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Preventing eating disorders in the digital age: Study protocol for a randomized controlled trial of the digitalized body project in university women

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ABSTRACT

Background: University students are at elevated risk of developing an eating disorder. The dissonance-based Body Project effectively reduces body dissatisfaction and thin-ideal internalization. Digital adaptations might enhance scalability and accessibility.
Objective: The present manuscript describes the study protocol for a randomized controlled trial among university women in the Netherlands that applies a digitalized version of the Body Project within a preventive framework.
Methods: Dutch university students ($N = 180$) will be randomized to the experimental condition, the Digitalized Body Project, or a waitlist control condition. The intervention includes four weekly web-based group sessions supported by a digital platform offering psychoeducation and exercises. Primary outcomes will be changes in body dissatisfaction and thin-ideal internalization; secondary outcomes will be reduction in eating disorder symptoms, restrained eating, negative affect and self objectification. Feasibility and acceptability will be evaluated by both participants and by the group facilitators. Assessments take place at baseline (week 0), at post-intervention (week 4), and at 4-week (week 8) and 8-week (week 12) follow-up.
Results: The experimental condition is hypothesized to show greater reductions in body dissatisfaction and thin-ideal internalization compared to the waitlist control group. Feasibility and acceptability data will inform future implementation strategies.
Conclusion: The present study could provide preliminary evidence on the short-term efficacy, feasibility, and acceptability of a clinician- and peer-facilitated digital Body Project in the Dutch university context. The findings can inform refinements for future large-scale trials and practical implementation.

Trial registration

The Medical Research Ethics Committees United (METC-MEC-U) confirmed that the present study is not subject to the Dutch Medical Research Involving Human Subjects Act (WMO) on December 3, 2025 (reference number W.25.220). The study protocol is registered in the Overview of Medical Research in the Netherlands (OMON https://omon.nl; registration ID: NL-011,183) since December 4, 2025.

1. Introduction

Women university students, mainly comprising young adults, represent a specifically vulnerable group for the development of eating disorders (EDs; Serra et al., 2020). They experience transitions in living situation, social networks, and daily routines which can destabilize eating patterns (Qian et al., 2013). In addition, the university environment is characterized by academic stress and perfectionism (Alhaj et al., 2022), social comparisons related to body image and performance

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(Lipson & Sonneville, 2017), and increased autonomy over eating and lifestyle (Keski-Rahkonen & Mustelin, 2016). Consequently, a recent meta-analyses reports that 20 % of the students is at high-risk for an ED (e.g., a positive screen on a self-report instrument; Alhaj et al., 2022), and approximately 2–5 % of the students meet the criteria of an ED (Brytek-Matera, 2023; Jacobsen et al., 2025; Lipson & Sonneville, 2017). Furthermore, in the general adult population, 6–10 % is at high-risk, and 1–4 % meets the criteria of an ED (Keski-Rahkonen & Mustelin, 2016). Moreover, EDs are associated with comorbid psychopathology (Hudson et al., 2007), elevated suicidality (Stice, Marti et al., 2013), and physical complications (Fairburn, 2008). Alarmingly, the financial burden of EDs within the European Union is estimated at approximately €1 billion annually, underscoring the urgent need for effective prevention of EDs (Zipfel et al., 2023).

Body dissatisfaction is an important risk factor for EDs, often driven by the thin ideal (Fairburn et al., 2003). According to Stice's (2001) dual-pathway model (Fig. 1), body dissatisfaction is associated with pressure to be thin and thin-ideal internalization. Both contribute to negative affect and restrictive eating behaviors, thereby increasing the risk of developing ED pathology. Thin-ideal internalization refers to the extent to which individuals cognitively 'buy into' socially defined ideals of attractiveness and engage in behaviors intended to approximate these ideals (Thompson & Stice, 2001). In accordance with the Tripartite Influence Model (Thompson, 1999), (social) media, family, peers, and friends are considered key sociocultural agents influencing body dissatisfaction and eating behaviors through thin-ideal internalization and appearance comparison (Stice et al., 1994; Thompson, 1999). Self-objectification is identified as another risk factor for body dissatisfaction. According to the objectification theory (Fredrickson & Roberts, 1997), repeated exposure to the objectifying gaze in media and social interaction leads individuals, particularly women, to evaluate themselves primarily based on appearance. Because body dissatisfaction plays a central role in ED development, prevention programs should specifically target this risk factor (Stice et al., 2007).

The Body Project (Stice, Butryn et al., 2013) is a dissonance-based, evidence-based program designed to challenge the thin ideal and improve body image (Stice et al., 2012). The intervention invites individuals with body image concerns to discuss the negative consequences of pursuing the thin beauty ideal. This process induces cognitive dissonance (Festinger, 1957), motivating participants to align their beliefs with their expressed attitudes and reduce pursuit of the thin ideal (Stice et al., 2019). Within this dissonance-based framework, reduced endorsement of the thin ideal is conceptualized as a key mechanism of change. Consistent with this model, reductions in thin-ideal internalization show to mediate the intervention's effects on ED pathology (Seidel et al., 2009; Stice et al., 2007). Neuroimaging research further shows reduced activation in reward regions when participants view thin-ideal images (Stice et al., 2015), suggesting that such images become less rewarding and reinforcing.

