Self-compassion as a moderator of the relationships between shape and weight overvaluation and eating disorder psychopathology, psychosocial impairment, and psychological distress

Jake Linardon\textsuperscript{a,}*, Luvena Susanto\textsuperscript{a}, Hannah Tepper\textsuperscript{a}, Matthew Fuller-Tyszkiewicz\textsuperscript{a,b}

\textsuperscript{a} School of Psychology, Deakin University, 1 Cheringinghp Street, Geelong, VIC 3220, Australia
\textsuperscript{b} Center for Social and Early Emotional Development, Deakin University, Burwood, VIC 3125, Australia

**A R T I C L E  I N F O**

**Article history:**
Received 29 February 2020
Received in revised form 7 March 2020
Accepted 7 March 2020
Available online 8 April 2020

**Keywords:**
Self-compassion
Overvaluation
Weight and shape concerns
Eating disorders
Mental health

**A B S T R A C T**

Shape and weight overvaluation is a core component of body image theorized to drive many of the symptoms of eating disorders (ED) and associated distress and impairment. Identifying variables that protect against the negative effects of shape and weight overvaluation is needed for informing primary intervention targets. Self-compassion may be a protective factor given its role as an adaptive affect regulation strategy. We thus examined whether self-compassion would attenuate the relationships between shape and weight overvaluation and ED psychopathology, psychosocial impairment, and psychological distress. Cross-sectional data were analyzed from 992 (619 women and 373 men) participants. Multiple regression analyses revealed that self-compassion moderated the relationship between shape and weight overvaluation and each dependent variable. Specifically, among men and women with lower levels of self-compassion, overvaluation of shape and weight was strongly associated with each of the criterion variables; however, these relationships were either absent or weaker among those with higher levels of self-compassion. Present findings suggest that it may be beneficial for ED prevention and early intervention programs to explicitly incorporate components of compassion-focused interventions to improve mental health outcomes among the general public.

© 2020 Elsevier Ltd. All rights reserved.

1. Introduction

Shape and weight overvaluation is defined as judgements of self-worth that are largely contingent upon one’s weight and shape (Fairburn, 2008). It is a distinct construct from the other facets of body image in part because it is stable, more closely tied to self-esteem, and highly resistant to change (Fairburn, Cooper, & Shafran, 2003). Shape and weight overvaluation is considered by some theoretical models to mark the core psychopathology of eating disorders (ED), through which most other symptoms and associated distress and impairment stem (Fairburn et al., 2003). According to these models, those who place excessive importance on weight and shape are vulnerable to negative self-evaluations when faced with situations that reinforce unattainable appearance ideals. These negative self-evaluations are a major source of distress that in turn foster the various attitudinal and behavioural symptoms of EDs and associated impairment (Fairburn, 2008). Indeed, a strong body of cross-sectional (e.g., Grilo et al., 2009; Linardon, 2016; Linardon, Phillipou, Phillipou et al., 2018) and longitudinal (e.g., Sharpe et al., 2018; Tabri et al., 2015) evidence in both clinical and community samples has found shape and weight overvaluation to be independently and robustly associated with ED symptoms and related distress and impairment, indicating that shape and weight overvaluation may be a clinically important construct used as a marker of psychopathology.

Identification of protective factors that buffer the negative effects of shape and weight overvaluation on psychopathology is needed for informing decisions about primary targets of prevention or intervention programs. One variable likely to serve as a protective factor in this domain is self-compassion. Self-compassion has been defined in numerous ways, with many focusing on describing the qualities and attributes that comprise compassion. For example, self-compassion has been operationalized as an approach to one’s pain and suffering characterized by showing oneself kindness and understanding instead of criticism, seeking one’s experiences as common to humanity rather than isolating, and being mindful of one’s feelings instead of over-identifying with them (Neff, 2003a). Self-compassion has also been described as a motivation, captured in some definitions as having a sensitivity to suffering...
in self and others, with a commitment to alleviate and prevent it (Gilbert, 2005, 2014). Theoretically, self-compassionate individuals react to circumstances that threaten feelings of personal adequacy by treating themselves with kindness and non-judgmental understanding, withholding self-criticism, and by refraining from acting impulsively towards negative self-assessments (Neff, 2003b).

