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Adapting The Body Project to a non-Western culture: A dissonance-based eating disorders prevention program for Saudi women

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Abstract

Purpose: The main aim of this study was to test the feasibility of an adapted version of the Body Project for young Saudi women as their eating and body issues are comparable to western culture and linked to internalization of westernization. The study also aims to assess predictors of attrition, and preliminary effectiveness.

Method: The intervention was adapted to local culture in collaboration with a co-director of the Body Project Collaborative. 48 Saudi undergraduate females were recruited, mean age was 19.16 years (SD = 1.23), baseline BMI was (M = 24.42, SD = 5.46). Eating pathology, body image, and comorbidities were assessed pre and post the intervention with adapted self-report measures.

Results: The Body Project is feasible for young Saudi women. Participants were willing to enrol, they found the intervention useful, understandable, and enjoyable. There was no difference between completers and non-completers. The preliminary effect sizes are similar or higher than other effectiveness trials in other cultures.

Conclusion: A cognitive dissonance–based eating disorders prevention can be applicable across cultures where westernization is an influence. The effectiveness is yet to be affirmed. Future research is needed to investigate effectiveness in further robust studies and a bigger sample.

Keywords: Dissonance–based prevention; The Body Project; feasibility; Saudi Arabia; body image; eating disorders; young women**.**

Evidence-based medicine: Level IV (Evidence obtained from multiple time series with or without the intervention, such as case studies. Dramatic results in uncontrolled trials might also be regarded as this type of evidence)

Declarations

Funding

This research was funded by Princess Nourah Bint Abdulrahman University.

Conflicts of interest

CB earns royalties from the Body Project. The authors have no other interests to declare.

Availability of data and material

The data used are available on reasonable request to the corresponding author.

Code availability

Not applicable.

Authors' contribution

Munirah AlShebali: Investigation, Resources, Data Curation, Writing - Original Draft , Funding acquisition, Validation, Project administration. **Carolyn Becker:** Methodology. **Stephen Kellett:** Supervision, Writing - Review & Editing. **Ahmad AlHadi:** Supervision, Writing - Review & Editing **Glenn Waller:** Methodology, Conceptualization, Visualization, Formal analysis, Supervision, Writing - Review & Editing.

Adapting The Body Project to a non-Western culture: A dissonance-based eating disorders prevention program for Saudi women

Eating disorders are commonly viewed as disorders of the Western world, given their characteristic beauty standards, collective opinions, and individual attitudes encouraging extreme thinness [1]. However, Saudi females also suffer from eating pathology and body image issues at a level comparable to those of western cultures, though the pattern is more one of bulimic than anorexic presentations [2]. Saudi Arabia is currently undergoing a substantial process of rapid cultural westernization. This change has resulted in more freedom and empowerment for women in terms of social, political, and economic improvements. The changes have included:

- in 2013, thirty women were appointed to join the Shoura Council (the consultative assembly and the formal advisory body in the country)
- in 2013, female lawyers were allowed to practice in courts [3].
- in 2018, Saudi women were allowed to drive for the first time [4].
- In 2019, the Saudi government gave women the right to issue a passport if she is older than 21 years and travel alone. Women can now register marriage, divorce and birth without the authorisation of a father, brother or husband [5].
- in 2019, the government appointed its first female ambassador [6].

Individual women's levels of internalization of that westernization have been linked to eating and related issues [2]. Therefore, it is important to identify ways to limit the impact of changing cultural expectations on eating pathology and body image, in order to reduce the risk of eating disorders in Saudi young women, as they are a particularly vulnerable group [7]. A possible method to reduce vulnerability is the use of prevention programs that target young women with body image dissatisfaction and eating pathology.

There are several eating disorders prevention programs that have been proven to be

effective, cost-efficient, and capable of being widely implemented [8]. For example, psychoeducation-based cognitive-behavioural prevention approaches have proven effective for women with body image dissatisfaction [8]. Media literacy is a prevention approach that targets media impact on body image dissatisfaction, and has small to medium effect sizes for weight and shape concerns and media internalization [9,10]. However, cognitive dissonance-based approaches have the strongest evidence. They have moderate to large effects on several risk factors and pathology outcomes, such as bulimic behaviors, body image dissatisfaction, thin-ideal internalization and comorbidities [8,9]

The Body Project is the cognitive dissonance-based prevention approach with the best evidence base, delivering significant and meaningful reductions in body dissatisfaction and eating disorder symptoms, and limiting the future onset of eating disorders over a three-year follow-up [11, 12]. The Body Project has been delivered in 138 universities in the United States and in ten other countries [12, 13]. It shows consistent outcomes in different countries and ethnic groups [14]. It is protocol-based, following a structured treatment manual that includes verbal and written in-session activities and homework activities [15]. The Body Project can be delivered by a range of facilitators, including clinicians, counsellors, research staff, nutritionists, and undergraduate peer leaders [15, 16].