The original, face-to-face group version of the Body Project is evaluated in several randomized controlled trials (RCTs) including women at elevated risk for EDs, primarily in Western samples (Stice et al., 2008; Stice, Rohde, Shaw & Gau, 2013). These studies report reductions on body dissatisfaction, thin-ideal internalization, dietary-restraint, negative affect, and ED pathology with a medium effect size. Additionally, reduced onset of EDs with 50–70 % is reported over multi-year follow-up (Stice et al., 2013; Stice, Marti & Cheng, 2019). Beyond Western, high-income settings, adapted versions demonstrate efficacy among public schools in Latin America (Trujillo-ChiVacuan et al., 2024) and female students in Saudi Arabia (AlShebali et al., 2023).

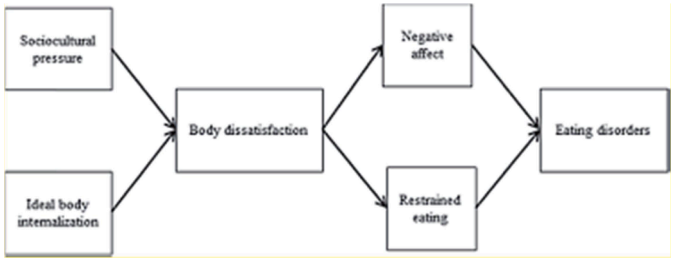

Fig. 1. Theoretical components of the Dual Pathway model (Stice et al., 2001).

University students often face barriers to attending in-person groups, including stigma, time pressure, and access (Siantz et al., 2022; Vidourek et al., 2014). Offering the Body Project digitally may therefore offer several advantages including increased access (Mulkens, 2021), removal of geographical barriers and travel costs and time (Abrahamsson et al., 2018; Becker et al., 2010; Linardon et al., 2021; Melisse et al., 2023), reduced stigma and time pressure (Siantz et al., 2022; Vidourek et al., 2014). Additionally, low threshold access to a freely available intervention might alleviate (subsequent) help-seeking barriers (Linardon et al., 2020). Furthermore, digitalized interventions require fewer facilitator resources, and are easier to implement at scale (Linardon et al., 2025). Consequently, to enhance accessibility and scalability, Ghaderi et al. (2020) evaluated a digital version of the Body Project in Sweden for women aged 15–20 with body image concerns. At conclusion of the intervention, effect sizes between the intervention and waitlist group on body dissatisfaction, dietary restraint, and negative affect were medium to large. Furthermore, participants showed a 77 % lower incidence of ED onset and reductions in symptoms and risk factors at two-year follow-up compared to a waitlist. Similarly, on the same outcome measures a large effect size is reported at 6-month follow-up in a Brazilian pilot evaluating a digital version of the Body Project. This study was conducted among women aged 18–25 years (Dunker et al., 2025). This suggests that digital Body Project interventions could provide a promising, scalable prevention strategy.

The Body Project offered as a preventive intervention shows consistent positive effects across diverse populations (Almeida et al., 2024; AlShebali et al., 2023; Hendricks et al., 2023; Stice et al., 2021). However, the preliminary efficacy, feasibility, and acceptability of a fully digital Body Project delivered via an eHealth platform are not examined, and the Body Project is not examined among Dutch university students. Implementing and evaluating the Body Project in this group supports early identification and prevention. It reduces demand for costly treatment and long-term healthcare, and lowers the financial burden of EDs (Weissman, 2017). Finally, a digital Body Project version increases accessibility and reach among Dutch students, and allows participation regardless of location, as long as internet is available (Ghaderi et al., 2020).

The present study is the first to evaluate the Body Project as a preventative intervention in the Netherlands, and the first one in Europe to fully offer the project digitalized, including a digital platform to download and upload materials, peer contact, and facilitator contact. This will be done among women first, as body dissatisfaction and thin-ideal internalization is more prevalent, the intervention is primarily developed and examined in female samples (Stice et al., 2015). The program comprises four weekly, one-hour online group sessions led by trained specialists, with targeted exercises and access to a digital platform containing psychoeducation materials, handouts and homework upload functions. Preliminary efficacy will be assessed through self-reports covering all components of the dual-pathway model, with body dissatisfaction and thin-ideal internalization as primary outcomes, and ED pathology, restrained eating, self-objectification, and negative affect as secondary outcomes. Outcome variables will be measured at baseline (pre-intervention), post-intervention, and at 4- and 8-week follow-ups, and compared with a waitlist control group. In addition, the study will examine feasibility and acceptability of the intervention based on evaluations from both participants and facilitators, as these factors are essential for future implementation and large-scale dissemination of digital prevention programs.

