This is a repository copy of *Comparing self-compassion versus body exposure for adult women with moderate to severe body dissatisfaction : A feasibility and pilot trial*.

White Rose Research Online URL for this paper:
https://eprints.whiterose.ac.uk/189040/

Version: Published Version

Article:

WILEY

Comparing self-compassion versus body exposure for adult women with moderate to severe body dissatisfaction: A feasibility and pilot trial

Fidan Turk[1] | Stephen Kellett[1,2] | Glenn Waller[1]

[1]Department of Psychology, University of Sheffield, Sheffield, UK

[2]Sheffield Health and Social Care, NHS Foundation Trust, Sheffield, UK

Correspondence
Fidan Turk, Department of Psychology, University of Sheffield, Cathedral Court, 1 Vicar Lane, Sheffield S1 2LT, UK.
Email: fturk1@sheffield.ac.uk

Abstract

This study assessed the feasibility and effectiveness of two brief online interventions for body shame for women with moderate to severe negative body image, to inform the design of a future randomized controlled trial. The primary feasibility outcomes were recruitment, measure completion rates, retention rates and internet connection failure rates. The secondary pilot outcomes were change on clinical measures and state shame ratings during the interventions. Participants were randomized to either online (40-min single session) body exposure or self-compassion interventions. Five validated nomothetic outcome measures (body dissatisfaction, appreciation, eating disorder, external shame and anxiety) were taken at three time points (preintervention, postintervention and 2-week follow-up). Subjective units of body shame (SUBS 0–100 scale) were rated every 5 min during the interventions. The target of recruiting 30 participants in 60 days was successfully achieved. The measure completion rate was high (100%), and retention rates (80% to 100%) showed moderate-to-high acceptability of the interventions. Online delivery was moderately viable with a 12.5% session disconnection rate. The self-compassion intervention significantly reduced SUBS ratings during the course of the intervention, but there was no significant improvement or difference between the interventions on nomothetic outcome measures. Findings suggest that a fully powered trial is viable, and sample size calculation and methodological requirements are provided.

KEYWORDS
body image, body shame, feasibility study, intervention, self-compassion

1 | INTRODUCTION

Body image concerns are a risk and maintenance factor for eating pathology (Stice & Shaw, 2002). Several cognitive-behavioural approaches to body image have been found to be effective. This study compares brief versions of two of the most promising—mirror exposure and self-compassion.

Mirror exposure is particularly effective for body image disturbance (Griffen et al., 2018). This involves deliberate and systematic exposure to the body (e.g., repeatedly standing in front of a full-length

mirror or computer screen and attending to one's body for a prolonged period, without distraction or avoidance). Although such focus is likely to increase anxiety at the beginning, sustained exposure to the feared object (in this case, one's body) reduces anxiety via habituation (Waller & Raykos, 2019). Exposure techniques are hypothesized to work by reducing anxiety/distress through extinction of the fear as the safety behaviour of body avoidance cannot be used (Butler & Heimberg, 2020). Exposures for body image disturbance are typically delivered in 30–40 min, and this was the case in the current study.

A meta-analysis has shown that self-compassion (e.g., attending to one's body in a kind, balanced and warm manner) reduces eating and body image pathology (Turk & Waller, 2020). Self-compassion-based interventions aim to cultivate a sense of compassion, warmth and emotional responsiveness to the body. Such interventions are hypothesized to lower shame, by decreasing the negative self-assessment linked to that emotion (Turk et al., 2021). There are various ways of delivering such interventions (e.g., writing, imaginal or meditative). Previous studies have suggested that there is a need to compare self-compassion interventions to established interventions (Toole & Craighead, 2016). In the current study, we used guided meditations that were matched in terms of time with the exposure condition.

There is also a need to develop and evaluate interventions that can be easily translated into the 'change method' section of treatment sessions (Blackburn et al., 2001) or as homework exercises. These interventions should be brief and easily put into practice. Both compassion and exposure approaches have the potential to meet these criteria. For instance, Moffitt et al. (2018) reported that a 3-min self-compassion intervention for state weight and appearance dissatisfaction was effective for participants with moderate trait body dissatisfaction and was strongest for those with high trait body dissatisfaction. Trippett (2017) showed an overall positive effect of a single 15-min mirror exposure session on non-clinical women (particularly among overweight adults), improving body perception and body satisfaction. Therefore, these two approaches were used here, in the first study to compare the interventions against each other.