The Body Project's effectiveness in non-Western cultures is not yet known, as there are no published studies regarding its use outside of Western countries [17]. However, it is important to consider the feasibility of such an approach in a non-western culture. Therefore, it will be important to test its feasibility in countries and cultures such as Saudi Arabia, to determine whether it is suitable for widespread implementation in a non-Western culture.

To summarise, a preliminary study is needed to test the feasibility and effectiveness of the Body Project when adapted for undergraduate Saudi women, to determine whether the program can be adapted to address the above cultural issues while retaining its effectiveness.

Therefore, the primary aim of this study was to test the feasibility of the Body Project for young Saudi women, where feasibility was considered in terms of enrolment, attendance, attrition, understandability, and acceptability. The study also had two secondary aims{ a) to identify any pre-intervention differences between completers and non-completers; and b) to assess the preliminary effectiveness of the intervention, in terms of effect sizes produced.

Method

Ethical approval

This study was approved by the Institutional Review Board (IRB) of King Abdulaziz City for Science and Technology, and the Scientific Research Ethics Committee of Princess Nourah bint Abdulrahman University.

Design and setting

The study used a simple pre-post design.

Adaptation

Cultural adaptations were agreed upon by the team, including CB, who is a co-director of the Body Project Collaborative. Table 1 shows the adaptations made for elements of The Body Project and the rationale for them in the Saudi context.

Insert Table 1 about here

Participants and Procedure

Sample size calculation was performed for within-subject studies. The sample size was calculated on the basis of a medium effect size ($d = 0.5$) [21, 22], alpha level $p = .05$, and power = 0.8, which resulted in a necessary sample size of 27 participants for a t-test comparing pre-post EDE-Q scores. Assuming an attrition rate of 25%, the minimum target

sample size was 34. However, in the case of a larger attrition rate, we aimed to recruit 48 participants. There was no control group because the aim is to test feasibility.

Figure 1 shows the recruitment process, during which 114 young Saudi women volunteered. Participation in this study was on a voluntary basis. Participants were given an information sheet, and were asked to give informed consent. Participants were female undergraduate students from different departments of the community college in Princes Nourah bint Abdulrahman University. They were recruited in January 2020, when the facilitator visited classes to invite students to sign-up for the program and explain its aims and nature. It was advertised as a workshop to promote body acceptance, as suggested in the manual [15]. Participants were excluded if they met DSM-5 diagnostic criteria for anorexia nervosa, bulimia nervosa, binge eating disorder, atypical anorexia nervosa, atypical bulimia nervosa or atypical binge-eating disorder, determined via the Eating Disorders Diagnostic Scale (EDDS) - DSM-5 version [23, 24]. As seen in Figure 1, four participants were excluded because they met the criteria for an eating disorder (two for binge-eating disorder, and two for bulimia nervosa). These four participants were encouraged to seek treatment. Twenty-eight individuals had scheduling conflicts that prevented participation. Of the remaining 82, 34 were not needed because the study was designed for a smaller number of participants. Thus, the study proved successful in recruiting sufficient volunteers (N = 48). Of those 48, 10 did not start the intervention. One participant was not identified as having an eating disorder on the EDDS, but reported vomiting 100 times over 28 days on the EDE-Q. Therefore, she was omitted as being an outlier for a non-clinical sample. Thus, the number of research participants was smaller, as shown in Figure 1.

Insert Figure 1 about here

Thirty-eight participants entered the program. Their mean age was 19.16 years (*SD* = 1.23), and their baseline body mass index was (*M* = 24.42, *SD* = 5.46). All participants belonged to the Arabic ethnic group. Participants were assessed before the first meeting and after the fourth and last meeting, using self-report.

Intervention

The intervention was delivered by MA (a psychology PhD candidate with 5 years of clinical experience). It was based on the adapted intervention manual and the facilitator guide [15], which includes the conceptual rationale for the intervention, practice issues, the manual, and materials. The facilitator read key trials that evidence the dissonance eating disorder prevention program [25, 11], and used training videos and mock practice videos [26]. Supervision of delivery was conducted by GW, considering process issues such as engagement, confidentiality, and completion rate.