2. Methods

2.1. Trial design and procedure

The present protocol involves a multi-center RCT evaluating a digitalized ED prevention intervention, the Body Project, compared with a waitlist. Participants will be recruited from Tilburg and Utrecht University. The intervention will be offered in collaboration with two specialized ED centers, GGZ (Dutch acronym for mental healthcare institution) Oost-Brabant and Co-eur. The group sessions will be delivered online via a secure eHealth platform (MindDistrict; CE, ISO2700/27,002/9001 and NEN 7510) and facilitated by trained facilitators. Participants will be randomly assigned (1:1 ratio) to one of the conditions using Qualtrics. Randomization, performed by a 4,6,8 block design, will not be stratified and will be blinded to the researchers. The waitlist control group receives the intervention after conclusion of the RCT. Assessments will take place at baseline (prior to randomization; week 0), post-intervention (week 4), and at 4 (week 8) and 8 (week 12) week follow-ups (See Table 1 and Fig. 2). Additionally, demographic variables, including age and identified gender, will be collected at baseline. All assessments will be synchronized in time across conditions and administered digitally via Qualtrics. The total study duration will be two years (24 months). The present protocol was developed in accordance with the Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) guidelines (Chan et al., 2015), and the RCT will be performed in accordance with the Consolidated Standards of Reporting Trials (CONSORT) guidelines (Hopewell et al., 2025).

2.2. Participants and recruitment

Participants will be women university students aged ≥18 years, recruited at Tilburg University and Utrecht University. Recruitment will take place through Sona (Sona, 2024) and social media advertisements. Interested individuals receive detailed study information and provide digital informed consent prior to participation. Inclusion criteria will be: (a) enrollment as a university student at Tilburg or Utrecht University, (b) identification as a woman (i.e., identifying with the female sex), (c) age ≥18 years, (d) sufficient Dutch/English language proficiency, and (e) access to a device with a stable internet connection. Exclusion criteria will be: (a) a self-reported ED, (b) active inpatient psychological treatment, or (c) identification as a man (i.e., identifying with the male sex). Participants can leave the study at any time for any reason without any consequences. However, retention is expected to be enhanced by the specialist-guided delivery (Carter & Fairburn, 1998; Melisse et al., 2023), the synchronized contact among participants and between participants and facilitators (König et al., 2018; Melisse et al., 2023), the brief nature of the intervention (Beintner et al., 2014), the automated reminders sent by the platform (Aardoom et al., 2016), and the option for participants to reach out to group facilitators between sessions (De Zwaan et al., 2017). Participants will receive an incentive of credits for eight hours of study participation as part of their mandatory bachelors course work when they complete the 8-week follow-up assessments. The primary investigators (the first and last authors) can decide to withdraw a participant from the study in the occurrence of adverse events, such as a clinical depression, or suicidal ideation (Linardon et al., 2024).

Table 1
Overview of planned assessments.

	Timing during the Body project	
	Experimental condition	Waitinglist condition
T0: baseline assessment	week 0	week 0
T1: conclusion of the intervention	week 4	week 4
T2: follow-up 1	week 8	week 8
T3: follow-up 2	week 12	week 12
T4: control group commences intervention	Not applicable	week 13

2.3. Development of the intervention

The Body Project was originally developed at Stanford University and the Oregon Research Institute by Eric Stice and colleagues (Stice et al., 2008). The digital version used in the current trial is an adapted digitalized version of the book *The Body Project: A Dissonance-Based Eating Disorder Prevention Intervention* (Stice et al., 2012). The Dutch-translated materials from a prior study from two of the researchers also co-authoring the present manuscript, which evaluated the Body Project as a treatment add-on (Maas et al., 2023) were slightly adapted for use in the current prevention program, and updated versions were used when available. Additionally, Maas and colleagues made some minor cultural adaptations as reported in their paper (2023). Similar to previously validated formats (Ghaderi et al., 2020; Stice et al., 2021), the Digitalized Body Project integrates the same theoretical and experiential components through the MindDistrict eHealth platform. The web-based sessions preserve the original group format (8–10 participants, four one-hour weekly meetings), and follow the same sequence of the exercises as described in the manual. To support online delivery, these exercises are translated into digital modules including adapted slides and worksheets optimized for screen viewing, embedded text prompts, interactive forms and automated reminders for exercise completion and digital submission and storage. The platform also offers secure communication channels, for peer discussion between sessions and to reach out to the group facilitators. Before developing the digitalized intervention, a risk inventory was performed (CETool, 2020), and the Digitalized Body Project appeared to be a device involving minimal risks. Subsequently, the involved experts will implement the protocol on a digitalized platform including an app and website. Then during a pilot phase, the digitalized platform will be further developed in terms of user friendliness, ease of navigation, and lay-out. This will be done through an interactive process involving participants and facilitators feedback.