To conclude, despite the emerging evidence base for compassion and exposure for body dissatisfaction, most studies are small, deliver lengthy interventions, have no active control group and lack any follow-up. Therefore, controlled studies that compare brief versions of existing evidence-based approaches are at a premium in supporting the wider implementation of interventions in routine services. We therefore conducted a pilot and feasibility randomized controlled trial. The primary feasibility aim was to assess recruitment rates, viability of online delivery and acceptability of interventions. The secondary pilot aim was to provide a preliminary indication of the effectiveness of the interventions to inform sample size calculations for any subsequent RCT.

2 | METHOD

Refer to the Supporting Information for a more detailed description of the methodology.

Key Practitioner Message
- Recruitment, completion and retention rates indicated that both interventions were feasible and acceptable.
- The self-compassion intervention significantly reduced individuals' state body shame throughout the intervention period.
- Brief self-compassion interventions have some potential for further development and evaluation as evidence-based homework exercises during ED interventions.

2.1 | Design

The study was a randomized controlled feasibility and pilot trial. The design was 2 (intervention type; between subjects) × 3 (time; within subjects). The study was preregistered with ClinicalTrials.gov (ID: NCT04665167).

2.2 | Participants

Participants were eligible to participate if they (1) self-identified as women, (2) were 18+ years old, (3) scored over 25 on the Body Shape Questionnaire (BSQ-8B), (4) did not have any severe mental illnesses, (5) were not currently undergoing psychological therapies, (6) had a body mass index (BMI) ≥ 18.5, (7) were able to use a computer/tablet with a webcam and had an internet connection and (8) had a space where they could stand far enough back from their computer to be able to see their body full length on the screen.

2.3 | Measures

2.3.1 | Indicators of feasibility

Feasibility was assessed primarily via recruitment rates, defined as those participants who completed the pretest measures. Our target was to recruit 30 participants in 60 days (60–90 days = moderate feasibility; >90 days = low feasibility). Treatment acceptability was assessed via the proxy of retention rates (100% = high, 80% = moderate, <80% = low). Viability of online delivery was assessed by the percentage of single-session interventions disrupted by loss of internet connection (0% = high; 1% to 20% = moderate; >20% = low). Participants were asked to complete a post intervention feedback form after the session.

2.3.2 | State shame outcome

To determine whether in-session change occurred during the interventions, participants rated their current body shame (0 no shame at

all, to 100 totally ashamed). These subjective units of body shame (SUBS) in each intervention were rated at Minutes 0, 4, 8, 15, 21, 28, 33, 37 and 40. Kiyimba and O'Reilly (2020) strongly advocate the use of SUDS for evaluating the effectiveness of change methods embedded within sessions.

2.3.3 | Outcome measures

The following valid and reliable measures were taken at pretest, posttest and follow-up (i.e., 2 weeks): the Body Appreciation Scale-2 (Tylka & Wood-Barcalow, 2015), the Eating Disorder Examination-Questionnaire Short (Gideon et al., 2016), the Other as Shamer Scale-2 (Matos et al., 2015), the Generalized Anxiety Disorder Scale (Spitzer et al., 2006) and the Body Satisfaction Questionnaire-8B (Evans & Dolan, 1993).

2.4 | Procedure

Ethical approval for this study was obtained from the Research Ethics Committee at the University of Sheffield (No. 035857). Recruitment was carried out online using social media. Participants could enter a prize draw for a £25 or £50 Amazon voucher. All applicants were screened for eligibility. Participants were made aware via the information sheet of the two types of interventions and that they might be asked to wear form-fitting clothes. We informed the participants before their scheduled session slot whether they were in the intervention (exposure) that required wearing fitted clothes. All interventions were conducted online with the facilitator on Google Meet and lasted for 40 min. Both interventions were scripted to ensure fidelity and piloted to ensure that the procedure was seamless.

Participants were informed that if they were emotionally overwhelmed, they could stop an intervention at any point but were also encouraged to stick with and process difficult feelings. At the end of the intervention, participants were asked to complete post-test measures and then were emailed follow-up measures. Participants were told that they would be put in the draw for the vouchers once all the parts of the study were finished.