The Body Project aims to create cognitive dissonance that encourages participants to reduce the pursuit of the thin-ideal [15 It involves four group sessions in consecutive weeks, each lasting one hour. At the beginning of each session, the facilitator reinforces voluntary commitment. Homework was agreed upon at the end of each session and reviewed at the beginning of the following session. Participants reported spending half an hour to complete each homework task. Table 2 shows the sessions' descriptions and the adaptations that were made for each session to be suitable for Saudi culture.

Insert Table 2 about here

Measures

The Eating Disorders Diagnostic Scale (EDDS) - DSM-5 version [24] was completed as a screening measure of likely diagnosis, for exclusion purposes. The EDDS contains 22 items, which assess DSM-5 criteria for eating disorder symptoms and produce a diagnostic category for each individual [24].

Indicators of feasibility

To index feasibility, we examined: enrolment; attendance; attrition; understandability; and acceptability, as recommended when designing a feasibility study [28]. A survey was used to understand participants' experiences of The Body Project and their suggestions for better implementation in the future. Enrolment was defined as the number of participants recruited. Attendance was defined as the number of participants who attended at least two or more sessions. Attrition was defined as the number of participants who did not attend at least half of the program, while attrition from the research was defined as the number of people who did not complete pre-test and post-test measures. Understandability was measured at the end of the program by using a question in the reflection survey about whether the intervention was understandable or not, to what extent, and why. Acceptability was assessed at the end of the program by having participants answer questions in the reflection survey about whether or not the intervention was useful and enjoyable, whether techniques were useful, whether home exercises were enjoyable, and whether and why the number and duration of sessions were appropriate. Participants were asked about the most useful part of the program and whether or not they would recommend The Body Project to other women and were asked about the best way to advertise the program.

Indicators of effectiveness

The following measures were all implemented at the start and the end of the program. Body mass index (BMI) was based on self-reported weight and height.

Eating Disorder Examination-Questionnaire (EDE-Q, version 6.0). The EDE-Q is

a widely used self-report measure of eating disorder psychopathology [29]. It contains 28 items investigating eating disorder behaviors and attitudes during the past 28 days. It includes four subscales: dietary restraint; eating concerns; weight concerns; and shape concerns. Higher scores indicate greater eating pathology. The Global EDE-Q score (mean of the four attitudinal scores) and the scores on each subscale were used in this study. The EDE-Q has satisfactory psychometric properties in a Saudi population (internal consistency of the Global scale $\alpha = .80$ [2], compared to Peterson et al.'s [30] $\alpha = .90$). It has strong test-retest reliability [31], and validity in clinical and non-clinical populations [32, 33]. The completers' mean EDE-Q Global score at pretest was 1.93 ($SD = 1.36$), consistent with Saudi [2] and western non-clinical norms [34].

Body Shape Questionnaire (BSQ-8C). Body image dissatisfaction was measured using the BSQ-8C, which is a short version of the full Body Shape Questionnaire [35]. A higher score indicates greater levels of body image dissatisfaction. It is an eight-item self-report questionnaire, addressing body satisfaction over the past four weeks. Its internal consistency in a Saudi population ($\alpha = .927$ [2]) is similar to western norms ($\alpha = .91$ [30]). It has excellent test–retest reliability ($r = .95$ [36]) and high convergent validity ($r = .90$, $p < .001$ [36]), and can be used in community and clinical populations [37].

Brief Version of the Fear of Negative Evaluation Scale (BFNE). The BFNE [38] measures anxiety related to perceived negative evaluation. A higher score shows greater levels of social anxiety. It contains 12 items describing anxious cognitions. The BFNE has an acceptable factor structure. Its internal consistency in a Saudi group is $\alpha = .872$ [2], which is similar to western levels of $\alpha = .81$ [39]. It has strong test-retest reliability ($r = .75$) [32].

Patient Health Questionnaire (PHQ-9). Depression was assessed with the PHQ-9 [40], which measures the severity of depression over the past two weeks. Higher scores indicate greater levels of depression. It contains nine items that correspond with the major depressive

episode criteria described in the Diagnostic and Statistical Manual of Mental Disorders [41]. The PHQ-9 has strong psychometric properties in a Saudi population, with α = .888 [2], which is comparable to western norms of α = .8 [42]. It also has strong test-retest reliability (*r* = 0.94) [42]. If participants had endorsed suicidal thoughts during the sessions, they would have been referred to the psychiatry unit in the university hospital for assessment and treatment.

