min self-compassion meditation with the instructions: "Please try to listen to it once per day for the next week." Three different guided self-compassion meditations that are taught in the Mindful Self-Compassion program (Neff and Germer 2013) were used for the intervention. (These podcasts are available at www.selfcompassion.org.)

The first week's meditation, the Compassionate Body Scan, is designed to help the listener get in touch with body sensations and bring a sense of compassion, peace, and gratitude to her body. The listener is instructed to lie down and rest a hand on her heart as a reminder to be kind to herself. Starting with the feet and working up to the head, the listener is asked to notice the sensations of various body parts. If judgmental thoughts arise, the participant is told to place a hand on her heart, breath deeply, and return to feeling simple sensations.

The second week's meditation, Affectionate Breathing, asks the listener to first get in touch with her body by doing a quick body scan and noticing any sensations. The listener is then told to take three deep breaths to let out any tension and then to allow breathing to return to normal. Next, she is asked to notice where the breath is felt most strongly without trying to control the breath. The listener then is told to adopt a little half smile and observe how she feels. She is then asked to set an intention to breath in affection and kindness for herself and with each out breath to breathe out affection and kindness towards others who are suffering just like her. The listener is told not to judge her mind when it wanders. The listener is instructed to appreciate each breath and allow the breath to comfort and soothe, and finally to rest in the feelings of kindness she is generating.

The final week's meditation is a variant of loving-kindness meditation (Hofmann et al. 2011) that is focused on having self-compassion for a personal experience of suffering. First, the listener is instructed to be present in the moment, to notice any sounds that are arising, and then to focus on the breath. She is then asked to bring attention to a trait or behavior that has generated negative emotions and allow whatever feelings are connected with this perceived inadequacy to arise. She is then instructed to locate the physical sensation of these emotions in her body and allow them to be there. The listener is then told to place both hands over her heart, and to soothe and comfort herself for the difficult thoughts and emotions she is experiencing. The listener is then asked to silently repeat the following phrases to herself: *May I be safe. May I be peaceful. May I be kind to myself. May I accept myself as I am.*

Results

The mean number of days that participants reported listening to the podcasts per week was 3.60 (range 1–7; SD=1.88). There were no mean differences between groups on any study variables at pretest (*p*s<.05). Bivariate correlations for the entire sample (intervention and waitlist control groups) were calculated for all the study variables at pretest. As shown in Table 1, self-compassion was significantly correlated with all body image-related variables, which were all significantly correlated with each other (*p*s<.01). Note that age and prior meditation experience were also significantly linked to many study variables. For this reason, all analyses controlled for age and prior meditation experience.

In order to determine if the intervention group showed a greater degree of improvement than the waitlist control group, outcomes were examined using a series of 2 (intervention)×2 (time) repeated measures ANCOVAs using age and prior meditation experience as covariates. Results are shown in Table 2, including effect sizes calculated by examining gain scores with Cohen's *d*.

The intervention group demonstrated significantly greater gains in self-compassion compared to the control group, with Cohen's *d* indicating a large effect size of group participation (Cohen 1988). (As indicated in Table 3, gains were significant on all six SCS subscales). Compared to the control group, participants in the intervention group also evidenced significantly greater reductions in body dissatisfaction (medium effect size), body shame (medium effect size), and contingent self-worth based on appearance (small effect size), while experiencing significantly greater gains in body appreciation (medium effect size).

Three months after completion of the program, participants in the intervention group filled out the questionnaire again. Matched-pairs *t* tests indicated that, at 3-month follow-up, levels of self-compassion (*M*=3.25, SD=0.88), body dissatisfaction (*M*=3.01, SD=0.99), body shame (*M*=3.52, SD=1.46), body appreciation (*M*=3.35, SD=0.95), and contingent self-worth for appearance (*M*=4.60, SD=1.14), were significantly different than pretest (*p*s<.05), but were not significantly different from posttest (*p*s>.05), indicating that gains in all outcomes were maintained after the intervention.

Next, controlling for age and prior meditation experience, we examined whether increased self-compassion predicted improved body image concerns among the intervention group using pre–postresidual change scores (see Table 4). A series of regression analyses were conducted that assessed the relationship of pre–postchange in self-compassion to pre–postchange in the body image variables. It was found that increased self-compassion was significantly associated with improvements in all variables: body dissatisfaction, body shame, body appreciation, and contingent self-worth based on appearance.

Finally, an analysis was conducted to examine whether amount of practice (i.e., how often participants listened to the self-compassion meditation podcasts) was associated with pre/post changes in the dependent variables within the intervention group. Results (see Table 5) indicated that only body appreciation was significantly related to the number of days a week that participants meditated, with greater meditation time predicting greater gains in appreciation.