Given its emphasis as an adaptive emotion regulation strategy, self-compassion appears to be optimally suited to protect against the adverse effects of shape and weight overvaluation. As mentioned, those who overvalue their weight and shape are prone to negative self-judgements when encountering circumstances that encourage unrealistic appearance ideals (Fairburn, 2008) These negative self-judgements are a cause of distress, and so the person may find themselves engaging in ED behaviours as a strategy to momentarily escape this distress (Fairburn et al., 2003). Cultivating self-compassion may thus reduce the likelihood of these resulting ED behaviours and associated distress because the individual will learn to treat themselves with kindness and without unfair criticism, and to refrain from over-identifying with, and acting on, these negative body image-related judgements.

The role of self-compassion in contributing to body image and eating behaviour has received significant research attention. Self-compassion has been inversely linked to body shame, weight/shape concerns, social physique anxiety, body image avoidance, binge eating, and ED symptomatology, and has been positively linked to intuitive eating, body appreciation, and body image flexibility in numerous cross-sectional studies (for review, see Braun, Park, & Gorin, 2016). Randomized controlled trials (RCT) of interventions designed to cultivate self-compassion have produced significant reductions in body image concerns and ED psychopathology in both clinical (Linardon, Fairburn, Fitzsimmons-Craft, Wilfley, & Brennen, 2017) and non-clinical samples (Linardon, Gleeson, Yap, Murphy, & Brennen, 2018). Self-compassion has also been shown to buffer the effects of various body image and ED risk factors, such as media thinness-related pressures relationship with both thin-ideal internalisation and disordered eating (Tylka, Russell, & Neal, 2015), and BMI, body dissatisfaction, and shameful memories relationships with ED symptomatology (Ferreira, Matos, Duarte, & Pinto-Gouveia, 2014; Kelly, Vimalakanthan, & Miller, 2014; Stutts & Blomquist, 2018). Overall, available evidence suggests that self-compassion may be an important variable that protects against various harmful eating and body image patterns.

The present research aimed to build on this growing literature by investigating whether self-compassion moderates the relationships between shape and weight overvaluation and ED psychopathology, psychosocial impairment, and distress. Although it is reasonable to suspect that self-compassion protects against an overvaluation with weight and shape, the present study focused on the interactions between these variables for the following two reasons. First, unlike self-compassion, which is described as a set of attitudes that generalize across circumstances, situations, and events (Neff, 2003a), shape and weight overvaluation is domain-specific, meaning that these negative self-judgements are primarily related to shape and weight and mostly occur in contexts that heighten body image awareness (Fairburn et al., 2003). In this way, it is possible for an individual to overvalue their weight and shape but still be compassionate in other domains, as evidence by prior work showing only a moderate correlation (r = −.55) between self-compassion and appearance-related self-worth (Homan & Tylka, 2015). Second, we did not test self-compassion as a protective factor for overvaluation (and, consequently, ED psychopathology and related distress and impairment) through complex mediation models because of the cross-sectional nature of these data. Cross-sectional mediation models rarely replicate in longitudinal designs (for a discussion, see Cole & Maxwell, 2003; Maxwell & Cole, 2007). Thus, testing whether self-compassion weakens the statistical associations between shape and weight overvaluation and each dependent variable was more appropriate given the design of the study.

It is important to point out how the aims of this study differ from prior research. First, despite previous work (e.g., Lampard, Byrne, McLean, & Purdland, 2011; Lampard, Tasca, Balfour, & Bissada, 2013) evaluating the role of shape and weight overvaluation in contributing to self-esteem, no study has investigated the interactions between shape and weight overvaluation and self-compassion specifically. Although self-esteem and self-compassion are related and are, at times, used interchangeably, there is strong evidence to suggest that these two constructs are empirically distinct (for a full discussion on how these constructs are distinct, see Neff, 2011). Indeed, recent research has shown that a brief intervention designed to cultivate self-compassion produced larger reductions in weight and appearance dissatisfaction than a brief intervention designed to cultivate self-esteem (Moffitt, Neumann, & Williamson, 2018). Second, prior work has shown self-compassion to attenuate the relationship between appearance contingent self-worth (a similar construct to overvaluation) and body appreciation in women (Homan & Tylka, 2015; Siegel, Huellemann, Hillier, & Campbell, 2020). However, these studies were limited to a sample of women and did not include other clinically significant criterion variables theorized to be a consequence of shape and weight overvaluation. Thus, we are extending from these studies by examining the moderating role of self-compassion on the relationships between shape and weight overvaluation and three clinically important criterion variables in both men and women.

