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## **Efficacy and acceptability of a pilot dietary intervention focusing on self-compassion, goal-setting and self-monitoring**

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**Short title:** Pilot intervention to improve dietary habits

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**Authorship:** RR and HR formulated the study questions and designed the pilot study. HR prepared the intervention materials, and RR supervised this work. HR and RR contributed to study recruitment. HR carried out intervention and data collection (both qualitative and quantitative), and also performed data analysis and interpreted the data (both qualitative and

quantitative). LRV supervised quantitative data analysis. AS contributed to the final qualitative data interpretation. HR wrote the first draft of the manuscript and RR, LRV, NZ and AS contributed to the final manuscript.

**Ethical Standards Disclosure:** This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving research study participants were approved by the UNSW Human Research Ethics Committee. Written informed consent was obtained from all subjects before any data collection.

## 1 **Abstract**

2 Objectives: Overweight and obesity are universal health challenges. Recent evidence emphasises  
3 the potential benefits of addressing psychological factors associated with obesity in dietary  
4 programs. This pilot study investigated the efficacy and acceptability of a combined online and  
5 face-to-face dietary intervention that used self-compassion, goal-setting and self-monitoring to  
6 improve dietary behaviour, as well as psychological factors associated with dietary behaviour.

7 Design: Embedded mixed methods including a four-week before-after trial and a one-on-one  
8 interview. Quantitative outcomes of the study were the levels of self-compassion; eating  
9 pathology; depression, anxiety and stress; and dietary intake. Qualitative outcomes were  
10 participants' perceptions about the acceptability of the intervention

11 Setting: UNSW Kensington campus.

12 Participants: Fourteen participants with overweight and obesity and aged between 18 and 55  
13 years old.

14 Results: Results showed that the intervention significantly improved self-compassion and some  
15 aspects of dietary intake (e.g. decrease in energy intake) at Week Four compared to Week Zero.  
16 Some aspects of eating pathology also significantly decreased (e.g. Eating Concern). However,  
17 changes in self-compassion over the four weeks did not significantly predict Week Four study  
18 outcomes, except for level of stress. Most participants found self-compassion, goal-setting and  
19 self-monitoring essential for dietary behaviour change. However, participants also indicated that  
20 an online program needed to be efficient, simple and interactive.

21 Conclusions: In conclusion, the current study provides preliminary but promising findings of an  
22 effective and acceptable combined online and face-to-face intervention that used self-  
23 compassion, goal-setting and self-monitoring to improve dietary habits. However, the results  
24 need to be examined in future long-term randomised controlled trials. (Word count: 250)

## 25 **Keywords**

26 Obesity, Self-compassion, Eating behaviour, online, goal-setting, self-monitoring

## 27 **Introduction**

28 The prevalence of overweight and obesity has risen dramatically worldwide and is considered to  
29 be a major global health concern<sup>(1)</sup>. Overweight and obesity can put individuals at risk of  
30 physical (e.g. hypertension and type 2 diabetes)<sup>(2, 3)</sup>; and psychological consequences (e.g.  
31 depression and anxiety disorders)<sup>(4)</sup>. Evidence shows that losing even a small amount of body  
32 weight (5% to 10% of body weight) can improve health outcomes such as blood pressure and  
33 total cholesterol<sup>(5)</sup>. However, traditional weight management approaches that promote dietary  
34 restriction seldom lead to weight loss in the long term (i.e. >12 months)<sup>(6)</sup>. In addition, rigid  
35 dietary restriction can increase the risk of weight cycling and psychological problems, such as  
36 disordered eating<sup>(6)</sup>. Negative body image, disordered eating, depression and anxiety have been  
37 linked with poor compliance with weight loss programs<sup>(7)</sup>, but these psychological factors are not  
38 typically addressed in many of these programs<sup>(8, 9)</sup>. A growing body of literature recommends  
39 encouraging healthy dietary habits rather than weight loss, and that targeting psychological  
40 factors that are linked to body weight could be beneficial for physical and mental health<sup>(10, 11)</sup>.

41 A novel and promising approach to addressing these psychological barriers to promoting healthy  
42 dietary habits could be enhancing individuals' self-compassion. Self-compassion, which involves  
43 cultivating a kind and compassionate mindset towards oneself<sup>(12)</sup>, is associated with decreased  
44 disordered eating and body dissatisfaction<sup>(13)</sup> and with increased mental wellbeing<sup>(14)</sup>. Therefore,  
45 including self-compassion in nutrition interventions might lead to better outcomes. However,  
46 most of previous studies that examined the effects of self-compassion interventions have focused  
47 on weight loss rather than improved dietary habits. These studies have also suffered from some  
48 methodological limitations, such as selection bias (e.g. Mantzios & Wilson, 2015a)<sup>(15)</sup>, and none  
49 of them has examined participants' experiences in depth regarding the acceptability of a self-  
50 compassion intervention for improving dietary habits<sup>(16-18)</sup>. Examining the acceptability of  
51 nutrition interventions that include a new approach such as self-compassion could guide the  
52 development and facilitation of effective nutrition programs.

53 Two additional strategies that could be useful in the promotion of healthy dietary behaviours are  
54 goal-setting and self-monitoring<sup>(19)</sup> with effectiveness demonstrated in both short-term ( $\leq 6$   
55 months) and long-term studies ( $\geq 12$  months)<sup>(20, 21)</sup>. However, factors such as lack of motivation

56 and negative reaction to minor failure could derail individuals from their goals and eventually  
57 lead to goal abandonment<sup>(22)</sup>. Recent theoretical evidence<sup>(23)</sup> and empirical studies<sup>(24, 25)</sup> show  
58 that self-compassion might be beneficial in addressing these barriers through increasing  
59 motivation and regulating negative emotions related to goal lapses<sup>(23, 26)</sup>. Thus, integrating self-  
60 compassion into goal-setting and self-monitoring interventions for improving dietary habits  
61 might improve goal-striving and intervention outcomes.

62 Finally, online interventions could provide useful tools for promoting healthy dietary habits.  
63 Online technologies, such as internet-based interventions and mobile health, have increasingly  
64 been used to facilitate the delivery of dietary change interventions<sup>(27)</sup>. These interventions  
65 provide a platform for individualised feedback and support, which could also improve goal  
66 attainment<sup>(28)</sup>. Studies indicate that using online technologies in nutrition programs can be of low  
67 cost, have a wide reach to clients and could improve dietary habits<sup>(27)</sup>. However, the  
68 development and assessment of online tools for dietary behaviour change are in their infancy<sup>(29)</sup>.  
69 To ensure higher acceptability and adherence in future online nutrition interventions, exploring  
70 people's perceptions of the acceptability of these interventions is crucial<sup>(29)</sup>.