Table 1 Bivariate associations between study variables

Measure	Age	PME	SC	BD	BS	BA
PME	.23**	–	–	–	–	–
SC	.41**	.24**	–	–	–	–
BD	−.26**	−.20**	−.62**	–	–	–
BS	−.18*	−.16*	−.67**	.81**	–	–
BA	.24**	.24**	.72**	−.76**	−.80**	–
CSWA	−.09	−.08	−.48**	.58**	.55**	−.51**

PME prior meditation experience, *SC* self-compassion, *BD* body dissatisfaction, *BS* body shame, *BA* body appreciation, *CSWA* contingent self-worth–appearance

*p<.05; **p<.01

Discussion

The results from this study suggest that listening to guided self-compassion meditation podcasts for 3 weeks has a positive impact on self-compassion and body image in women. It should be noted that many participants reported having positive experiences of the intervention. Comments included: "The podcasts were great," "They were very relaxing," "I surprised myself by how much I enjoyed listening to the meditations. I was also pleasantly surprised how aware and connected it made me feel to my body, mind and spirit," and "This was a wonderful experience, which I strongly recommend to all women."

Study results suggested that the intervention was effective at increasing self-compassion. Those who were randomly assigned to listen to the meditation podcasts evidenced significantly greater increases in self-compassion (19 %) than those randomly assigned to a waitlist control group (5 %), with a large effect size indicated. In addition, the intervention led to significant improvements on all six aspects of self-compassion (self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification), suggesting that the meditations fostered self-compassion in a holistic manner. Neff and Germer (2013) found that attending a full 8-week Mindful Self-Compassion program was found to raise self-compassion by 43 %. The fact that significant gains in self-compassion scores were still obtained in a much shorter, more accessible format suggests that there may be a variety of effective ways to increase self-compassion. Given the burgeoning

Table 2 Pre- and posttest mean scores by group and MSC intervention effects analyzed with 2 (group)×2 (time), repeated measures ANACOVAs (controlling for age and prior meditation experience), and Cohen's *d* effect sizes calculated with gain scores

Outcome	Intervention group		Wait-list controls		*F*	*d*
	Pretest *M* (SD)	Posttest *M* (SD)	Pretest *M* (SD)	Posttest *M* (SD)		
Self-compassion	2.65 (0.78)	3.15 (0.75)	2.62 (0.68)	2.74 (0.72)	37.37**	0.82
Body dissatisfaction	3.40 (1.11)	2.96 (1.06)	3.45 (0.96)	3.41 (1.02)	28.22**	0.73
Body shame	4.25 (1.50)	3.56 (1.47)	4.32 (1.38)	4.20 (1.30)	24.11**	0.68
Body appreciation	2.98 (0.92)	3.39 (0.86)	2.96 (0.85)	3.07 (0.85)	20.87**	0.62
CSW–appearance	5.30 (1.01)	4.91 (1.04)	5.51 (0.87)	5.31 (0.87)	10.99*	0.45

*p<.01; **p<.001

literature documenting the mental health benefits of self-compassion (Barnard and Curry 2011), finding a relatively quick and easy way to increase self-compassion is important.

The main purpose of this study was to determine if self-compassion meditation training would improve body image concerns in women. Results indicated that the self-compassion intervention significantly decreased body dissatisfaction compared to controls, with a medium effect size observed. There are several means by which practicing self-compassion may have mitigated body dissatisfaction. First, the intervention may have decreased participants' tendency to criticize their bodies by teaching them to treat themselves kindly rather then judgmentally. By lessening the constant stream of negative self-talk and relating to oneself with greater tenderness and care, participants appeared to develop a more accepting stance towards their bodies. The sense of common humanity inherent in self-compassion may have also lessened body dissatisfaction by helping participants see the bigger picture—remembering that bodies come in all shapes and sizes and those comparisons with narrow standards of ideal beauty are too limited. An increase in mindfulness, moreover, the third element of self-compassion, may have decreased body dissatisfaction by enabling participants to see their bodies more clearly and with greater balance, without exaggerating perceived flaws.

Body shame also lessened after participants completed the intervention, with a medium effect size indicated. According to objectification theory (Fredrickson and Roberts 1997), women's bodies are socially constructed as objects to be watched and evaluated. As women learn to habitually monitor themselves, they also come to feel self-conscious and ashamed if their bodies do not meet ideal standards of beauty. It appears that helping women to take a more compassionate stance toward themselves lessened this sense of shame, consistent with other research findings that self-compassion attenuates shame and other self-conscious emotions (Ferreira et al. 2013; Gilbert and Procter 2006; Neff and Vonk 2009).