2.5 | Interventions

Table 1 details the elements of the two interventions.

3 | RESULTS

Refer to the Supporting Information for additional details of the results.

TABLE 1 Intervention descriptions

Body exposure	Self-compassion
The body image exposure condition was an adapted version of guided mirror exposure therapy.	This condition consisted of Neff's self-compassion exercises (https://self-compassion.org/category/exercises/).
Procedure for the intervention: During the intervention, SUS was measured approximately every 5 min. *Participants were asked to stand so that they can see their whole body—far enough back. Participants were asked to look at their bodies on screen and not to distract themselves. Participants were continually encouraged by the facilitator to look at and talk about their body.*	Procedure for the intervention: During the intervention, SUS was measured approximately every 5 min. *Seven short (5-min long on average) self-compassion meditations were delivered. Participants were asked to close their eyes gently. These consisted of building warmth through touch exercise, self-compassion break, compassionate body scan, loving-kindness meditation, affectionate breathing exercise and noticing practice.*

Note: Italics show the unique procedure elements for each condition.

3.1 | Recruitment

Of the 447 individuals who were interested in participating to the trial, 15.22% were eligible ($n = 68$). Following a 2-month trial recruitment period, 24/30 who completed the initial measures then received an intervention (see the Supporting Information for the CONSORT diagram showing recruitment and retention).

3.2 | Primary outcomes: Feasibility, acceptability and viability

Recruiting at least 30 participants in 60 days was successfully achieved ($n = 30$ completed the initial measures), but a large number had to be screened to achieve the target. Completion rates were high. There were no exposure dropouts, and 2/11 participants dropped out of self-compassion. These rates indicate moderate (compassion) to high (exposure) acceptability of the interventions. In terms of the viability of online delivery, 3/24 sessions were interrupted (12.5%), showing moderate viability.

In the postintervention feedback form, participants in the self-compassion condition indicated some positive aspects of the intervention. For instance, they described the content of the meditations as 'calming', and they liked interacting with the facilitator. Participants in the body exposure condition mentioned that they found it difficult to talk about body parts they were not comfortable with. They also indicated that it was difficult to stand up for 40 min.

3.3 | Secondary outcomes: Clinical measures

Figure 1 shows that SUBS ratings fell substantially during the self-compassion condition but not the body exposure condition. Within-group comparisons showed a significant difference over time in state shame during the compassion intervention (Friedman's $\chi^2(8) = 91.71$, $p < .001$). The difference between Times 0 and 8 showed a large effect size ($\tau = .88$). However, there was little change over time in the body exposure condition ($\chi^2(8) = 17.21$, $p < .028$), with only a small difference between Times 0 and 8 ($\tau = .24$). There were significant differences between self-compassion and body exposure conditions at all of the time points, with greater divergence across the course of the single 40-min session.

Mann–Whitney tests showed no significant differences between the groups on any of the nomothetic outcome measures at any time point, and the effect sizes were all very small. Friedman's within-group analysis showed no significant differences between the three time points in either condition (see the Supporting Information for all test statistics).

4 | DISCUSSION

This study was conducted to compare the feasibility, viability and effectiveness of two brief online interventions for women with moderate to severe negative body dissatisfaction, in order to determine whether a fully powered randomized controlled trial should be conducted. The recruitment process, completion and dropout rates indicate that self-compassion and body exposure were feasible and acceptable, although some aspects of each intervention should be modified to enhance feasibility and optimize outcomes (see the Supporting Information). While recruitment was successfully achieved as planned, the majority of potential participants interested in this study did not meet the eligibility criteria. The main reason for ineligibility was that individuals had low levels of body dissatisfaction. The viability of online delivery of the interventions was supported by the low internet disconnection rate. Only the self-compassion intervention significantly reduced in-session SUBS ratings, but there was no change in nomothetic outcome measures. The results did not show any significant improvement in the trait nomothetic outcome measures, and effect sizes were small.