71 The current pilot study aimed to investigate the efficacy and acceptability of a combined online  
72 and face-to-face behavioural intervention that used self-compassion, goal-setting and self-  
73 monitoring strategies for improving dietary behaviour, as well as psychological factors  
74 associated with dietary behaviour, in subjects with overweight or obesity. Considering that the  
75 majority of nutrition programs have poor outcomes<sup>(30)</sup>, the insights gained from this research will  
76 be useful in guiding future dietary interventions.

## 77 **Methods**

78 This pilot study had two main aims. The first aim was to investigate the efficacy of the  
79 intervention. The primary assessable outcomes of this aim were levels of self-compassion; eating  
80 pathology; depression, anxiety and stress; and dietary intake (e.g. fibre intake). Secondary  
81 outcomes were body weight, body mass index (BMI) and waist and hip circumferences. The  
82 second aim of the study was to examine participants' perceptions about the usefulness and  
83 acceptability of the intervention.

84 An embedded mixed methods design<sup>(31)</sup> was used for the pilot study. This design involves  
85 collecting qualitative data and quantitative data on the same topic to answer different questions  
86 that require different types of data. In this study, the qualitative component was embedded within  
87 a quantitative design. The two qualitative and quantitative components were given equal weight.  
88 The quantitative phase was a four-week before-after trial, and the qualitative phase of the study  
89 was a structured one-on-one in-person interview conducted after the intervention to provide data  
90 on participant perceptions about the acceptability of the intervention.

91 A convenience sampling strategy was used to recruit 15 participants from the student and staff  
92 population of UNSW Sydney during early 2016. Online means such as emails and physical  
93 posters on the university campus were used to recruit participants. Participant inclusion criteria  
94 were: aged 18 - 55 years, BMI of 25 - 40 kg/m<sup>2</sup>, access to a computer/tablet/smartphone that can  
95 run an internet browser for at least one hour per week, able to read and write English, and being  
96 open to changing eating habits and potentially lose weight. The exclusion criteria were: taking  
97 any weight-loss medications or previous use of weight-loss medications during the past six  
98 months, currently using medication which has substantial weight gain, suffering from any major  
99 medical illness or having a history of major medical illness (in the last five years), pregnancy or  
100 lactation, current participation in any other nutrition or weight loss program or seeing a nutrition  
101 professional, currently smoking, and weight loss of more than 4.5 kg (10 pounds) during the past  
102 six months. Participants who finished the study received two personal care items (a hand cream  
103 and sanitizer) and were entered into a prize draw to win one of three packages of prizes that  
104 included three or two of the following items: a meditation course voucher, an organic fruit and  
105 vegetables box and/or a book.

## 106 **Quantitative data collection**

107 At the beginning and end of the intervention (i.e. at Week Zero and Week Four), participants  
108 completed several questionnaires online to obtain demographic information and levels of self-  
109 compassion, eating pathology, and depression anxiety and stress. Participants also completed  
110 three-day food diaries and had anthropometric measures taken at Week Zero and Week Four  
111 during one-on-one in-person meetings.

### 112 *Self-Compassion Scale*

113 The Self-Compassion Scale (SCS) is a 26-item self-reported measure designed to assess typical  
114 thoughts, emotions and behaviours associated with different components of self-compassion<sup>(32)</sup>.  
115 The self-compassion scale consists of six subscales: Self-Kindness, Self-Judgment, Common  
116 Humanity, Isolation, Mindfulness and Over-Identification. Responses are made on a five-point  
117 scale from 1 (*Almost never*) to 5 (*Almost always*). Subscale scores are computed as the mean of  
118 items in the subscale. For the computation of the overall self-compassion score, negatively  
119 worded items were reverse-coded, and an average of all items was calculated so that higher  
120 scores represent greater levels of self-compassion<sup>(32)</sup>. Internal consistency reliability for overall  
121 SCS was excellent (Cronbach's alpha=0.93) in the current study and was good for most of the  
122 SCS subscales (Cronbach's alphas ranged from 0.69 to 0.94).

### 123 *Eating Disorder Examination Questionnaire*

124 The Eating Disorder Examination Questionnaire (EDE-Q) is a 28-item questionnaire that asks  
125 about maladaptive eating behaviours over the previous four weeks<sup>(33)</sup>, and provides two types of  
126 data. First, it generates a frequency of occurrence of the main behavioural traits of eating  
127 disorders such as binge eating (six questions). Second, it has subscale scores that provide the  
128 severity of eating-related psychopathology<sup>(33)</sup>. These items are responded to on a scale that  
129 ranges from 0 (*No days*) to 6 (*All days*). The four subscales are: Restraint, Eating Concern, Shape  
130 Concern and Weight Concern. The score for each subscale is obtained by calculating the mean of  
131 all items for that subscale. The measure also produces a Global score for overall eating pathology  
132 which is obtained by averaging the four subscale scores. Higher EDE-Q scores reflect a greater  
133 severity of eating psychopathology. In the current study, Cronbach's alpha for EDE-Q Global  
134 was 0.90 and for the subscales scores of Restraint, Eating Concern, Shape Concern, and Weight  
135 Concern were 0.71, 0.75, 0.85, and 0.58, respectively.

### 136 *Depression Anxiety and Stress Scale-21*

137 Depression Anxiety and Stress Scale-21 (DASS-21) is a 21-item self-administered instrument  
138 assessing psychological distress<sup>(34)</sup>. It is composed of three subscales: Depression, Anxiety and  
139 Stress. Respondents indicate the extent to which they experienced negative emotional states over



140 the past week, ranging from 0 (*Did not apply to me*) to 3 (*Applied to me very much*)<sup>(34)</sup>. To attain  
141 a score for each subscale, the ratings for the subscale items are summed. Cronbach's alpha for  
142 the three subscales ranged from 0.77 to 0.92 in the current study.

### 143 *Estimated food diary*

144 Participants were asked to record every item of the food and drink consumed for three  
145 consecutive days (two weekdays and one weekend day)<sup>(35)</sup>. To collect the three-day food diary  
146 data, online Google Sheets with instructions on how to record food intake were shared with the  
147 participants. At the end of each three-day recording period, the first author reviewed the food  
148 diaries with the respondent during the in-person meetings to clarify entries and to probe for  
149 forgotten items. Data from the food diaries were entered into the FoodWorks 7<sup>(36)</sup> software  
150 program for nutrient analysis. Average daily energy intake and nutrient intakes (protein,  
151 carbohydrate, fat, alcohol, and fibre) that were most likely to be associated with body weight  
152 regulation<sup>(37)</sup> were obtained from the software outputs.

### 153 *Anthropometry*

154 Body weight, height and waist and hip circumferences were measured objectively. Weight was  
155 measured without shoes and in light clothing using a calibrated digital standing scale (SECA  
156 817, United Kingdom), with a precision of  $\pm 0.1$  kg. Standing height was measured without  
157 shoes, using a portable stadiometer (SECA 213, United Kingdom). BMI was calculated from  
158 these measurements using the formula  $\text{weight (kg) / height}^2 \text{ (m)}^{(1)}$ . Waist circumference was  
159 measured directly on the skin using a measuring tape (SECA 201, United Kingdom) at the  
160 midpoint between the margin of the last palpable rib and the top of the iliac crest<sup>(38)</sup>. Hip  
161 circumference was measured with light clothing at the widest area of the buttocks<sup>(38)</sup>. Waist and  
162 hip circumferences were assessed in duplicate and the averages calculated.