2.4. Intervention

All participants will receive the digitalized four session Body Project intervention as described in detail elsewhere (Stice et al., 2012). The intervention will be offered free of charge. The sessions will be in Dutch or English and guided by trained facilitators. However, the experimental group will receive the intervention immediately and the waitlist control group will be offered the intervention after all follow-up measures are completed by the experimental group (week 13). The Body Project is a group-based intervention, in the present study delivered digitally in groups of 8–10 participants. The Body Project is designed to reduce thin-ideal internalization and body dissatisfaction by means of cognitive dissonance. Participants are encouraged to actively challenge the thin-ideal through exercises such as identifying its personal costs, writing critical letters, and engaging in body-positive activities. These exercises are intended to induce cognitive dissonance in participants' behaviors and internalized beliefs, thereby motivating a revision of those beliefs. This process may lead to improved body image and a reduction in ED-related symptoms (Stice, Butryn et al., 2013).

Each session combines psychoeducation, reflective exercises, behavioral tasks, and homework assignments. All homework exercises will be completed and submitted digitally through MindDistrict. The intervention follows a thematic structure, consisting of the following components:

Session 1: Introduction to the program and explanation of the cognitive dissonance framework; discussion of the thin-ideal and its personal costs.

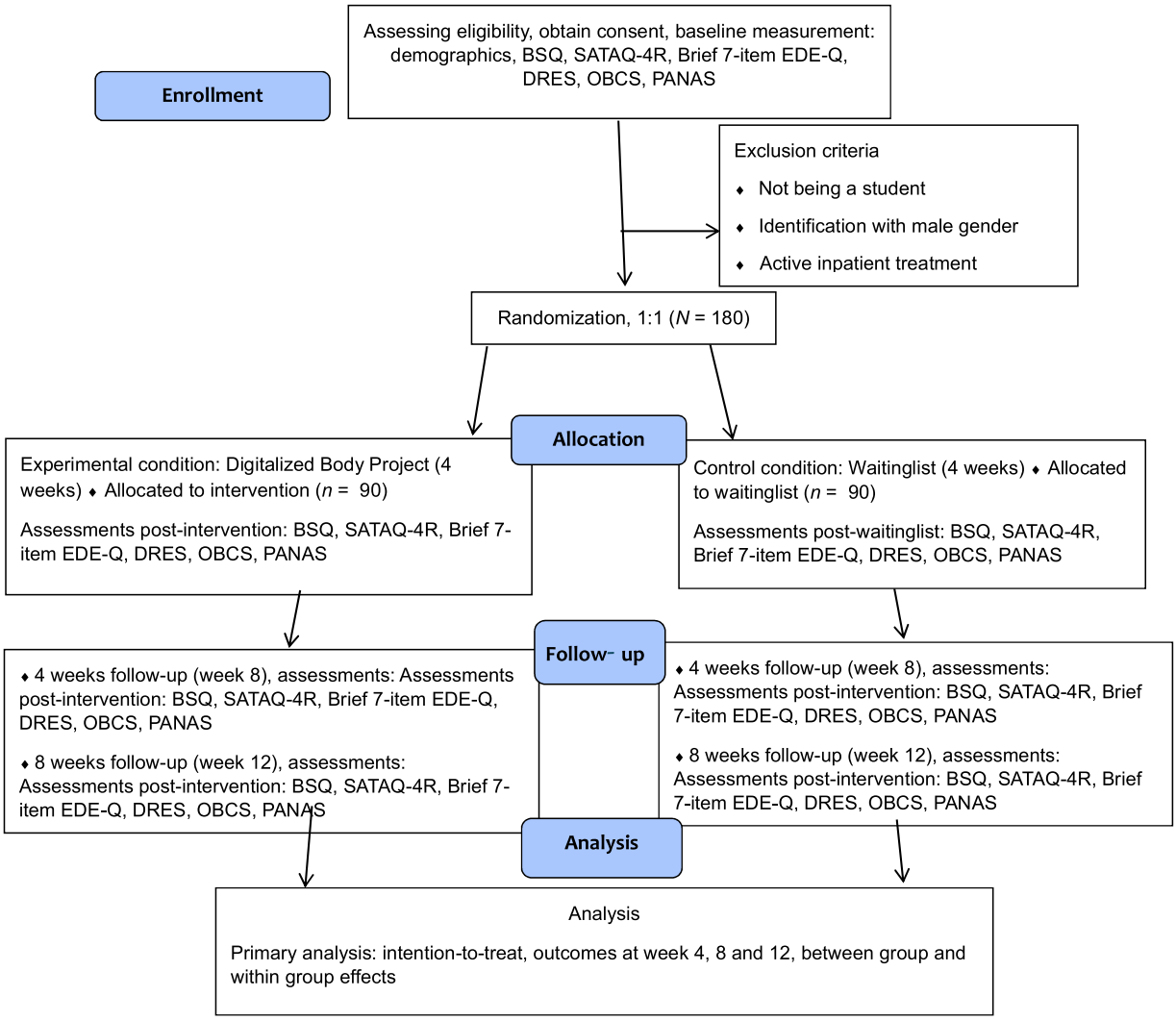

Fig. 2. CONSORT flowchart.
Note. BSQ = Body Shape Questionnaire; SATAQ-4R = Sociocultural Attitudes Towards Appearance Questionnaire-4 Revised; Brief 7-item EDE-Q = Brief 7-item Eating Disorder Examination Questionnaire; DRES = Dutch Restrained Eating Scale; OBCS = Objectified Body Consciousness Scale; PANAS = Positive and Negative Affect Schedule.