In addition, the intervention was found to increase body appreciation, with a medium effect size observed. These findings are in line with previous research that indicates that self-compassion is linked to an increase in psychological strengths such as gratitude, happiness, and life satisfaction (Breen et al. 2010; Heffernan et al. 2010; Hollis-Walker and Colosimo 2011; Neff and Germer 2013; Neff et al. 2007). By embracing oneself with kindness, connectedness, and equanimity, self-compassion meditation appears to generate a positive attitude

Table 3 Pre- and posttest mean scores for self-compassion subscales by group and MSC intervention effects analyzed with 2 (group)×2 (time), repeated measures ANACOVAs (controlling for age and prior meditation experience), and Cohen's *d* effect sizes calculated with gain scores

Outcome	Intervention group		Wait-list controls		*F*	*d*
	Pretest *M* (SD)	Posttest *M* (SD)	Pretest *M* (SD)	Posttest *M* (SD)		
Self-kindness	2.77 (0.91)	3.19 (0.88)	2.60 (0.84)	2.79 (0.85)	18.22*	0.58
Self-judgment	2.40 (0.89)	3.03 (0.93)	2.38 (0.82)	2.48 (0.81)	34.51*	0.80
Common humanity	2.82 (0.98)	3.24 (0.86)	2.88 (0.88)	2.91 (0.97)	11.04*	0.46
Isolation	2.46 (1.00)	2.98 (0.96)	2.45 (0.90)	2.58 (0.91)	15.16*	0.53
Mindfulness	3.07 (0.88)	3.59 (0.76)	3.00 (0.74)	3.14 (0.80)	12.91*	0.49
Overidentification	2.45(0.89)	3.01 (0.91)	2.49 (0.84)	2.56 (0.87)	19.32*	0.60

The subscales of self-judgment, isolation, and overidentification are reverse coded so that higher scores represent lower levels of these constructs

*p<.001

Table 4 Standardized regression coefficients for pre-/postresidual changes in self-compassion (SC) predicting pre/post residual changes in study outcomes in the intervention group controlling for prior meditation experience and age

Outcome	*B*	R^2	*B*	SE(*B*)
Body dissatisfaction	−.53*	0.39	−0.40	0.07
Body shame	−.32*	0.45	−0.59	0.04
Body appreciation	.59*	0.43	0.55	0.08
CSW-appearance	−.36*	0.22	−0.24	0.06

*$p<.001$

towards one's body, helping women to stop taking their bodies for granted and start being grateful for their bodies as they are.

The intervention appeared not only to change women's attitudes toward their bodies but also the foundations upon which their attitudes rest. Compared to controls, participation in the intervention was found to significantly decrease the degree to which self-worth was contingent on perceived appearance, with a small effect size indicated. Since appearance tends to be the most important domain of self-worth for women (Harter 1999), the fact that contingent self-worth on appearance was reduced suggests that self-compassion may help women discover a new way of relating to themselves. Moreover, because most women cannot obtain the ideal beauty standards required to feel successful in the domain of appearance, reducing self-worth contingency in this area is likely to improve both self-concept and psychological well-being (Overstreet and Quinn 2012; Breines et al. 2008). In contrast to self-esteem, which requires women to positively evaluate their looks in order to feel good about themselves, self-compassion offers more stable and unconditional feelings of self-worth (Neff and Vonk 2009).

Finally, this study examined whether the frequency of meditation during the intervention would influence changes in self-compassion and body image outcomes. Somewhat surprisingly, frequency of listening to the self-compassion podcasts was significantly associated with body appreciation only, and no other outcome variables were predicted by meditation frequency. It may be that a more robust effect was not observed because all participants meditated on average between three and four times per week, possibly creating a ceiling effect. Another explanation is that even brief exposure to self-compassion is enough to significantly change behavior. For example, research by Adams and Leary (2007) demonstrated that just briefly inducing the idea of self-compassion reduced the amount of distress that dieters felt after eating caloric foods. While it is unclear why body appreciation was linked to meditation frequency but other variables were not, it might be that the development of body appreciation is particularly dependent on exposure to meditations that increase body awareness in a kind and comforting manner.