Data analysis

SPSS (v.26) was used for all descriptive and inferential data analyses. Non-parametric analysis (Mann-Whitney test) was done to compare completers' and non-completers' scores. Paired t-tests were used to compare pre and post scores, and effect sizes (Cohen's *d*) were calculated for the effectiveness indices. There were no missing data because all items had to be completed.

Results

Feasibility of The Body Project

Enrolment was successfully achieved, with more people volunteering than needed (see Figure 1). The attendance rate was 35/48 (73%) (attending at least two sessions), while the attrition rate was 13/48 (27%) for the intervention and 18/48 (37.5%) for the research (Figure 1). Twenty-nine participants responded to the reflection survey. Of the 29, 28 (96.5%) said it was useful, 29 (100%) said it was enjoyable, and 20 (68.9%) said it was understandable. The participants described the Body Project as being easy to implement, teaching them about the costs of pursuing ideal appearance, and providing a safe environment to share their eating and body concerns. The only suggestion for change was that the homework exercises might be reduced.

Predictors of attrition

Table 3 shows that there were no significant differences between completers and non-completers in initial levels of eating pathology, body image dissatisfaction, comorbidities, or

age. Therefore, attrition was not systematic.

Insert Table 3 about here

Effectiveness of The Body Project

Table 4 shows pre-post scores for eating pathology and body dissatisfaction, and the result of paired t-tests, along with effect sizes (Cohen's *d*). The intervention resulted in significant changes in most of the measures. The EDE-Q scores showed significant reductions in eating attitudes (with large effect sizes for most scales) but not in behaviors. There were also reductions in body dissatisfaction and comorbidities, with medium effect sizes.

Insert Table 4 about here

The effect size for the key measure of eating pathology - the EDE-Q Global - was d = 1.05, which is higher than: the d = 0.72 reported using the EDEQ Global [37]; the d = 0.78 reported using the EDDS [38]; and the d = 0.54 and d = 0.52 found when using the EDDI [16, 17]. Thus, the adaptation of the Body Project for Saudi culture has not resulted in any evidence of loss of benefits in this key outcome variable.

The effect size for body image dissatisfaction was d = 0.57, which is higher than the d = 0.35 reported elsewhere [38], and lower than the d = 0.64-0.94 reported in other papers [43,21,22]. The effect sizes for depression and social anxiety were d = 0.65 and d = 0.42 respectively, which are in the range for changes in mood (d =0.38-0.72) reported elsewhere

[43,44,21,22]. Therefore, there was no loss of effectiveness when using The Body Project in Saudi Arabia.

Discussion

This study has assessed the feasibility and potential effectiveness of the Body Project for young women in Saudi Arabia, in order to evaluate the possibility of using prevention methods in a country that is undergoing westernization. It was important to make some modifications to some of the program elements in order to suit a non-western country like Saudi Arabia. Those elements included national dress codes and regulations about visual recording inside the university [18,19] and language issues [20]. These adaptations are consistent with suggestions that prevention program should be relevant to the local culture and setting [45, 46].

The findings demonstrate that The Body Project can be applied in this population, with appropriate adaptations, as shown by enrolment and completion rates and by participants' experience of the program as being understandable, enjoyable, and useful. There was no evidence that pre-intervention levels of eating and other pathologies influence engagement levels. Furthermore, the participants experienced a very positive level of change following the four-week program, with large effect sizes for most indices of eating pathology, and medium effect sizes for body image, depression, and social anxiety. These findings were similar to (or even larger than) the effects of The Body Project in other studies [43, 44, 21, 22]. To summarise, the evidence of feasibility and effectiveness in this study supports the suggestion [17] that dissonance-based interventions will be feasible in non-Western cultures.

These findings indicate that the theoretical basis of The Body Project – cognitive dissonance – is applicable across cultures where westernization is an influence. It remains to be determined whether The Body Project is as effective in non-Western cultures where westernization is not such an influence, and where the cognitive dissonance might be less

impactful.

Because this was a feasibility study, the effectiveness findings should be seen as suggestive rather than definitive. Future research is needed to build on these promising outcomes in the form of a randomized control trial, determining the utility of The Body Project relative to other approaches. The acceptability and experience of this program for such audiences have been demonstrated here. Therefore, such a development via a more robust experimental design would yield more conclusive effect sizes, demonstrating more definitively the utility of The Body Project in non-western countries as they undergo westernization.