### 163 **Structured interview**

164 One-on-one, in-person structured interviews were conducted during the Week Four meeting. The  
165 interview also included some quantitative questions about the participant's satisfaction with the  
166 intervention. Closed-ended questions included questions such as, 'Which aspects of the program

167 did you find most useful?’ and participants were provided with a list of answers by the  
168 interviewer to select from (see Appendix 1 for the interview guide). Participants were also asked  
169 to rate their satisfaction with the intervention using a five-point rating scale that ranged from 1  
170 (*very dissatisfied*) to 5 (*very satisfied*). These questions were then followed by open-ended  
171 questions such as, ‘Can you describe why you found ‘X’ aspect of the study useful?’ to probe  
172 reasons for participants’ opinions. All participants who completed the study ( $n=14$ ) were  
173 interviewed in order to capture as much diverse insight as possible. Interviews were conducted  
174 by the first author in a private room at UNSW and lasted between 20 to 35 minutes each. To add  
175 to the study’s trustworthiness (study credibility), additional data resources such as participant  
176 goal sheets and the email correspondence between participants and the first author were  
177 reviewed to verify findings from participants’ interviews.

178 The interviews were audio recorded using digital dictation voice recorders (Olympus DS-2500,  
179 Australia) and transcribed verbatim by a professional transcription service. To ensure the  
180 veracity of data, participants were provided with an opportunity to review and check whether the  
181 transcripts accurately reflected what they said (i.e. respondent validation); none of the  
182 participants expressed any concern.

## 183 **Intervention**

184 During the four weeks of the intervention, participants received information at the beginning of  
185 each week. The first information pack was given verbally as well as in printed handouts during  
186 the baseline face-to-face meeting. The rest of the information was sent in PDF documents via  
187 email. Each information pack had two sections, one providing information on nutrition and the  
188 other providing information on self-compassion. Participants were advised to set goals based on  
189 the information provided and to track their performance online over the intervention period.

### 190 *Goal-setting*

191 The goal-setting protocol was based on Locke and Latham’s goal-setting theory<sup>(39)</sup>. Participants  
192 were encouraged to set proximal (short-term), timely, specific goals, and to reward themselves  
193 for any success. In addition, factors that may facilitate achievement of health-related goals, such  
194 as promoting self-efficacy<sup>(22)</sup>, were included in the goal-setting instructions.

195 During the initial in-person meeting, participants set two goals with the first author's guidance.  
196 One goal was about dietary habits (e.g. 'I aim to eat three serves of vegetables every day'), and  
197 the other goal was about self-compassion behaviours (e.g. 'I aim to treat myself like a good  
198 friend under challenging situations this week'). They were also advised to set new goals every  
199 week based on the new information they would receive. Participants had the option of carrying  
200 forward their nutrition goals to subsequent weeks or setting new ones. Participants were asked to  
201 set or retain a maximum of three nutrition goals and one self-compassion goal per week (i.e. a  
202 total of four goals in any week).

203 Participants were shown how to use a personalised online Google goal sheet for self-monitoring  
204 as well for interacting with the first author. Goal sheets were structured as weekly calendars with  
205 space to enter their goals and then track daily progress (i.e. indicating whether or not they  
206 completed the goal with a 'Yes' or 'No'). During the study, participants could contact the first  
207 author for further guidance. The first author reviewed each participant's goal sheet at the end of  
208 each week, and feedback was emailed to the participant. Email reminders were also sent to  
209 participants if they did not complete their goal sheets for three consecutive days.

#### 210 *Nutrition information*

211 Nutrition information was based on the Australian Dietary Guidelines (ADGs)<sup>(40)</sup>. Guidance on  
212 the ideal intake of foods was tailored to focus on the regulation of body weight and hunger.  
213 Therefore, the information encouraged a diet with foods high in protein, fibre and carbohydrates  
214 low in glycemic index and low in energy density. Each week, two or three of the food categories  
215 listed in the ADGs were introduced to participants along with some goal options related to these  
216 food categories.

#### 217 *Self-compassion information*

218 Self-compassion information and goal options were partially based on Neff's website<sup>(41)</sup>. The  
219 website teaches 'mindful self-compassion'<sup>(41)</sup>. The investigators partially modified the  
220 information to focus more on how self-compassion may be related to nutrition and dietary  
221 behaviour change (e.g. emotional eating or goal relapse)<sup>(26, 42)</sup>. Goal options provided were either  
222 formal practices (i.e. guided meditation) or informal practices (i.e. self-compassionate thoughts

223 in daily life, such as repeating self-compassionate phrases to oneself in moments of suffering).  
224 The informal practices were related to sufferings either in general life or relating to body image  
225 and diet. One of the goal examples relating to the distress associated with dietary habits was: ‘If I  
226 do not accomplish my nutrition goals as much as I would like, and I won’t feel guilty. Instead, I  
227 will motivate myself to do better in the future with encouraging language.’

## 228 **Statistical analysis**

229 Descriptive statistics were used to describe the baseline characteristics of the study sample. To  
230 compare changes before and after the intervention, paired samples *t*-tests and Wilcoxon paired  
231 rank tests were used for the normally distributed and non-parametric data, respectively. Simple  
232 linear regressions were carried out to examine if changes in self-compassion predicted the Week  
233 Four values of each outcome variable. The regression models were adjusted for baseline values  
234 of those outcome variables. Data analysis was performed using SPSS (version 22). Differences  
235 were considered to be statistically significant at  $p < 0.05$ . Cohen’s *d* effect size was used for the  
236 effect size calculation, with effect sizes of 0.2, 0.5 and 0.8 representing small, medium and large  
237 effects, respectively<sup>(43)</sup>.

## 238 **Qualitative analysis**

239 Qualitative content analysis was used to analyse the qualitative interview data. A deductive  
240 approach was used to code the data and assess the conceptual and theoretical underpinnings of  
241 the study<sup>(44, 45)</sup> An inductive approach was then applied to develop higher order categories or data  
242 that did not fit into the unconstrained matrix. The latter approach is taken when there is not  
243 enough information about the topic to be analysed<sup>(44)</sup>.

244 The transcripts were read several times by the first author before coding. After initial open  
245 coding based on a few transcripts, the first author consulted with a qualitative expert to confirm  
246 the validity of the generated codes. Codes related to similar or dissimilar opinions on the same  
247 topic were collapsed into broader categories to reduce the total number of categories. QRS  
248 International Nvivo 11 software was used for coding and managing the data. After coding all  
249 transcripts, refining codes, categorisation and abstraction, a list of categories and subcategories  
250 was generated, and their definitions were discussed between the first and fourth authors.

