Reviewer’s report

**Title:** The effect of commitment-making on weight loss and behaviour change in adults with obesity/overweight; a systematic review

**Version:** 0  **Date:** 13 Mar 2019

**Reviewer:** Craig Donnachie

**Reviewer’s report:**

This study is a systematic review examining the evidence regarding the efficacy of non-financial commitment-making or commitment 'devices' on weight loss and behaviour change in individuals classified as overweight and obese. The findings suggest that behavioural commitment contracts may be effective in facilitating short term dietary changes and weight loss, but evidence for their capacity to promote longer term weight loss maintenance remains limited (based on two studies identified within the review with at least 12 month follow-up). The authors conclude that when behavioural contracts are viewed by others (including intervention providers or peers but not spouses) they may be more effective. The paper is well written and I thank the authors for the opportunity to read their manuscript. However, I have identified a few points that require some further clarification. My comments are provided in detail below:

**General**

Under the broad definition 'soft commitment device' there are several different terms used to refer to the same or similar constructs. This can be confusing thus suggest using consistent terminology throughout the manuscript where possible (i.e. behavioural commitment).

**Background**

Page 3, Line 17: Within this sentence I suggest also including reference to cardiovascular disease (i.e. reference number 8, line 30) and increased risk of mortality (reference number 7, line 30) (see point below).

Page 3, line 27: Consider editing this section (e.g. could move some text to introductory section [see point above] to avoid repetition). Also, some individuals could lose 5-10% body weight which is associated with clinically significant health benefits but may never achieve a BMI within the 'healthy range'. Consider rewording.

Page 3, line 40: "The inclusion of a commitment device, such as verbal pledge or behavioural contract, may be one way to improve adherence to lifestyle interventions". This doesn't quite fit here and suggest moving this sentence to the next paragraph and/or including some references to back up the statement.
Page 5, line 23: Consider using a different word rather than "easy". For example, "are simple to incorporate".

Page 5, line 23: "Easy to understand for those with health literacy" - is there evidence to support this statement? If so, I suggest including a reference. If not consider using slightly different language (i.e. "may be easy to understand").

Methods

Page 8, line 38: "Papers were assessed independently by three raters with good agreement?" - How was 95% 'good' agreement assessed?

Page 8, line 50: "The BCTs were double coded by a second researcher" - not clear if the second coder was one of the authors (or not). Please clarify. Also, how was 'good agreement' corroborated between authors for BCTs (i.e. 79%)?

Page 9, line 14: Worth specifying that it is a narrative review with meta-analysis (e.g. Figure 1 and 2)?

Results

Page 9, line 50: Study characteristics - only 14% of total participants included in the studies were men. Consistent with systematic review evidence indicating males are underrepresented in weight management initiatives and randomised trials of weight loss interventions (see. Robertson et al, 2014) - perhaps worth drawing out in the Discussion/limitations section.

Page 13, line 1 and 38: Sub-headings (Short-term (≤6 months) and Long-term (12 months)) - repetition of sub-headings - for what/why are these sub-heading different from the previous ones? Needs to be clearer what these specific sub-headings refer to (e.g. 'Short-term (≤6 months) weight outcomes').

Page 13, line 55: All of the studies cited here appear to relate to husbands of female participants. Caution suggested when referring to spouses more generally given lack of male participants across the studies included in the review (see previous point above).

Page 14, line 20: It would be helpful if further details of both physical activity and dietary behaviour measures incorporated in each study (e.g. self-report/questionnaire or accelerometer/device-based etc.). This is important as self-report outcomes are more sensitive to error/over reporting. For instance, this information could easily be included in Appendix 2 (e.g. extra column labelled 'behavioural outcomes').

Page 16, line 42: Would it be possible to assess the independent effect of behavioural contracts on outcomes independent of other BCTs (e.g. self-monitoring)?
Figure titles - included in text but not next to the Figures 1 and 2 (suggest including these as not clear what they represent).

Discussion

Page 19, line 15: Typo - "commitments devices".

Page 19, line 41: The influence of external factors on motivation (intrinsic versus extrinsic) was introduced in the Background section. In this section of the Discussion it may also be worth considering how internal or autonomous motives for physical activity and behaviours important for long term weight control (congruent with Self-Determination Theory; see Ng et al, 2012; Teixeira et al, 2012) may interact with and/or be undermined by behavioural contracts (i.e. reliance on some form of external contingency versus internal volition).

Line 20, line 41: It is important to emphasise that because the majority of interventions included in this review used several BCTs congruent with self-regulation theory it is therefore difficult to observe the unique influence of behavioural commitments on weight and/or behavioural outcomes (i.e. independent of other BCTs).

Page 21, line 23: Typo - remove "is" from sentence.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:
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