Homework: (1) Write a letter to a younger girl with advice about body image and appearance, and (2) create a list of ten positive qualities (both physical and non-physical).
Session 2: Reading and discussing the letters; practicing "quick comebacks" in response to thin-ideal-related comments.
Homework: (1) Keep a record of situations involving social appearance pressure, including personal reactions, and (2) compile a top-10 list of behaviors or statements that challenge the thin ideal.
Session 3: Discussion of recorded situations; sharing actions from the top-10 list; practicing behavioral experiments (i.e., behaviors typically avoided due to body image concerns); preparation and execution of two body activism actions (e.g. placing post-its with positive messages on diet books).
Session 4: Debriefing behavioral experiments and activism actions; discussing future high-risk situations regarding thin-ideal pressure (e.g. holidays, weddings).
Closure: (1) Evaluation of the intervention's impact, (2) writing a second letter to a younger girl aimed at preventing body image concerns, and (3) a group body activism activity (e.g. composing a letter to a company).

2.5. Group facilitators

The group facilitators will activate an account and access the secure MindDistrict environment, from which they guide participants through the sessions. Each women facilitator is either a psychologist (clinicians, scientific-practitioners, or MSc student) with expertise in EDs, holding at least a BSc degree in psychology, and may also have an MSc or PhD in the field of EDs, or a MSc student trained to deliver the intervention to their peers. All facilitators receive structured training and will familiarize themselves with the Body Project protocol (Stice et al., 2012). Facilitators will monitor participants' progress through MindDistrict. Once participants complete assignments, the facilitators will receive automated notifications and can review their submissions directly.

2.6. Outcome measures

All outcome measures were based on the original model. This model was developed by Stice and colleagues (2013).

2.6.1. Primary outcomes

The primary objective is to evaluate the efficacy of a digitalized version of the Body Project among women university students compared

with a waitlist control group. Efficacy will be examined by comparing changes in body dissatisfaction, measured with the Body Shape Questionnaire (Cooper et al., 1987; Melisse et al., 2024), and changes in thin-ideal internalization, assessed with the Sociocultural Attitudes Towards Appearance Questionnaire-4 Revised (SATAQ-4R; Schaefer et al., 2017). The Body Project will be considered effective if a medium effect size is observed between both conditions at post-intervention. Table 2 presents a timetable for data collection.

2.6.2. Secondary outcomes

Secondary outcome variables are the difference in: ED pathology as measured with the brief 7-item version of the Eating Disorder Examination-Questionnaire (EDE-Q; Aardoom et al., 2012; Fairburn & Beglin, 2008), in dietary restraint, as assessed with The 10-item Dutch Restrained Eating Scale (van Strien et al., 1986), in self-objectification, measured with The Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996), and negative affect, assessed with The Positive And Negative Affect Scale (PANAS; Watson et al., 1988). Furthermore, the study will examine feasibility and acceptability of the intervention based on evaluations from both participants and facilitators. Furthermore, meta-analytic evidence suggests that individuals with higher levels of body dissatisfaction tend to derive greater benefit from such interventions than those with lower levels (Stice et al., 2007). Therefore, baseline body dissatisfaction will be included as a covariate in the primary analyses to account for differences in its severity. In addition, body dissatisfaction will be examined as an outcome predictor.

2.7. Assessments

All self-reports will be available in Dutch and in English. Demographic characteristics, including age, gender, marital status, and domestic situation will be collected through self-report. These socio-demographic characteristics (with the exception of gender, as one of the inclusion criteria is identification as a woman) will be examined as potential predictors of intervention outcomes. Baseline differences between groups on demographic characteristics will be analyzed using X^2 tests and independent samples *t*-tests. Intervention effects will be assessed using regression analyses, with standardized beta coefficients (β) and corresponding *p* values reported.

2.7.1. Body dissatisfaction

The Dutch Body Shape Questionnaire (Cooper et al., 1987; Melisse et al., 2024) will be used to assess body dissatisfaction. The BSQ has 34 questions to be answered on a 6-point Likert scale (never, rarely, sometimes, often, very often and always).

2.7.2. Thin-ideal internalization

Sociocultural appearance pressures and internalization of appearance ideals will be assessed using the Sociocultural Attitudes Towards Appearance Questionnaire-4 Revised (SATAQ-4R; Schaefer et al., 2017). The SATAQ-4R is a widely used self-report instrument that measures the degree to which individuals perceive and internalize sociocultural messages related to appearance and has been extensively used in Dutch-speaking populations (Vankerckhoven et al., 2022). The SATAQ-4R has seven subscales (Internalization: Thin/Low Body Fat, Internalization: Muscular, Internalization: General Appearance, Pressures from Media, Pressures from Family, Pressures from Peers, and Appearance Ideals). In this study, the total score will be used, as subscales are highly correlated (see also Maas et al., 2023). Also, using the total score reduces the risk of Type I error associated with multiple testing. Higher scores indicate greater internalization or perceived sociocultural pressure regarding appearance, depending on the subscale.