## 251 **Results**

### 252 **Response rate and participant characteristics**

253 Out of 46 people (43 women and 3 men) who initially responded to the advertisements, 18  
254 female participants were interested and eligible; of those, 14 (all women) completed the study.  
255 Figure 1 presents the recruitment process and the numbers of participants involved at each stage  
256 of the intervention. The average age of the sample was 37.9 ( $SD=9.8$ ) years and the average BMI  
257 was 30.58 ( $SD=3.44$ )  $kg/m^2$ . All participants had some university education with 71% having  
258 postgraduate education. The ethnic composition of the sample was diverse with 29% of the  
259 participants being Oceanian, 14% European, 7% African and Middle Eastern, 22% Asian, 14%  
260 American and 14% others.

### 261 **Participants' earlier exposure to self-compassion**

262 Some information about participants' earlier exposure to self-compassion was collected because  
263 the early exposure might affect participants' ability to develop a self-compassion mindset and  
264 their perception of the study acceptability<sup>(46)</sup>. Eight participants reported that they had already  
265 heard of or were familiar with the concept of self-compassion and some of the participants were  
266 familiar with some similar concepts, such as mindfulness.

### 267 **Changes between Week Zero and Week Four**

268 Table 1 provides within-participant comparisons on the following outcomes: self-compassion;  
269 eating pathology; depression, anxiety and stress; and anthropometry. With respect to self-  
270 compassion, there were significant improvements in the total scores on the SCS as well as some  
271 of its subscales. Global scores on the EDE-Q did not show any significant change, but there was  
272 a significant decrease for two of the subscales and for the frequency of binge days (days on  
273 which binge eating occurred). There was also an increase in levels of the Restraint subscale of  
274 the EDE-Q that fell just short of significance. Further analysis of the five items that make up the  
275 Restraint subscale revealed that the scores on items related to food avoidance ( $p=0.01$ ) and  
276 dietary rules ( $p=0.02$ ) increased significantly after the intervention, while scores on the other  
277 three items (restraint over eating, avoidance of eating and empty stomach) did not change

278 significantly ( $p>0.60$ ). Among the DASS subscales, only a decrease in Depression scores  
279 approached significance. There was no significant change in any anthropometric variables after  
280 the intervention.

281 Week Zero and Week Four comparisons for dietary outcomes, such as energy and macronutrient  
282 intake, are presented in Table 2. Decreases in average daily energy intake and some  
283 macronutrients' intake were significant after four weeks of intervention. There was no change in  
284 fibre consumption; however, after adjusting for energy intake, fibre intake showed a significant  
285 increase from 2.9 to 3.5 g/MJ. The proportions of energy provided by the different  
286 macronutrients did not change significantly over the course of the intervention.

### 287 **Self-compassion change as a predictor of study outcomes**

288 Table 3 shows coefficients of simple linear regression predicting the study outcomes at Week  
289 Four based from changes in self-compassion total score and subscale scores. Note that, because  
290 the impact of the intervention was similar for the three positively worded items and for the three  
291 negatively worded items, these were combined to form positive and negative subscales of self-  
292 compassion. The regression analyses were adjusted for baseline values of the respective  
293 outcomes. Changes in positively worded self-compassion subscales predicted Week Four scores  
294 on the Stress subscale of DASS, and marginally predicted scores on the Week Four Anxiety  
295 subscale. Changes in negatively worded self-compassion subscales did not significantly predict  
296 any Week Four scores for eating pathology or depression/anxiety/stress.

### 297 **Goal adherence**

298 To determine participants' goal adherence, participants' online goal sheets were reviewed. Goal  
299 adherence was calculated by the number of times a 'Yes' was recorded for reaching a goal  
300 divided by the number of times the goal was supposed to be accomplished. On average,  
301 participants accomplished 73% ( $SD=14.8$ ) and 67% ( $SD=18.9$ ) of their nutrition and self-  
302 compassion goals, respectively, during the four weeks of the intervention.

303

## 304 **Acceptability and satisfaction with the study**

305 The majority of participants stated that the study matched their expectations. Average  
306 satisfaction with the study was 3.9 out of 5 (where 4 = ‘satisfied’) and 78.5% of participants  
307 rated the study as 4 or 5. Participants were also asked to list verbally the most useful and the least  
308 useful aspects of the study using four categories that represented the main study components (i.e.  
309 self-compassion, goal-setting, nutrition guidance and online support). Participants stated that  
310 they found self-compassion and goal-setting to be the two most useful aspects of the study.

311 Analysis of the transcripts from the Week Four interviews generated six major categories  
312 describing features that may have an impact on the acceptability of the study and participant  
313 adherence. Table 4 presents these six major categories and their subcategories with example  
314 quotes supporting these findings. Participants had mixed opinions and feelings about the  
315 presence or absence of these features in changing their dietary behaviours.

316 Participants generally appreciated the idea of goal-setting (including self-monitoring) and self-  
317 compassion for dietary behaviour change. They believed that goal-setting and self-monitoring  
318 increased their motivation and emphasised that aiming for a realistic level of change could  
319 increase goal adherence. Participants also stated that self-compassion helped them to regulate the  
320 negative affect associated with eating and dietary change but noted that cultivating a self-  
321 compassion mindset could be challenging.

322 In addition to the study intervention components, participants talked about other aspects that may  
323 impact their adherence to the study. One of these aspects was the simplicity and efficiency of the  
324 current study. While some participants found the study to be time-efficient, easy to understand  
325 and accessible, others thought that the study needed to be simpler and more time-efficient. The  
326 informative aspects of the study were also something that the participants found useful. In  
327 addition, some participants highlighted that the study could have been more flexible and more  
328 interactive to address participants’ needs more favourably. Finally, feedback from the ‘expert’  
329 (i.e. the investigator) and reminders were considered as factors that increased engagement with  
330 the study. However, some participants also suggested that opportunities for interaction with peers

331 and more frequent interaction with experts and feedback might have improved engagement with  
332 the study.

### 333 **Discussion**

334 This pilot study aimed to investigate the efficacy and acceptability of a combined online and  
335 face-to-face behavioural intervention that used self-compassion, goal-setting and self-monitoring  
336 strategies for improving dietary behaviour in 14 adults with overweight or obesity. The  
337 quantitative data show that the study was effective in improving self-compassion, some aspects  
338 of eating behaviour and some aspects of dietary intake. The qualitative data indicated that  
339 participants generally liked the idea of self-compassion and goal-setting for promoting healthier  
340 dietary behaviour and found the intervention to be partly acceptable and feasible. However,  
341 change scores in self-compassion did not predict any outcomes measure at Week Four, except  
342 for stress levels.

343 In the current study, the level of total self-compassion improved significantly over four weeks.  
344 The effect size (Cohen's  $d=0.61$ ) attained in our study was comparable to previous short-term  
345 (e.g. 5 days)<sup>(18, 47, 48)</sup> or online self-guided self-compassion interventions<sup>(17, 48)</sup>. These effect sizes  
346 are smaller than those reported in interventions with a longer period (i.e. three to eight weeks) or  
347 group sessions (average effect size Cohen's  $d=1.4$ )<sup>(46, 49)</sup>. In those studies, group sessions might  
348 have given participants a better understanding of self-compassion as well as more opportunities  
349 for formal practice.