2. Method

2.1. Participants and procedure

Nine-hundred-ninety-two adult men (n = 373) and women (n = 619) participated in this study. These participants were recruited as part of a larger study (n = 1094) investigating the psychometric properties of positive body image measures. Only those who completed the relevant study measures were included in the analyses. The mean age of the 992 participants was 27.51 (SD = 8.64) and the mean BMI was 23.62 (SD = 4.47). Participants were primarily Caucasian (81.7 %), Other ethnicities were Asian (7.8 %), Hispanic (3.6 %), African American (1.1 %), Native American (0.6 %), Pacific Islander (0.2 %), and “other” (5%). Men were older (d = 0.22) and had a higher BMI than women (d = 0.14, ps < .05; see Table 1).

Participants were recruited through several sources, including social media pages, online forums, personal contacts of the researchers (e.g., friends, co-workers etc.), and through snowballing methods. Study advertisements indicated that the researchers were interested in understanding risk and protective factors for problematic eating patterns. Respondents to advertisements clicked on a link to access the online survey via Qualtrics, which could be completed at a time and place of convenience. The entire survey battery took, on average, 20 min to complete. Participants completed the survey once (checked via IP addresses). No reimbursements were provided. Informed consent was obtained, and ethics approval was granted by Deakin University.

2.2. Measures

2.2.1. Shape and weight overvaluation

Shape and weight overvaluation was assessed through two items (“has your weight influenced how you feel about yourself as a person” and “has your shape influenced how you feel about yourself as a person”) from the Eating Disorder Examination Ques-
Table 1
Correlations between Study Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td>.23**</td>
<td>.14***</td>
<td>-.17***</td>
<td>.24***</td>
<td>-.23***</td>
<td>-.21***</td>
<td>-.18***</td>
</tr>
<tr>
<td>2. BMI</td>
<td>.25***</td>
<td></td>
<td>.03</td>
<td>.06</td>
<td>.08</td>
<td>-.05</td>
<td>-.10*</td>
<td>.03</td>
</tr>
<tr>
<td>3. Ethnicity (Caucasian)</td>
<td>.16**</td>
<td>.10</td>
<td></td>
<td>-.01</td>
<td>.00</td>
<td>.02</td>
<td>-.02</td>
<td>-.05</td>
</tr>
<tr>
<td>4. Shape and weight overvaluation</td>
<td>-.18**</td>
<td>-.04</td>
<td>.11*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-compassion</td>
<td>.15**</td>
<td>.09</td>
<td>-.08</td>
<td>.54***</td>
<td></td>
<td>-.56***</td>
<td>-.61***</td>
<td>-.58***</td>
</tr>
<tr>
<td>6. Psychosocial impairment</td>
<td>-.21***</td>
<td>-.15**</td>
<td>.05</td>
<td>.65***</td>
<td>-.57***</td>
<td></td>
<td>.69***</td>
<td>.86***</td>
</tr>
<tr>
<td>7. Psychological Distress</td>
<td>-.19***</td>
<td>-.17**</td>
<td>.01</td>
<td>.45***</td>
<td>-.62***</td>
<td>.72***</td>
<td></td>
<td>.59***</td>
</tr>
<tr>
<td>8. ED psychopathology</td>
<td>-.11*</td>
<td>-.05</td>
<td>.07</td>
<td>.72***</td>
<td>-.55***</td>
<td>.82***</td>
<td>.57***</td>
<td></td>
</tr>
<tr>
<td>Mean (SD) women</td>
<td>26.79 (7.67)</td>
<td>23.37 (4.63)</td>
<td></td>
<td>3.95 (1.96)</td>
<td>29.99 (8.76)</td>
<td>21.58 (14.64)</td>
<td>6.18 (3.70)</td>
<td>3.22 (1.58)</td>
</tr>
<tr>
<td>Mean (SD) men</td>
<td>28.71 (9.94)</td>
<td>24.02 (4.14)</td>
<td></td>
<td>2.92 (1.99)</td>
<td>33.92 (8.65)</td>
<td>11.61 (12.23)</td>
<td>4.49 (3.85)</td>
<td>2.06 (1.37)</td>
</tr>
</tbody>
</table>