2.7.3. Eating disorder pathology

The Dutch version of the brief 7-item Eating Disorders Examination-Questionnaire 6.0 (EDE-Q; Aardoom et al., 2012; Fairburn & Beglin, 2008) will be used to assess ED pathology. Eating pathology will be measured on a 7-point Likert scale (Fairburn & Beglin, 2008). The Dutch versions of the full and the brief EDE-Q show unidimensionality (Aardoom et al., 2012; Beeksma et al., 2026).

2.7.4. Dietary restraint

Dietary restraint will be assessed using the Restraint subscale of the Dutch Eating Behavior Questionnaire (DEBQ; van Strien et al., 1986), in its validated Dutch version. This subscale has 10 items measuring the tendency to consciously restrict food intake in order to control body weight or shape. Participants respond on a 5-point Likert scale ranging from 'never' to 'very often', with higher scores indicating greater levels of dietary restraint.

Table 2
. Data collection instruments & timetable.

Categories / outcome measure	Instrument (number of items)	Subcategories	Baseline	Post-intervention (week 4)	Follow-up, 4 weeks post- intervention (week 8)	Follow-up, 8 weeks post- intervention (week 16)
Socio-demographic characteristics	Demographics (21)	Age, gender, domestic situation, occupational/ student status, education level	x			
Body shape dissatisfaction	Body shape questionnaire (BSQ) (34)	Body dissatisfaction	x	x	x	x
Eating disorder pathology	Eating Disorder Examination-Questionnaire- brief 7-item version (EDE-Q) (7)	Overall eating disorder pathology	x	x	x	x
Dietary restraint	10-item Dutch Restrained Eating Scale (DRES) (10)	Dietary restraint	x	x	x	x
Thin ideal internalization	Sociocultural Attitudes Towards Appearance Questionnaire-4 Revised (SATAQ-4R) (22)	Thin ideal internalization	x	x	x	x
Self objectification	Objectified Body Consciousness Scale (OBCS) (24)	Self objectification	x	x	x	x
Negative affect	The Positive And Negative Affect Scale (PANAS) (20)	Positive and negative affect	x	x	x	x
Evaluation	Evaluation Questionnaire (8)	Perceived strengths, weaknesses, and feasibility		x		

Note. BSQ = Body Shape Questionnaire; EDE-Q = Eating Disorder Examination Questionnaire; DRES = Dutch Restrained Eating Scale; SATAQ-4R = Sociocultural Attitudes Towards Appearance Questionnaire – 4 Revised; OBCS = Objectified Body Consciousness Scale; PANAS = Positive and Negative Affect Schedule.

2.7.5. Negative affect

The Positive And Negative Affect Scale (PANAS; Watson et al., 1988) will be used to assess negative affect. The PANAS was used in prior work in the Netherlands examining the Body Project among individuals with an ED (Maas et al., 2023). As the present RCT only examines negative affect, participants will only answer the extent (on a 5-point Likert scale) to which they experienced the negative emotions in this questionnaire, which is a common procedure.

2.7.6. Self-objectification

The Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996), is a measure of self-objectification. The OBCS was used in prior work in the Netherlands examining the Body Project as an add-on during specialized treatment (Maas et al., 2023). The OBCS is comprised of three subscales: Surveillance, Body Shame, and Control Beliefs. Given the high intercorrelations between subscales and to reduce the risk of Type I error associated with multiple testing, the total score will be used in the present study, measured by 24 items that are rated on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Fourteen of the items are reverse-scored. Higher scores correspond with higher levels of body objectification.

2.7.8. Feasibility and acceptability

Feasibility of the intervention will be operationalized by recruitment rates, session attendance, intervention completion, and dropout rates, including recorded reasons for discontinuation when available. Moreover, completion rates of homework assignments will be monitored as an indicator of participant engagement. As in a previous study (Maas et al., 2023), an evaluation questionnaire will be used, including multiple-choice items rated on a 5-point Likert scale, as well as open-ended questions for qualitative feedback. This questionnaire consists of three parts, evaluating the intervention itself (e.g., "How satisfied were you in general with the Body Project"), the treatment facilitators (e.g., "Did the facilitators explain the assignments clearly?"), and perceived effects (e.g., "To what extent has the Body Project helped improve your self-confidence?"). Questionnaires are administered to participants and to facilitators delivering the intervention. To monitor intervention fidelity, facilitators will complete a brief checklist after each group, indicating whether core components and exercises of the protocol were delivered as intended.