350 The current intervention significantly decreased some aspects of disordered eating as measured  
351 by the EDE-Q. Similar studies report comparable findings to the current study, such as  
352 significant decreases in disordered eating and body image concerns in clinical and non-clinical  
353 samples<sup>(18, 26, 50-53)</sup>. Scores on the Restraint subscale showed a slight (but non-significant)  
354 tendency to increase over the intervention ( $p=0.06$ ,  $d=0.34$ ). However, this might not be  
355 considered a detrimental outcome given that the increase was observed on two items of 'food  
356 avoidance' (limiting specific foods) and 'dietary rules' (having some rules for eating) rather than  
357 items with more concerning patterns including 'desire for empty stomach' or a 'long period of  
358 fasting'. There is evidence that self-control and some degree of restraint in people with



359 overweight and obesity can result in less binge eating and more success in weight loss compared  
360 to subjects with lower levels of restraint<sup>(7, 54)</sup>. Thus, the slight increase in the Restraint subscale  
361 might be considered as a positive outcome in this context.

362 Significant improvements were also observed in some aspects of dietary intake over the four  
363 weeks of the intervention. Energy, carbohydrate, protein and alcohol intakes decreased; and fibre  
364 intake per unit of energy increased. Our findings are consistent with the few other studies that  
365 have examined the efficacy of self-compassion on dietary intake. Those studies have also  
366 reported improvements in some aspects of the diet, such as increased scores on nutrition subscale  
367 of a health questionnaire<sup>(47)</sup>, and reduced frequency of dietary fat consumption<sup>(16)</sup>.

368 One of the study's hypotheses was that the current intervention could decrease depression,  
369 anxiety and stress, but there was no statistically significant effect of the intervention on these  
370 outcomes. (Depression scores did show a decreasing trend,  $p=0.07$ ,  $d=-0.43$ .) This lack of  
371 statistical significance is not congruent with previous study results, where significant decreases  
372 in emotional distress have been reported<sup>(14, 46, 55, 56)</sup>. The null results of the current study might be  
373 due to the short period of the intervention and the fact that current study observed a smaller  
374 effect size in self-compassion levels compared to the previous study and this change might not  
375 be sufficient to cause a significant change in the study other outcomes.

376 In contrast to earlier findings<sup>(15, 18, 57)</sup>, the current study did not show any change in the secondary  
377 outcomes of anthropometry. This is perhaps not surprising given that (a) the current intervention  
378 was focused on improving dietary habits rather than weight loss, and (b) the intervention was of  
379 relatively short duration. Other self-compassion studies that have focused on improving dietary  
380 habits similarly either found no change<sup>(16)</sup> or reported only a small change in BMI and waist  
381 circumference (Cohen's  $d=0.10$ )<sup>(18)</sup>.

382 Although the current intervention successfully improved self-compassion scores, there was very  
383 limited evidence that changes in self-compassion account for the changes in other outcomes.  
384 Positively worded subscales of SCS (e.g. Self-Kindness) predicted Week Four Stress scores; for  
385 Anxiety scores, the correlation was marginally significant ( $p=0.08$ ). There were no other  
386 significant associations. These findings are in contrast to earlier research which reported that

387 changes in self-compassion negatively predicted changes in psychological distress<sup>(58, 59)</sup> and  
388 eating pathology<sup>(60)</sup>. This inconsistency may be explained by the fact that the current self-  
389 compassion intervention was in the form of unsupervised self-help that did not result in as large  
390 an effect for self-compassion as the other studies have. The small sample size also could be  
391 another possible explanation for this inconsistency.

392 This study had a good retention rate, with 78% of participants who gave consent completing the  
393 study. This retention rate is within the acceptable range of retention for intervention studies (i.e.  
394 about 20% attrition for short-term studies)<sup>(61)</sup>. The ethnic composition of the study sample was  
395 also heterogeneous indicating that the acceptability of the current study could be generalisable to  
396 more diverse ethnic groups of people. In addition, qualitative exploration also showed that the  
397 study is acceptable and promising. Most of the participants found the goal-setting and self-  
398 monitoring to be essential aspects of the current study for changing dietary behaviour.

399 Respondents also reflected on the importance of having attainable and short-term goals. Recent  
400 studies that examined participant perceptions or expectations from web-based health programs  
401 also reported similar findings<sup>(29, 62-65)</sup>.

402 Participants' perceptions regarding the benefits of self-compassion for dietary change support the  
403 self-compassion model of health behaviours, which theorises that self-compassion might be  
404 beneficial in regulating undesirable thoughts and emotions<sup>(23, 25)</sup> that are associated with  
405 emotional eating and goal abandonment<sup>(66)</sup>. However, similar to previous qualitative studies in  
406 clinical and non-clinical samples, the findings indicated that understanding the concept of self-  
407 compassion or developing a self-compassionate attitude might be difficult, especially when  
408 participants have negative thoughts, or they are self-critical<sup>(67, 68)</sup>.

409 In addition to the findings related to the conceptual and theoretical underpinnings of the study,  
410 qualitative data also showed the importance of simplicity, ease of access and efficiency of online  
411 tools for dietary behaviour change. Time efficiency<sup>(63, 69)</sup>, ease of use and accessibility of the  
412 online tools<sup>(63, 70, 71)</sup> have also been discussed by participants in other studies that asked for  
413 participants' perceptions of using mobile or online health applications for dietary change. The  
414 importance of having novel information that helps participants with dietary change in nutrition

415 programs was another finding which is consistent with the findings of studies that sought  
416 participants' experience about dietary habits programs<sup>(29, 62, 63, 70)</sup>.

417 Finally, the last feature that participants considered essential to the study's acceptability was for  
418 it to be engaging. Some participants suggested that the study could have been more engaging had  
419 there been more online and in-person support, feedback and reminders. Participants in other  
420 studies also spoke about the value of feedback and reminders to increase engagement in  
421 technology-based dietary interventions<sup>(29, 63)</sup>.

422 Overall, the evidence obtained from this study suggests that nutritionists and healthcare  
423 providers could include self-compassion in their counselling for promoting healthy dietary habits  
424 as a means of assisting people in dealing with negative emotions related to eating behaviour  
425 modification. Self-compassion mindset might have the potential to be beneficial in a broader  
426 scope such as promoting healthy eating in different settings such as schools. Schools could be an  
427 ideal setting because adolescence and childhood are important periods for growth and cognitive  
428 changes<sup>(72)</sup> and might facilitate the development of both healthy eating behaviours<sup>(73)</sup> and a self-  
429 compassion mindset<sup>(55)</sup>. Self-compassion could also be beneficial in addressing other public  
430 health issues, such as changing a sedentary lifestyle<sup>(24)</sup>. Future studies should explore the  
431 application of self-compassion interventions in these contexts to broaden the applicability of the  
432 self-compassion concept.