Limitations and strengths

The main limitation of this feasibility study is the lack of a control group, meaning that changes cannot be firmly ascribed to the intervention. It is also not possible to rely on the resulting effect size, as the sample might have been underpowered. Finally, two participants continued attending the sessions without fully taking part in the research, indicating that the linkage between research and intervention needs to be tightened.

The main strength of the work was that it demonstrated that the Body Project is feasible for use in this adapted form, in a non-Western country, supporting the proposal that the Body Project should be tailored for the intended group in order to allow for wider application of the program [12]. This tailoring included the use of alternative measures, which had already been adapted to the local language and cultural expectations.

1. What is already known on this subject?

Nothing is known about dissonance-based eating disorders prevention in non-western cultures. This study was needed to investigate the feasibility of an eating disorders prevention (created and implemented in the West) for individuals from a non-Western culture.

2. What does this study add?

This study adds evidence of the feasibility of the cultural adaptation of an eating disorders prevention program, used to limit the impact of Westernization on eating and body issues in a non-Western culture, and demonstrated the preliminary effectiveness of that approach.

3. What do we now know as a result of this study that we did not know before?

This study has confirmed the feasibility of The Body Project for Saudi young women, and that it yields promising effect sizes for eating pathology, body dissatisfaction, and comorbidities. These findings support the extension of the work to a larger sample in a randomized control trial.

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Table 1

The Body Project elements and how they were adapted.

Element of The Body Project	**Potential problem in the Saudi context**	**The way they were addressed**
Video filming of sessions for supervision.	Filming sessions is not acceptable among Saudi females.	Audio recording
Wearing shorts to school and going to the public pool in a swimsuit.	If a women wears shorts or swimsuits in public in Saudi Arabia, this can be considered as a violation of public decency and penalised [18].	The challenge was changed to "wearing a belt to show your waist, wearing heavy makeup, walking in heels, letting your hair down".
Social activist exercise	The notion of social activism does not exist in Saudi Arabia.	The exercise was changed to "Spreading awareness about the cost of the thin-ideal".
Post a video about what people say about their bodies on YouTube.	If participants record their interviews with others in the campus then post the videos on YouTube or on any other social media platform, they can be penalised [19].	Posting a written text on social media about what people say about their bodies.
The Body Project has its own pre and post assessment measures in English that have not been used in non-Western culture [20].	Assessments need translation to Arabic and validation for Saudi women before applying in the feasibility study.	Apply previously translated measures at pretest and posttest.
Home exercises are in the English language.	The material might not be understood because the majority of participants do not speak fluent English.	The material was translated (including back-translation) by the English Department in the Community College at Princess Nourah bint Abdulrahman University

Table 2

Sessions description and adaptations

Sessions	Session description	Adaptations
1	Voluntary commitment and overview. Definition and origin of the appearance ideal. Costs associated with pursuing the appearance ideal. Home Exercises: 1. A letter to an adolescent girl: write a letter to a teenager girl who is struggling with her body image about the costs associated with trying to look like the appearance ideal. 2. Mirror exercise: stand in front of the mirror with as little clothing as possible and write ten positive qualities in yourself (could be physical, emotional, intellectual, or social qualities). 3. Appearance ideal perpetuation behavior checklist.	No adaptations
2	Reinforcing voluntary commitment. Debriefing last session's home exercises. Role play to discourage pursuit of the appearance ideal. Home Exercises: 1. Write a letter to a person who pressured you to pursue the appearance ideal and tell him/her how you were affected. Explain the way you will respond using the new skills you learned in the sessions. 2. Top-10-list: write a list of ten things a woman can do to resist the appearance ideal at a societal level.	No adaptations
3	Reinforcing voluntary commitment. Debriefing last session's home exercises. Role play: quick comebacks to appearance ideal statements.	1. A behavioral challenge in home exercise number 1 includes wearing shorts to school and going to the

	Reasons for signing up. Behavioral challenge. Home Exercises: 1. Behavioral exercise form: do two things that you do not do because of body image dissatisfaction. 2. Body activism form: write ten behaviors that women could do to resist the appearance ideal, choose two behaviors to do during the next week.	public pool in a swimsuit, which violates local dress codes [27]. It was adapted to a culturally sensitive behavior such as wearing slim fit clothes to draw attention to the body figure. 2. Home exercise number 2 was amended to spreading awareness about the cost of the thin-ideal, because the notion of social activism does not exist locally.
4	Reinforcing voluntary commitment. Debriefing of last session’ s home exercises. Future pressure to be thin. Benefits of the group. Closure discussion. Self-affirmation exercise. Closure. Home Exercises: 1. Self-affirmation exercise. 2. Letter to a younger self. 3. Group body activism: do a body activism behavior as a group to resist the thin-ideal.	1. Home exercise number 3 suggests video filming inside the campus and posting the videos on Youtube, which can lead to penalties in Saudi Arabia [18]. Therefore, it was adapted to ‘posting text on social media’.