There were three particular time points where the reduction SUBS ratings were significant (see Supporting Information)—the two parts of the 'compassionate body scan' and 'noticing practices' were thereby identified as potentially active components for future study. However, it is unclear whether such an effect should be attributed to most recent component or to the cumulative effect of several consecutively applied components. Given the need for component analyses of compassion-based interventions to determine the active and redundant ingredients of effective ED treatment (Kirby, 2017), our findings therefore indicate further use of dismantling methods to determine efficacious packages of treatment. Those shorter self-compassion exercises proven to contribute to state changes could be then used either as a prevention method (i.e., for women with less severe body image) or as a homework exercise nested within intensive treatments.

A clinical implication of this study is that a potential benefit of repeated self-compassion meditations mitigating body shame. However, body exposure is unlikely to have such an effect. We should acknowledge that our design might not have been a fair evaluation of the exposure condition. This is because mirror exposure, according to habituation theory, should produce an initial increase in distress/shame that then needs time to recede while maintaining the correct conditions. It was also a single session, and therefore, the intervention was not repeated to enable habituation. Due to the COVID-19 pandemic, we modified traditional mirror exposure, using the computer screen to enable us to do this work online. However, future research should examine whether this approach has the same impact as exposure to a full-length mirror. Another limitation is that there was no adjustment for significance levels to control for type I errors due to multiple comparisons.

Previous studies have indicated that the magnitude of state body image improvements is a predictor of greater preintervention to postintervention improvement in body image overall (Fuller-Tyszkiewicz et al., 2019). Therefore, the reduction in state body shame in this study might enable longer term and sustained improvement in trait
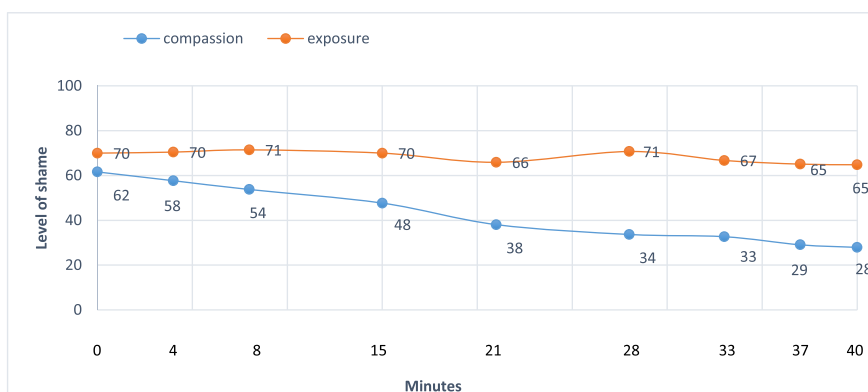
FIGURE 1 Change in state body shame (SUBS 0–100) ratings over the course of the session. *Note*: Values on the lines indicate the mean scores [Colour figure can be viewed at wileyonlinelibrary.com]

Note. Values on the lines indicate the mean scores

shame for example. However, it is not yet known whether the benefits shown here are long lasting, so further study of longer term benefits is needed. In the current study, we did not measure SUBS at the follow-up. This is because SUBS are intended to access current experienced emotion within a specified change method (Kiyimba & O'Reilly, 2020). Therefore, any measured SUBS scores after the intervention could not be attributable to the effects of the intervention. Hence, we only included follow-up measures for trait variables. This issue should be addressed in future work.

Future studies are likely to need a larger sample (minimum 67), given the effect sizes shown here (see the Supporting Information). Further work might also assess other variables, such as behavioural intentions to expose oneself to a real-life situation triggering body image distress, the effectiveness of repeated practice of the brief interventions and personality variables.

CONFLICT OF INTEREST

The authors report no conflict of interest.

AUTHOR CONTRIBUTIONS

All authors contributed to the conceptualization and methodology. FT conducted the data collection, data management, data analysis and prepared the original draft. SK and GW reviewed and edited drafts and supervised the process. All authors approved the final version.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

ORCID

Fidan Turk https://orcid.org/0000-0003-1487-318X
Stephen Kellett https://orcid.org/0000-0001-6034-4495
Glenn Waller https://orcid.org/0000-0001-7794-9546

REFERENCES

Blackburn, I., James, I., Milne, D., Baker, C., Standart, S., Garland, A., & Reichelt, F. (2001). The revised cognitive therapy scale (CTS-R): Psychometric properties. *Behavioural and Cognitive Psychotherapy*, *29*(4), 431–446. https://doi.org/10.1017/S1352465801004040