2.8. Sample size and power calculations

Post-intervention, the experimental group is hypothesized to display a greater reduction in body dissatisfaction compared to the waitlist control group with a medium effect size. In order to detect an effect size of $d = 0.47$, $N = 144$ ($n = 72$ per arm) participants need to be included. Overall, guided digital interventions have a dropout rate of 24 % (Hilbert et al., 2019). Therefore 25 % more participants should be included to correct for dropout. The sample size without correction is $N = 144$ ($n = 72$ per arm). The sample size corrected for dropout will be $N = 180$ ($n = 90$ per arm). A Bonferroni correction will be applied to account for testing two primary outcomes (change in body dissatisfaction and thin-ideal internalization), setting the alpha level at $\alpha = 0.025$. The power analysis was conducted using G* Power version 3.1.9.7.

2.9. Statistical analysis

Outcomes will be reported as means (standard deviations) and analyzed using pairwise repeated measures ANOVA. Effect sizes will be calculated using Cohen's d (0.2 = small, 0.5 = medium, 0.8 = large; Cohen, 1977), and adjusted for bias using Hedges' correction (Hedges, 1981). Subsequently, linear mixed models with fixed effects at the individual level will be conducted to examine the effect of condition on outcomes over time (baseline, post-intervention, and follow-up assessments). Within-group changes over time will be examined for both the intervention and waitlist conditions, including assessment of whether deterioration occurs on primary and secondary outcomes in the waitlist condition. Participants will be nested within their intervention group (the Digitalized Body Project or the waitlist control condition), which will be included as fixed effect. Interactions between time, study condition, and the fixed effect will also be assessed. Time will be defined as the duration of the intervention and follow-up. Contrasts will compare the experimental group to the waitlist control group at baseline, post-intervention, and at follow-up at 4 and 8 weeks.

Given the anticipated dropout rate, the analyses will be primarily conducted using an intention-to-treat (ITT) approach. Missing data will be handled using multiple imputation, with 50 imputations per missing value, assuming data are missing at random (MAR). Initially, each imputed dataset will be analyzed separately. Results will then be pooled using Rubin's rules (Rubin, 2004). Additionally, completers analyses will be performed including only participants with complete data at all key time points (baseline, post-intervention, and follow-up assessments). The analyses will be conducted on a completers and an imputed sample. SPSS will be used to perform the statistical analyses. Data from the evaluation questionnaires will be analyzed descriptively, including means, standard deviations, and frequency distributions of item responses. As these evaluations are completed only by participants and facilitators in the intervention condition and are intended to assess feasibility and acceptability rather than intervention efficacy, no inferential statistical tests are planned.

2.10. Ethics

The Medical Research Ethics Committees United (METC-MEC-U) confirmed that the present study is not subject to the Dutch Medical Research Involving Human Subjects Act (WMO) on December 3, 2025 (referencenumber W.25.220). The study protocol was registered in the Overview of Medical Research in the Netherlands (OMON; registration ID: NL-011,183).

3. Discussion

The current paper presents the study protocol for an RCT examining preliminary efficacy of the Digitalized Body Project among women university students in the Netherlands. The Body Project is one of the most empirically supported prevention programs to date, with more than 20 RCTs demonstrating its efficacy in reducing ED risk factors and preventing new ED onset by 50–77 % compared to controls (Ghaderi et al., 2020; Stice, Butryn et al., 2013; Wisting et al., 2023). The current trial extends this work by evaluating its efficacy and feasibility/acceptability when fully delivered digitally in a Dutch university context using a secure eHealth platform. Based on prior work, some minor cultural adaptations will be implemented (Maas et al., 2023). Furthermore, the present RCT is the first one evaluating the Body Project as a preventative program in the Netherlands. In this initial phase, groups are facilitated by clinicians ánd peers who are familiar with the Body Project protocol, rather than by typical peer facilitators (Stice et al., 2017). This will allow examination of implementation, feasibility, and preliminary effects first, before moving to a subsequent phase in which only trained peer facilitators from the broader student population could deliver the intervention more widely. Findings of the present study will be disseminated through peer-reviewed journals, conferences and when applicable institutional websites and social media channels to reach clinicians, students, and the wider community.

Digitized prevention programs may enhance scalability, accessibility, and resource efficiency (Melisse et al., 2023). Web-based group delivery allows wider outreach to students who might avoid face-to-face interventions due to stigma, geographic barriers, or scheduling difficulties (Harrer et al., 2020). European stakeholder research indicates that web-based prevention programs in university settings are perceived as accessible, scalable, and feasible to deliver with relatively low

resources, making them suitable for large student populations (Irish et al., 2021). Group interaction through synchronous video-based sessions preserves critical elements of cognitive dissonance and social accountability that drive attitudinal change (Dunker et al., 2025).