433 Several limitations to this study need to be acknowledged. First, this study was a short-term, one-  
434 armed pilot. Furthermore, because this was a pilot study with a small sample size, the alpha level  
435 of significance was not corrected for the multiple comparisons on the effects of the intervention.  
436 Therefore, multiple comparisons from the same set of data might have increased the likelihood  
437 of type I error (i.e. false rejection of null hypotheses). Thus, quantitative results must be  
438 interpreted with caution. In addition, the majority of participants were familiar with concepts  
439 similar to self-compassion, such as mindfulness, that could also assist with building self-  
440 compassion whereby having prior experience in similar activities is advantageous<sup>(46)</sup>. Therefore,  
441 the current study findings could not be generalised to the general population. Finally, the  
442 qualitative interviews were conducted by the same person who provided support to participants  
443 throughout the intervention. While this connection might have contributed to a good rapport and

444 allowed participants to feel more comfortable talking with a familiar person, it might also have  
445 influenced participants to respond in a positive way to questions about the intervention.

## 446 **Conclusions**

447 This pilot study provides preliminary but promising findings on the feasibility of the current  
448 behavioural intervention. Despite having a small sample size and a short intervention period, the  
449 intervention improved some aspects of dietary and eating behaviours. However, changes in self-  
450 compassion over the four weeks did not significantly predict study outcomes at Week Four,  
451 except for the level of stress. The efficacy of the intervention and the mechanism of change in  
452 the study outcomes need to be examined in future research with a larger sample, a longer  
453 intervention period and a control arm.

454 The current study also indicates that the combined online and face-to-face behavioural  
455 intervention that aimed to improve dietary habits was feasible and acceptable. Overall,  
456 participants in the current study found self-compassion, goal-setting and self-monitoring  
457 essential for promoting dietary change. However, some factors such as efficiency, simplicity and  
458 the interactivity of the program should be taken into consideration for future studies.  
459 Furthermore, self-compassion researchers might want to consider the challenge of cultivating a  
460 self-compassion mindset and explore different methods to facilitate the adoption of a self-  
461 compassionate mindset.

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630 **Tables**631 Table 1. Anthropometry, eating behaviours, depression, anxiety, stress, and self-compassion at Week  
632 Zero and Week Four ( $n=14$ )

	Week Zero		Week Four		<i>p</i>	Cohen's <i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
SCS						
Self-Kindness	2.73	0.63	3.01	0.80	0.37 <sup>a</sup>	0.39
Common Humanity	3.07	0.69	3.16	0.82	0.78 <sup>a</sup>	0.12
Mindfulness	2.91	0.69	3.13	0.68	0.50	0.32
Self-Judgment	3.04	1.03	2.53	1.00	<0.001	-0.51
Isolation	3.00	0.81	2.59	1.13	0.05	-0.42
Over-Identification	2.96	1.06	2.48	1.02	0.01	-0.46
Self-compassion total	2.92	0.67	3.30	0.58	0.01	0.61
EDE-Q						
Restraint	1.24	1.12	1.64	1.25	0.06	0.34
Eating Concern	1.56	1.12	0.90	0.62	0.03	-0.72
Weight Concern	2.89	1.05	2.59	1.20	0.31	-0.27
Shape Concern	3.13	1.56	2.62	1.40	0.04	-0.34
Global score	2.20	1.01	1.94	0.99	0.17	-0.26
Overeating	6.46	5.94	4.57	4.20	0.30 <sup>a</sup>	-0.37
Bingeing (episodes)	5.45	5.52	2.85	2.71	0.07	-0.60
Bingeing (days)	6.25	6.31	2.57	2.79	0.01 <sup>a</sup>	-0.75
Purging (episodes)	0.05	0.31	0.00	0.00	-	-0.23
DASS						
Depression	5.64	4.27	4.00	3.40	0.07	-0.43
Anxiety	2.64	2.62	2.71	2.37	0.91	0.03
Stress	5.79	3.38	5.14	3.11	0.39	-0.20
Anthropometry						
Weight (kg)	83.02	14.22	82.75	14.23	0.31	-0.02
Body mass index (kg/m <sup>2</sup> )	30.58	3.44	30.48	3.44	0.30	-0.03
Waist circumference (cm)	97.81	12.43	97.05	10.96	0.30	-0.06
Hip circumference (cm)	113.38	7.51	112.95	7.55	0.27	-0.06
Waist:hip ratio	0.88	0.08	0.87	0.08	0.70	-0.04

633 <sup>a</sup> Non-parametric analysis634 SCS, Self-Compassion Scale; EDE-Q, Eating Disorder Examination Questionnaire; DASS, Depression Anxiety and  
635 Stress Scale

636 Table 2. Dietary intake at Week Zero and Week Four

	Week Zero		Week Four		<i>p</i>	Cohen's <i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Average daily energy and macronutrient intake						
Energy (kJ)	9443.8	3461.4	7870.3	2074.6	0.02 <sup>a</sup>	-0.55
Protein (g)	98.6	43.4	89.2	43.4	0.04 <sup>a</sup>	-0.22
Carbohydrate (g)	236.4	87.8	189.5	54.8	0.01	-0.64
Sugar (g)	103.1	49.1	76.8	40.3	0.01	-0.59
Total fat (g)	95.3	41.0	76.9	29.2	0.10 <sup>a</sup>	-0.52
Alcohol (g)	3.5	5.4	2.2	3.9	0.001 <sup>a</sup>	-0.28
Fibre (g)	27.4	16.4	27.9	14.1	0.84	0.03
Fibre (g/MJ)	2.9	0.9	3.5	1.3	0.01	0.55
Energy intake ratio from different macronutrients						
Protein (% of energy)	18	6	19	7	0.36	0.21
Carbohydrate (% of energy)	41	6	40	8	0.45	-0.17
Total fat (% of energy)	37	6	36	10	0.63	-0.14
Alcohol (% of energy)	0.8	1	1	2	0.24	0.26

637 <sup>a</sup>Non-parametric analysis

638

639 Table 3. Regression coefficients for changes in self-compassion predicting outcomes at Week Four

	SCS			SCS pos			SCS neg		
	<i>b</i>	<i>SE</i>	$\beta$	<i>b</i>	<i>SE</i>	$\beta$	<i>b</i>	<i>SE</i>	Beta
DASS - Depression	-1.33	2.07	-0.17	-0.78	0.77	-0.26	-0.67	1.51	-0.10
DASS - Anxiety	-1.21	1.48	-0.22	-1.06	0.55	-0.50 <sup>†</sup>	-1.58	1.20	-0.34
DASS - Stress	-2.54	1.74	-0.35	-1.45	0.58	-0.52*	-1.64	1.32	-0.27
EDE-Q - Restraint	-0.37	0.60	-0.13	0.06	0.21	0.05	0.66	0.39	0.26
EDE-Q - Eating Concern	-0.58	0.34	-0.40	-0.15	0.14	-0.27	0.40	0.33	0.32
EDE-Q - Weight Concern	-0.51	0.70	-0.18	-0.08	0.28	-0.08	0.66	0.56	0.28
EDE-Q - Shape Concern	-0.45	0.51	-0.14	-0.05	0.20	-0.04	0.66	0.40	0.24
EDE-Q - Global	-0.44	0.44	-0.19	-0.08	0.17	-0.09	0.48	0.35	0.25

640 DASS, Depression Anxiety and Stress Scale; EDE-Q, Eating Disorder Examination Questionnaire; SCS, total self-  
 641 compassion score; SCS pos, self-compassion positively worded items; SCS neg, self-compassion negatively worded  
 642 items

643 <sup>†</sup> $p < 0.10$ , \* $p < 0.05$ .