Butler, R. M., & Heimberg, R. G. (2020). Exposure therapy for eating disorders: A systematic review. *Clinical Psychology Review*, *78*, 101851. https://doi.org/10.1016/j.cpr.2020.101851

Evans, C., & Dolan, B. (1993). Body Shape Questionnaire: Derivation of shortened "alternate forms". *International Journal of Eating Disorders*, *13*, 315–321. https://doi.org/10.1002/1098-108X(199304)13:3<315::AIDEAT2260130310>3.0.CO;2-3

Fuller-Tyszkiewicz, M., Richardson, B., Lewis, V., Linardon, J., Mills, J., Juknaitis, K., Lewis, C., Coulson, K., O'Donnell, R., Arulkadacham, L., Ware, A., & Krug, I. (2019). A randomized trial exploring mindfulness and gratitude exercises as eHealth-based micro-interventions for improving body satisfaction. *Computers in Human Behavior*, *95*, 58–65. https://doi.org/10.1016/j.chb.2019.01.028

Gideon, N., Hawkes, N., Mond, J., Saunders, R., Tchanturia, K., & Serpell, L. (2016). Development and psychometric validation of the EDE-QS, a 12 item short form of the Eating Disorder Examination Questionnaire (EDE-Q). *PLoS ONE*, *11*, e0152744. https://doi.org/10.1371/journal.pone.0152744

Griffen, T. C., Naumann, E., & Hildebrandt, T. (2018). Mirror exposure therapy for body image disturbances and eating disorders: A review. *Clinical Psychology Review*, *65*, 163–174. https://doi.org/10.1016/j.cpr.2018.08.006

Kirby, J. N. (2017). Compassion interventions: The programmes, the evidence, and implications for research and practice. *Psychology and Psychotherapy: Theory, Research and Practice*, *90*(3), 432–455. https://doi.org/10.1111/papt.12104

Kiyimba, N., & O'Reilly, M. (2020). The clinical use of Subjective Units of Distress scales (SUDs) in child mental health assessments: A thematic evaluation. *Journal of Mental Health*, *29*(4), 418–423. https://doi.org/10.1080/09638237.2017.1340616

Matos, M., Pinto-Gouveia, J., Gilbert, P., Duarte, C., & Figueiredo, C. (2015). The Other As Shamer Scale–2: Development and validation of a short version of a measure of external shame. *Personality and Individual Differences*, *74*, 6–11. https://doi.org/10.1016/j.paid.2014.09.037

Moffitt, R. L., Neumann, D. L., & Williamson, S. P. (2018). Comparing the efficacy of a brief self-esteem and self-compassion intervention for state body dissatisfaction and self-improvement motivation. *Body Image*, *27*, 67–76. https://doi.org/10.1016/j.bodyim.2018.08.008

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, *166*, 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research*, *53*, 985–993. https://doi.org/10.1016/s0022-3999(02)00488-9

Toole, A. M., & Craighead, L. W. (2016). Brief self-compassion meditation training for body image distress in young adult women. *Body Image*, *19*, 104–112. https://doi.org/10.1016/j.bodyim.2016.09.001

Trippett, E. M. (2017). Body Mass Index, avoidance and psychosocial factors: What moderates the impact of brief mirror exposure and other interventions on the body image of women? (DClinPsy thesis). Available from White Rose eTheses Online (No: 18649)

Turk, F., Kellett, S., & Waller, G. (2021). Determining the potential links of self-compassion with eating pathology and body image among women and men: A cross-sectional mediational study. *Body Image*, *37*, 28–37. https://doi.org/10.1016/j.bodyim.2021.01.007

Turk, F., & Waller, G. (2020). Is self-compassion relevant to the pathology and treatment of eating and body image concerns? A systematic review and meta-analysis. *Clinical Psychology Review*, *79*, 101856. https://doi.org/10.1016/j.cpr.2020.101856

Tylka, T. L., & Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: Item refinement and psychometric evaluation. *Body Image*, *12*, 53–67. https://doi.org/10.1016/j.bodyim.2014.09.006

Waller, G., & Raykos, B. (2019). Behavioral interventions in the treatment of eating disorders. *Psychiatric Clinics*, *42*(2), 181–191. https://doi.org/10.1016/j.psc.2019.01.002

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.