Nevertheless, the present study may also face potential challenges and limitations. Participants and facilitators may experience technical barriers or limited engagement in virtual formats (Ho et al., 2025). Moreover, facilitator adherence to scripted delivery and participant motivation can influence treatment fidelity (Dunker et al., 2025). Several limitations were associated with the present study design. Follow-up time points of 4 and 8 weeks post-intervention were chosen. Although longer follow-up periods are required to examine sustained intervention effect, our study is designed to evaluate short-term and preliminary efficacy, as well as feasibility and acceptability, of a digitalized Body Project intervention in a university setting. In addition, waitlist control groups can overestimate the effects in comparison to active control conditions. Individuals assigned to a waitlist may experience less spontaneous reduction of symptoms (Cuijpers et al., 2024), inflating effect sizes. Feasibility and acceptability are assessed only with questionnaires rather than in-depth qualitative interviews, while interviews potentially provide more detailed and context-rich information into participants' and facilitators' experiences (Hamilton & Finley, 2019). Because feasibility and acceptability are essential for the long-term success and real-world implementation of digital prevention, both participants and facilitators will systematically evaluate their experiences with the intervention. These evaluations will provide insight into the practicality, user satisfaction, and perceived usefulness of the digital format, informing future large-scale dissemination. To address potential challenges, all facilitators obtained at a BSc degree and are trained facilitators. In addition, the exclusive focus on women university students may restrict generalizability to other demographic groups (Topooco et al., 2022). Self-reported data may introduce reporting bias (Flett et al., 2019; Madrid-Cagigal et al., 2025). Although all self-reports were extensively used in Dutch speaking populations, validation of some instruments was limited, which should be considered when interpreting the results. Finally, the use of mixed languages may introduce subtle differences in item comprehension, response style, and strict measurement equivalence across language groups (Massé et al., 2025). However, the BSQ (primary outcome measure), is suggested to assess the same underlying construct across language versions (Melisse et al., 2025), suggesting that any language-related bias in this key endpoint is likely to be limited rather than fundamental.

Despite these potential constraints, this study has several strengths. It applies a well-established, evidence-based dissonance-based prevention program within a digital environment, while simultaneously evaluating its feasibility and acceptability in a real-world academic setting, thereby enhancing accessibility for university populations. The RCT design, standardized delivery by the facilitators, measurement of fidelity, and the use of validated outcome measures strengthen the study's internal validity. Furthermore, conducting the intervention through a general data protection regulation-compliant platform (MindDistrict) ensures data integrity and participant privacy.

The present RCT is expected to provide initial evidence on the short-term efficacy, feasibility, and acceptability of a clinician- and peer-facilitated digital Body Project in the Dutch university context. It may inform future larger-scale effectiveness and implementation studies. The outcome data may guide optimization of recruitment strategies, tailoring of intervention content, and facilitator training in subsequent trials and implementation. In addition, if preliminary results are promising, the Digitalized Body Project could serve as the first Dutch, evidence-based prevention tool for EDs in university women. Its implementation would enhance early intervention capacities, demonstrate the acceptability and practicality of digitally delivered prevention, reduce long-term societal and healthcare costs, and contribute valuable evidence on scalable digital prevention. Findings of this RCT will inform policy and university-level mental health programs, advancing the digital transformation of ED prevention in line with international best practice frameworks (Stice et al., 2021; Wisting et al., 2023).

Abbreviations

BSQ	Body Shape Questionnaire
CONSORT	Consolidated Standards of Reporting Trials
EDE-Q	Eating Disorder Examination Questionnaire
ITT	Intention-to-Treat
MAR	Missing At Random
METC-MEC-U	Medical Research Ethics Committees United
OBCS	Objectified Body Consciousness Scale
OMON	Overview of Medical Research in the Netherlands
PANAS	Positive and Negative Affect Schedule
RCT	Randomized Controlled Trial
SATAQ-4R	Sociocultural Attitudes Towards Appearance Questionnaire – 4 Revised
SPIRIT	Standard Protocol Items: Recommendations for Interventional Trials
WMO	Wet Medisch-wetenschappelijk Onderzoek met Mensen (Dutch Medical Research Involving Human Subjects Act).

Availability of data and materials

Not applicable.

Funding

Not applicable.

Ethics and trial registration

The Medical Research Ethics Committees United (METC-MEC-U) confirmed that the present study is not subject to the Dutch Medical Research Involving Human Subjects Act (WMO) in December 2025 (referencenumber W.25.220). The study protocol was registered in the Overview of Medical Research in the Netherlands (OMON; registration ID: NL-011,183).

Consent to participate

All participants will be informed about the study, assured that their data will be de-identified, and all will sign an informed consent form.

Declaration of generative AI use

AI was not used in the current manuscript.

CRediT authorship contribution statement

Bernou Melisse: Writing – original draft, Resources, Project administration, Investigation, Conceptualization. **Mladena Simeunovic Ostojic:** Writing – review & editing. **Jojanneke Bijsterbosch:** Resources. **Glenn Kiekens:** Resources. **Annemarie van Elburg:** Writing – review & editing, Conceptualization. **Joyce Maas:** Writing – review & editing, Project administration.

Declaration of competing interest

There are no conflicting interests.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.mhp.2026.200494.

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