Table 5 Standardized regression coefficients for meditation frequency predicting pre-/postresidual changes in study outcomes, controlling for prior meditation experience and age

Outcome	*B*	R^2	*B*	SE(*B*)
Self-compassion	.14	.11	.04	.03
Body dissatisfaction	−.06	.05	−.03	.04
Body shame	−.01	.02	−.00	.03
Body appreciation	.28*	.14	.09	.03
CSW–appearance	−.01	.04	−.05	.05

*$p<.01$

Limitations and Future Research

As in any research design, there were several limitations to the current study. First, confidence in study results is limited because a waitlist rather than active control group was used. While the meditation treatment appeared to be effective, a placebo effect may have been operating given that the control and intervention groups were aware of the differences in treatment. The intervention group clearly knew that they were doing something positive for themselves, while the waitlist control group was told they would receive the treatment (i.e., meditations) in 3 weeks after completing the second survey. In fact, the return rate for the posttest survey was 18 % higher for waitlist controls compared to the intervention participants, perhaps because they had the extra incentive of receiving the meditation podcasts after completing the second survey. Despite these limitations, this study does suggest that self-compassion training is potentially beneficial and that it is worthy of further study in comparison to other interventions. For instance, it would be useful to compare the effects of self-compassion meditation training with a conventional body scan meditation or cognitive behavioral therapy, the current standard treatment for body dissatisfaction (Jarry and Berardi 2004).

Another issue is that reports of how often participants meditated were reliant on self-report. To help insure that subjects listened to the meditations in future research, it would be beneficial to include a manipulation check where respondents briefly summarize what was on the podcasts, or else listen to the meditations while online using a program that tracks amount of time the podcasts were played. There was also a significant attrition rate in this study, with roughly half of participants dropping out of the study or not completing follow-up measures. According to Eysenbach (2005), attrition rates for studies conducted over the Internet tend to be much higher than for studies conducted through more traditional means, particularly with self-help applications. For example, a study evaluating a depression program called Moodgym had a completion rate of only 0.5 % (Christensen et al. 2004). In the world of Internet based research, therefore, the attrition rate observed in this study is actually low. Still, it may be that

it was mainly people who benefitted from the intervention who remained in the study, and future research should investigate this possibility.

It should be noted that the participants who were attracted to this study were very specific: women who wanted to feel better about their bodies. Women were recruited largely from websites that discussed eating disorders and body image; therefore, it cannot be concluded that this intervention would positively affect women who were not concerned with their body image. However, given that body dissatisfaction is so prevalent, women who responded to the invitation to feel better about their bodies may have been more representative of the general population than one might imagine. The lack of ethnic diversity in the sample should also be noted, with the large majority of participants being white women from English-speaking Western countries. However, the demographic survey questions did not include a category for Hispanic, so there may have been more ethnic diversity then what was observed. Even so, the results of this study cannot necessarily be generalized to other cultural, ethnic, or racial groups.

Because this is the first study (to our knowledge) to explore the effects of self-compassion training on body image concerns in women, more studies are needed to replicate and extend these findings. For instance, levels of self-compassion, body dissatisfaction, body shame and body appreciation all varied as a function of age, and it may be that the effectiveness of interventions such as this one also differ according to age. Future research should examine this issue in order to determine if specific features of self-compassion training or its outcomes vary according to stage of life. Similarly, future studies might usefully examine whether body mass index influences the link between self-compassion and body image concerns, as it is highly correlated with body dissatisfaction (McLaren and Kuh 2004). Determining the characteristics of individuals who best learn self-compassion using recorded material verses learning self-compassion in a group setting with a trained professional may also be important. Finally, since body dissatisfaction has been shown to be a central factor in the development of eating disorders (American Psychiatric Association 2000), it would be worth investigating whether self-compassion meditation also reduces disordered eating behaviors.

Finally, while this study examined the impact of 3 weeks of self-compassion meditation training on body image concerns, other forms of brief self-compassion training may also be efficacious. For example, Shapira and Mongrain (2010) examined the impact of writing a self-compassionate letter to oneself for 5 days and found that it predicted decreased depression for 3 months and increased happiness for 6 months. One could easily imagine tailoring such an intervention to focus on self-compassionate letter writing with regard to body image issues. Similarly, some of the compassionate imagery techniques employed in compassion-focused therapy (Gilbert 2010) might be effective at increasing self-compassion and improving body image in a relatively brief time period.

In conclusion, this study suggests that self-compassion training may be an effective way to help women feel better about their bodies in a world that constantly tells them they are not thin enough. The fact that the intervention was completely conducted over the Internet is also encouraging. Given that an estimated 76.8 % of people living in the developed world and 30.7 % of people living in the developing world use the Internet (International Telecommunications Union 2013), the possibility of helping women to feel better about their bodies using a free and easily accessible technology holds great promise for enhancing women's well-being.

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