1

Table 3

Scores of completers and non-completers on measures of eating pathology, body image dissatisfaction and comorbidities.

Measures	Completers (n=30)		Non-completers (n=7)		Mann-Whitney *U*	*P*
	M	(SD)	M	(SD)		
EDEQR	1.34	(1.37)	2.28	(1.91)	69.5	.167
EDEQWC	2.44	(1.65)	3.05	(1.24)	83.0	.393
EDEQEC	1.44	(1.54)	1.62	(1.71)	99.5	.830
EDEQSC	2.46	(1.67)	2.55	(1.80)	101.0	.877
EDEQ Global	1.93	(1.36)	2.38	(1.45)	81.0	.352
Binge frequency	2.63	(4.97)	4.42	(6.63)	93.0	.633
Binge days	3.03	(5.53)	2.57	(3.45)	101.0	.873
Vomit	0.33	(1.29)	0.00	(0.00)	98.0	.489
Laxatives	0.10	(.40)	0.00	(0.00)	94.5	.390
Exercise	2.93	(6.19)	3.00	(2.70)	75.5	.218
Body image	20.83	(13.18)	19.14	(10.86)	98.0	.600
Depression	10.10	(6.47)	11.57	(4.35)	87.5	.496
Social anxiety	27.63	(10.62)	26.57	(12.28)	91.5	.786
Age (years)	19.16	(1.34)	19.14	(0.69)	88.5	.535

Key: EDEQ Global, Eating Disorders Examination Questionnaire Global score; EDEQR, Eating Disorders Examination Questionnaire Restrain subscale; EDEQWC, Eating Disorders Examination Questionnaire Weight Concerns subscale; EDEQEC, Eating Disorders Examination Questionnaire Eating Concerns subscale; EDEQSC,

1 Eating Disorders Examination Questionnaire Shape Concerns subscale; BMI, Body Mass Index . All behaviors are

2 per 28 days

Table 4

Changes in eating pathology, body image and comorbidities during prevention intervention for completers (n=30)

	Pre-test		Post-test		*t*	*P*	*d*
Measures	**M**	**(SD)**	**M**	**(SD)**			
EDEQR	1.34	(1.37)	0.63	(.87)	3.02	.005	0.552
EDEQWC	2.44	(1.65)	1.30	(1.52)	4.92	.001	0.899
EDEQEC	1.44	(1.54)	0.42	(.82)	4.46	.001	0.815
EDEQSC	2.46	(1.67)	1.32	(1.43)	4.43	.001	0.809
EDEQ Global	1.93	(1.36)	0.92	(1.05)	5.78	.001	1.056
Binge frequency	2.63	(4.97)	1.90	(5.22)	.534	.597	0.097
Binge days	3.03	(5.53)	1.36	(3.07)	1.44	.160	0.263
Vomit	0.33	(1.29)	0.00	(.00)	1.40	.169	0.255
Laxatives	0.10	(.40)	0.70	(2.42)	-1.32	.196	-0.241
Exercise	2.93	(6.19)	1.46	(5.17)	0.94	.352	0.171
Body image	20.83	(13.18)	14.56	(8.14)	3.14	.004	0.574
Depression	10.10	(6.47)	6.43	(4.14)	3.58	.001	0.654
Social anxiety	27.63	(10.62)	23.06	(7.82)	2.34	.026	0.428

Key: EDEQ Global, Eating Disorders Examination Questionnaire Global score; EDEQR, Eating Disorders Examination Questionnaire Restrain subscale; EDEQWC, Eating Disorders Examination Questionnaire Weight Concerns subscale; EDEQEC, Eating Disorders Examination Questionnaire Eating Concerns subscale; EDEQSC, Eating Disorders Examination Questionnaire Shape Concerns subscale; BMI, Body Mass Index. All behaviors are per 28 days.

Figure 1

Flowchart of recruitment and assessment process of participants.