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645 Table 4. Six major categories describing features that may have an impact on the acceptability of the  
 646 study

Categories	Sub-categories	Summary of key points identified	Representative Quotations
<b>Promoting goal-setting activity</b>	Goal as a motivator	Goal setting facilitated the relevant tasks both cognitively and behaviourally.	<i>'It [goal-setting] was good to sort of make yourself go [choose healthy foods]',</i> [#12] <i>'Goals keep me moving [towards healthy diet]'</i> [#16]. <i>'[With goal-setting], I got back into it [healthy eating]'</i> [#13]. Goal-setting helped participants to <i>'focus'</i> [#12, 18, 25, 39], <i>'think'</i> [#12-14, 16], <i>'be aware'</i> [#25], <i>'be active'</i> [#13], <i>'be organised'</i> [#14, 18] and <i>'make better decisions'</i> [#36] about goal-related actions or consider <i>'the task necessary'</i> [#23].
	Self-monitoring	Self-monitoring was appreciated by most of the participants; however, a small number of participants indicated that it made them feel guilty when they could not achieve their goals.	<i>It [goal] wasn't manageable, unless you were writing [typing and tracking]'</i> [#16]. Self-monitoring <i>'was like a mental note'</i> for realising a <i>'need of change'</i> [#21].  Deviant cases: <i>'[Self-monitoring] made me feel a bit guilty. It was like, 'Oh I'm feeling like a failure.' But it didn't, like somehow it didn't [help me]... no it helped me to try to do better next day I guess. Yeah'</i> [#25].
	Attainable goals	Having <i>'a slower, more gradual pace'</i> [#39] or <i>'having one goal at the time'</i> [#36] made the tasks manageable.	<i>'I think it is better to have a longer period for each goal such as two or three weeks, and then we add the second goal on top of that. In that case, it would be easier to get used to the first goal, but now one week has passed very quickly and then suddenly you have so many goals for vegetables, for grains [food group], and fat, and it is very difficult to do all of them at the [same] time'</i> [#36].
<b>Promoting self-compassion</b>	Empowering the sense of self-care	Self-compassion helped participants realise the importance of self-care and a balanced life.	<i>'I start thinking about my behaviour'</i> [#14]. <i>'I don't prioritise the self-care tasks which take a lot of time and that's why [practising] the compassion approach works well'</i> [#13].

	Enhancing emotional regulation	Self-compassion assisted in coping with negative affect and judgmental thoughts that may lead to overeating.	<p><i>'I ate better and there was a less emotional drive to eat badly' [#13]. 'The most important thing for me and what makes me overeat and eat foods like... discretionary food is when I get down on myself and it's mostly because of work. This [self-compassion] made me stop worrying about work so much which then motivated me to go shopping and then I ate good food so it was kind of sort of one after the other...' [#14]. 'I am a stress eater and then you do that whole negative talking afterwards about like, 'Oh you shouldn't have eaten that,' you know and that sort of ... that silly, 'You're ridiculous, you're hopeless, dududah.' And then of course, what does it matter now, you may as well eat more,' or you know, I found it [self-compassion] was sort of making me a little bit more conscious of that to go, 'Okay, you know that there were better choices but let's make a better choice next time' [#12].</i></p>
	Facilitating cultivation of self-compassion	<p>Participants found cultivating self-compassion challenging, some suggestions were provided for facilitating the cultivation of <b>the mindset</b> such as using group sessions facilitated with an instructor.</p>	<p><i>'I think sometimes it [having self-compassion] is a bit of a struggle, it's not that easy to apply' [#16]. 'It's very difficult to apply on yourself like when you're actually in the, in that situation where you need it the most' [#21]. 'As I haven't been very compassionate towards myself in many years, it was difficult to achieve this [self-compassion] goal' [extracted from goal-sheets; #36]. ...towards the end I felt like it became a bit more easier to be [self-compassionate] [#33].</i></p>
<b>Being informative</b>	—	<p>Receiving new information on nutrition and self-compassion made the study acceptable.</p>	<p><i>'Definitely, the nutrition PDF was helpful' [# 39]. 'That's [self-compassion information] something that I need a lot of help with' [#12]. 'I found it [the information] very enlightening [#33]'. Deviant cases: 'It wasn't telling [me] anything new' [#18].</i></p>
<b>Catering to individual needs</b>	Being interactive	<p>While some people believed that the study should have been more interactive with adding some extra support from an expert and peers, others found the level of support enough to address an individual's need.</p>	<p><i>'I did not understand what direction I should be moving in to be healthier' [#18] 'I was a bit confused on what I should choose' [#25]. Deviant cases: 'The amount of contact [support] provided by the researcher 'was probably fine [adequate]' and 'really helpful'.</i></p>



	Flexibility and variety	Flexibility may help to address participants' needs.	<p><i>'The fact that there was a range of decisions that you could make and a range of goals that you could achieve... I think it just, it allows for individual variation, which was good because it meant that I could... sort of pick things that I specifically thought needed working on and then, you know ... so there was a lot of flexibility which I really liked' [#13].</i></p> <p>Deviant cases: The self-compassion practices were 'boring', 'repetitive' and 'more variety is needed.'</p>
<b>Efficient and simple</b>	Taking less time	While some people found the study time consuming and discussed the time barrier, others found the study acceptable because it was time efficient.	<p>Participants indicated that they were 'too busy' and had 'no time to read [the information].'</p> <p>Deviant Cases: The study was acceptable because it was 'online' [#14] allowing 'quick communication'. 'It was really easy because you just had to say 'Yes' or 'No'' [#39]</p>
	Easy and convenient	Mixed opinions found about the simplicity of the study.	<p>The educational material was very 'long and hard to read,' as well as 'complicated and confusing.' Information should have displayed 'visually,' and in a 'more clear and easy to digest' way. 'I'd like to have, something that is just a table of options that I can just put on my fridge and look' [#25].</p>
	Being usable and accessible	While some people found the study tools easy to work, others believed that there was a need for more user-friendly tools.	<p>'Would be really handy' [#39] to have an 'easier version' [#18] without requiring a 'good level' [#12] of technological knowledge.</p> <p>Deviant cases: 'It was absolutely easy because I'm on the computer all the time' [#14].</p>
<b>Engaging</b>	Feedback	Participants found the feedback and support encouraging.	<p>'You [the follow-up emails from the expert] were helping me to push' [#23], and receiving feedback 'makes you feel good, as you see some change, happening' [#18].</p>
	Reminders	Reminders seemed to be helpful in engaging participants in the study.	<p>'Maybe little [more] reminders to go, you know, how you going, did you achieve yesterday's goals. That sort of thing, possibly ... might've been more effective if it was like right in the forefront' [#12].</p>
	In-person counselling and peers support	In order to make the study engaging, there is a need for in-person counselling sessions or peer support.	<p>'That [the study] has to be reinforced and encouraged with personal meetings and group sessions' [#16].</p> <p>Deviant cases: There was a need for 'day-to-day support' ... 'many times I would forget [to follow the study tasks]' [#12].</p>