Note. Correlations for women above the main diagonal (n = 619), and below the main diagonal for men (n = 373).
*p < .05, **p < .01, ***p < .001.

questionnaire (Fairburn & Beglin, 1994). Items are rated along a scale ranging from 0 (not at all) to 6 (markedly). Items are averaged to produce a composite score, with higher scores reflecting greater shape and weight overvaluation. This composite overvaluation of weight and shape score has been used in several prior studies of both clinical and non-clinical samples, including randomized controlled trials of ED treatment (Grilo, White, Gueorguieva, Wilson, & Masheb, 2013; Masheb & Grilo, 2008) and cross-sectional (Grilo et al., 2008, 2009; Grilo, Ivezaj, & White, 2015; Harrison, Mitchison, Rieger, Rodgers, & Mond, 2016; Linardon, Fuller-Tyszkiwicz, de la Piedad Garcia, Messer, & Brennan, 2019; Linardon & Mitchell, 2017; Linardon, Phillipou et al., 2018), longitudinal (Sharpe et al., 2018; Tabi et al., 2015), and latent genetic and environmental risk factor twin studies (Wade, Zhu, & Martin, 2011). The correlation between these two items was high (r = .85 for women and r = .81 for men).

2.2.2. Self-compassion
Self-compassion was assessed through the 12-item Self-Compassion Scale—Short Form (Raes, Pommier, Neff, & Van Gucht, 2011). Each item is rated along a scale ranging from 1 (almost never) to 5 (almost always). Item responses are averaged to produce a total score, with high scores reflecting greater self-compassion. The short-form has demonstrated a near-perfect correlation with the full-form, while also demonstrating adequate internal consistency, test retest reliability, convergent validity, and incremental validity in community samples (Raes et al., 2011). Cronbach’s alpha was .88 for women and .85 for men.

2.2.3. Eating disorder psychopathology
We used the global EDE-Q score as a measure of ED psychopathology, as the global score captures the full range of cognitive and behavioural symptoms that underpin all EDs. The global score is calculated by averaging the four subscales (weight concern, shape concern, eating concern, dietary restraint), where items from each subscale are rated along a 7-point scale. The two overvaluation items were removed from the global score calculation as these were used as the independent variable. The psychometric properties of the EDE-Q has been demonstrated in clinical and non-clinical samples, including adequate test retest reliability, internal consistency, and construct validity (Berg, Peterson, Frazier, & Crow, 2012). Cronbach’s alpha was .95 for women and .93 for men.

2.2.4. Psychosocial impairment
Impairment was assessed through the 16-item Clinical Impairment Assessment (CIA; Bohn et al., 2008). The CIA assesses psychosocial impairment (e.g., in domains of work, relationships, mood, etc.) secondary to ED features over the past 28 days. Items are rated on a scale ranging from 0 (not at all) to 3 (a lot), and are summed to produce a total score. Higher scores reflect greater impairment. The CIA is internally consistent, temporally reliable, and has exhibited construct and incremental validity (Bohn et al., 2008). Cronbach’s alpha was .97 for women and .96 for men.

2.2.5. Psychological distress
Distress was assessed through the 4-item Patient Health Questionnaire (PHQ-4; Kroenke, Spitzer, Williams, & Löwe, 2009). The PHQ-4 assesses the severity of depressive and anxiety symptoms assessed over the past 14-days. Each item is rated along a scale ranging from 0 (not at all) to 3 (nearly every day). Scores are summed to produce a total score. Higher scores reflect greater psychological distress. The psychometric properties of the PHQ-4, including internal consistency, test retest reliability, and convergent validity, have been established (Kroenke et al., 2009). Cronbach’s alpha was .87 for women and .91 for men.

3. Results
3.1. Analytic strategy
All analyses were conducted in R (R Core Team, 2013). Missing data were observed for BMI (n = 15), which were then imputed using the expectation maximisation technique. Assumptions of the general linear model were checked for criterion variables, and evidenced several multivariate outliers and non-constant variance in the residuals of these variables. This was not unexpected given that the prevalence and level of ED psychopathology and related impairment in the general population is low relative to clinical populations (Mitchison, Hay, Slesa-Younan, & Mond, 2012). Robust standard errors were used to address these violations, although we note that the obtained results using this approach rendered the same conclusions about statistically significant variables as the unadjusted analyses.