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651 **Figure legends**

652 Figure 1 Participant flow chart

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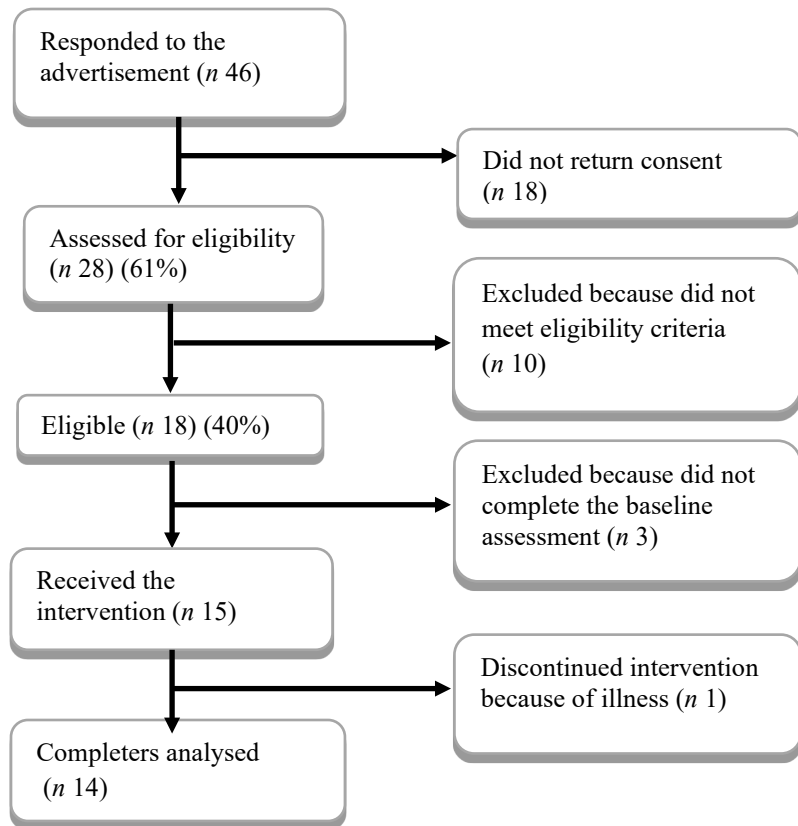


Figure 1

1 Appendix 1. One-on-one structured interview guide questions

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3 1. Please complete the following sentence (interviewer to circle answer).

4 “The online program...

5 ... was better than expected”.

6 ... matched expectations”.

7 ... was worse than expected”.

8 2. Please answer the following question using a scale of 1 ‘*Very dissatisfied*’ to 5 ‘*Very satisfied*’  
9 (interviewer to circle answer). How satisfied were you with the online program overall?

10 1 - Very dissatisfied

11 2 - Somewhat dissatisfied

12 3 - Neutral

13 4 - Somewhat satisfied

14 5 - Very satisfied

15 – Please describe why you have scaled it ... e.g. somewhat satisfied?

16 3. Which parts of the program did you find MOST useful? You can say more than one.

17 The self-compassion focus

18 The goal-setting and monitoring

19 The nutrition guidance

20 Our online support

21 None

22 Other

23 – Describe why you find it useful?

24

25 4. Which parts of the program did you find LEAST useful? You can say more than one.

26 The self-compassion focus

27 The goal-setting and monitoring

28 The nutrition guidance

29 Our online support

30 None

31 Other

- 32 – Describe Why you find it not useful?
- 33 5. Which aspect of the self-compassion focus did you find MOST useful?
- 34 – Please describe why you found it most useful.
- 35 6. Which aspect of the self-compassion focus did you find LEAST useful?
- 36 – Please describe why you found it least useful.
- 37 7. Which aspect of the goal setting and monitoring did you find MOST useful?
- 38 – Please describe why you found it most useful.
- 39 8. Which aspect of the goal setting and monitoring did you find LEAST useful?
- 40 – Please describe why you found it least useful.
- 41 9. Which aspect of the nutrition guidance did you find MOST useful?
- 42 – Please describe why you found it most useful.
- 43 10. Which aspect of the nutrition guidance did you find LEAST useful?
- 44 – Please describe why you found it least useful.
- 45 11. Which aspect of the online support did you find MOST useful?
- 46 – Please describe why you found it most useful.
- 47 12. Which aspect of the online support did you find LEAST useful?
- 48 – Please describe why you found it least useful.
- 49
- 50 Supplementary questions
- 51 13. Did you find that the self-compassion information and goals:
- 52 – helped you in your life in general - YES/NO with comments (describe it how...)
- 53 – indirectly helped you to change your dietary habits - YES/NO with comments (describe it
- 54 how...)
- 55 14. Can you tell me what you think about the number of goals that you were guided to set, i.e. 1-
- 56 3 nutrition goals and 1 self-compassion goal per week – was this amount manageable – YES/NO
- 57 with comments?
- 58 15. Did you find that goal setting and self-monitoring (i.e. the online goal sheet) helped you to
- 59 change your dietary habits? Please describe it.
- 60 16. Were the below study components convenient for you?
- 61 ○ Online goal sheets? YES/NO with comments
- 62 ○ Email communications? YES/NO with comments

- 63           ○ Meeting in-person? YES/NO with comments
- 64           ○ Nutrition information? YES/NO with comments (e.g. as it clear enough to
- 65           understand? If no, which part/s was not clear or confusing?)
- 66           ○ Self-compassion information? YES/NO with comments
- 67 17. Will you continue practising self-compassion now that the study is over? YES/NO with
- 68 comments
- 69 18. Will you continue goal-setting now that the study is over? YES/NO with comments
- 70 19. Had you ever heard about self-compassion before the study? YES/NO with comments (e.g.
- 71 did you ever practice it before the study?)
- 72 20. Do you have any suggestions for improving the program?
- 73 21. Is there an unaddressed need that we should include or focus on? If yes, what is it?
- 74 22. Is there anything else that you would like to mention?