Pearson’s correlations among study variables were conducted separately by sex. Sex differences in these variables were assessed for significance via t-tests, and supplemented with Cohen’s d for evaluation of effect size.

Hierarchical regressions were conducted to test whether self-compassion moderates the relationships between shape and weight overvaluation and ED psychopathology, psychosocial impairment, and psychological distress. Each criterion variable was normally distributed, and multiple regressions were tested under a Gaussian distribution, with robust standard errors using the robustbase package (Maechler et al., 2019).

Main effects of the independent variable (shape and weight overvaluation) and the moderator (self-compassion) were entered at Step 1, in addition to several covariates. Age, BMI, and whether
the individual identified as Caucasian were selected as covariates given the known associations between these variables with the key criterion measures (e.g., Duncan, Zimbrow, & Nicol, 2017; Mitchison, Hay, Slew–Young, & Mond, 2014). Each of these variables were entered in centred form to provide a meaningful zero value for interpretation of regression results, and to facilitate creation of the interaction term between self-compassion and shape and weight overvaluation. This interaction term was entered in Step 2. Significant interaction effects were probed further using the Johnson–Neyman technique (Johnson & Fay, 1950), which indicates how the relationship between the independent and dependent variable changes across the range of values on the moderator variable. These interactions were plotted using the interactions package (Long, 2019).

### 3.3. Moderated regressions

#### 3.3.1. Eating disorder psychopathology

All variables included in the regression model at Step 1 explained a significant proportion of variance in ED psychopathology in both women ($R^2 = .73, p < .001$) and men ($R^2 = .55, p < .001$), with shape and weight overvaluation and self-compassion making unique contributions. In both models, inclusion of the interaction term between shape and weight overvaluation and self-compassion at Step 2 significantly increased (albeit slightly) the proportion of variance in ED psychopathology accounted for by the model ($\Delta R^2 = .01, p = .004$ for women; $\Delta R^2 = .03, p < .001$ for men). See Tables 2 and 3 for these results. Among women, probing this interaction with the Johnson–Neyman technique showed that the positive association between shape and weight overvaluation and ED psychopathology was strongest at low levels of self-compassion and progressively weakened as self-compassion scores increased. However, the overvaluation–ED psychopathology relationship was still statistically significant at the highest level of self-compassion (see left panel on Fig. 1). Among men, the relationship between shape and weight overvaluation and ED psychopathology become non-significant at higher values of self-compassion (centred values of 26.96–28.53; left panel, Fig. 2).

#### 3.3.2. Psychosocial impairment

All variables included in the regression model in Step 2 explained a significant proportion of variance in impairment scores in both women ($R^2 = .70, p < .001$) and men ($R^2 = .53, p < .001$), with shape and weight overvaluation and self-compassion having the highest proportion of variance explained.
making unique contributions. In both models, inclusion of the interaction term between shape and weight overvaluation and self-compassion at Step 2 significantly increased the proportion of variance in impairment scores accounted for by the model (ΔR² = .05, p < .001 for women; ΔR² = .10, p < .001 for men). Among women, although the relationship between shape and weight overvaluation and impairment was statistically significant at all levels of self-compassion, this relationship was considerably weaker among those with higher self-compassion scores (see middle panel, Fig. 1). Among men, the relationship between shape and weight overvaluation and impairment became non-significant at high centred self-compassion scores (middle panel, Fig. 2).

3.3.3. Psychological distress

All variables included in the regression model in Step 1 explained a significant proportion of variance in distress scores in both women (R² = .44, p < .001) and men (R² = .43, p < .001), with shape and weight overvaluation and self-compassion making unique contributions. In both models, inclusion of the interaction term between shape and weight overvaluation and self-compassion at Step 2 significantly increased the proportion of variance in distress scores accounted for by the model (ΔR² = .01, p < .001 for women; ΔR² = .03, p < .001 for men). Among women, although the relationship between shape and weight overvaluation and psychological distress was statistically significant at all levels of self-compassion, this relationship was considerably weaker in those with high self-compassion scores (see right panel, Fig. 1). Among men, the relationship between shape and weight overvaluation and psychological distress was strongest at low levels of self-compassion, but became non-significant in those with high self-compassion scores (at least 1 SD above the sample mean; see right panel, Fig. 2).

4. Discussion

Present findings showed that self-compassion attenuated the relationships between shape and weight overvaluation and ED psychopathology, psychosocial impairment, and psychological distress in both men and women. Specifically, among those with lower levels of self-compassion, shape and weight overvaluation was strongly associated with each criterion variable; however, these relationships were either absent or weaker among those who had higher levels of self-compassion. These findings provide additional support for the idea that self-compassion may help to protect against the ED psychopathology and functional impairment and distress that correlate with shape and weight overvaluation. It is likely that self-compassion buffers the relationships between shape and weight overvaluation and adverse outcomes because it helps people to better regulate negative emotions related to self-criticism (Kelly & Carter, 2015; Webb & Forman, 2013). That is, when confronted with situations that reinforce unattainable appearance ideals, even if shape and weight is a highly valued domain, people...
who treat themselves with compassion and who are committed to alleviating feelings of personal inadequacies may not feel the need to react inappropriately to negative self-assessments. Although cross-sectional, present findings provide important directions for future prospective research.

These findings highlight the importance of fostering self-compassion in people from the general population. Nurturing self-compassion could be a valuable intervention target in ED prevention and early intervention programs, particularly because there is accumulating experimental (Adams & Leary, 2007), longitudinal (Stutts & Blomquist, 2018), and cross-sectional (Tylka et al., 2015) evidence linking self-compassion to lower levels of body image concerns, ED behaviours, and psychological distress. Indeed, emerging evidence from RCTs also shows that compassion-focused interventions are capable of producing large and lasting improvements in various facets of body image concerns, ED psychopathology, and negative affect in individuals with and without a clinically significant ED (Albertson, Neff, & Dill-Shackleford, 2015; Kelly & Carter, 2015; Kelly, Carter, & Borairi, 2014). Encouraging self-compassion could thus be important for improving public mental health; however, greater effort towards broadening the dissemination of compassion-focused intervention strategies is needed, as existing compassion-focused interventions typically rely on face-to-face delivery with trained professionals (Linardon, 2019). Future research may benefit from investing time and effort towards developing cheap, effective, and scalable online programs or smartphone apps aimed at cultivating self-compassion skills (Linardon, Cuijpers, Carlbring, Messer, & Fuller-Tyszkiewicz, 2019; Linardon & Fuller-Tyszkiewicz, 2020).

This study has important limitations and future directions to consider. First, this study was a cross-sectional design, so no inferences can be made regarding the direction of the observed relationships. Future longitudinal research investigating these relationships is needed. Second, our sample consisted primarily of Caucasian men and women from the general population, so these findings cannot be generalized to different ethnic populations or clinical samples. Replicating these findings across more diverse samples is needed. Third, through various recruitment methods, participants self-selected into this study which could have introduced biases, such that only those interested about their body image provided responses. Fourth, we only considered the role of general self-compassion rather than compassion specifically directed towards the body (Altman, Linfield, Salmon, & Beacham, 2017). It would be beneficial for future research to evaluate whether both general and body compassion independently moderate the relationships between shape and weight overvaluation and the key dependent variables. Fifth, the same measure (EDE-Q) was used for both the independent and dependent variable, which could have potentially produced inflated correlations. This limitation should be kept in mind when interpreting the present research.

4.1. Conclusion

To conclude, this study adds to an emerging body of literature highlighting the potential benefits of self-compassion on eating and body image variables. Present findings showed that self-compassion attenuated the relationships between shape and weight overvaluation and ED psychopathology and related impairment and distress in a community sample of men and women. Teaching self-compassion skills may be important for improving public mental health and may enhance the effectiveness of ED prevention and early intervention programs.

Ethical statement

Procedures for this study were approved by Deakin University. Informed consent was obtained from all participants. Research was conducted in accordance to the Declaration of Helsinki.

Contributors

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We also confirm that the work has not been published previously or is not under consideration for publication elsewhere.

We understand that the Corresponding Author is the sole contact for the Editorial process. He is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs. We confirm that we have provided current, correct email address which is accessible by the Corresponding Author and which has been configured to accept email from Jake.Linardon@deakin.edu.au

Declaration of Competing Interest

None

References


Eating over weight and scale Behaviors


