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Research Article

Assessment of "Young in Favor of Myself": A School-Based Wellness Program for Preadolescents

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Abstract

We evaluated the impact of a modified version of "In Favor of Myself" called "Young in Favor of Myself", a school-based prevention program to enhance self-esteem, self-care, positive body image and media literacy among preadolescents. Two-hundred and seventy-five adolescents (138 boys, 137 girls), mean age 11.51 ± 0.6 years, from four primary schools in Israel were assigned to intervention (n = 157) or control (n = 118) groups. Classes randomly allocated to the intervention group received 10 weekly 1.5-hour long sessions; those allocated to the control group did not participate in the program. Variables were measured at baseline, postintervention and 3 months postintervention (follow-up). A small gift was given to each pupil following delivery of the questionnaire. Ninety-six percent of the intervention's participants reported a high level of satisfaction, and 95% reported that they would recommend it to their friends. Both genders in the intervention group demonstrated statistically significant improvement in self-care as well as in knowledge of advertising strategies at follow-up. Self-esteem was only significantly improved among intervention group boys. The younger-age-group version of "In Favor of Myself" was received with enthusiasm by the preadolescent sample. The current study adds to the limited evidence-based reports on wellness and prevention programs for preadolescents. Our study reveals the shortcomings of some measurement tools for preadolescents, and highlights the need for short and clear assessment tools.

Keywords: *Wellness Prevention Program; Preadolescents; Cluster-Randomized Trial*

Highlights

- The current study adds to the limited evidence-based reports on wellness prevention programs for preadolescent.
- Both genders in the intervention group demonstrated statistically significant improvement in self-care as well as in knowledge about advertising strategies at follow-up (3 mo after program conclusion)
- Self-esteem was statistically improved only among intervention groups' boys.
- The younger version of "In Favor of Myself" was received with enthusiasm among preadolescence sample and yielded promising results.

Introduction

Adolescence and especially preadolescence is a crucial period of physical, psychological, social, emotional and biological changes [1]. Many teenagers experience feelings of losing control over their bodies, and impairment of self-esteem and self-image involves various intensities of distress [2]. Lack of an appropriate emotional infrastructure might put them at risk for engaging in risky behaviors such as smoking, lack of self-care [3] and eating disorders [4].

Research indicates that approximately 50% of preadolescent girls and 30% to 50% of preadolescent boys are dissatisfied with their bodies [5]. Prospective studies demonstrate that body dissatisfaction and poor body image during late childhood and adolescence are associated with increased negative affect [6], higher rates of depression, unhealthy weight-control practices, and reduced academic performance [7,8].

There is a clear need for early prevention of risky behaviors and body-image concerns among primary school-aged children. Furthermore, researchers have argued that programs aimed at promoting healthy body image are likely to be more effective when conducted with preadolescents, as attitudes and behaviors often become entrenched and difficult to modify in adolescence [9]. The preadolescent period is neglected in the prevention-program literature, despite its importance to the development of good health and adequate postdictive maturation.

Holt and Ricciardelli [10] evaluated 13 prevention programs with children aged 8 - 12 years. They found little evidence that body-image programs reduce body-image concerns or improve body esteem, eating, or dieting behaviors among children. Bird., *et al*. [11] developed and assessed the "Happy Being Me" program in the UK delivered to preadolescents aged 10 - 11 years. The program focused on reducing body-image risk factors. They reported improvement in body dissatisfaction among girls after the program with small - moderate effect size. This was the only outcome maintained at 3-month follow-up. The boys did not demonstrate any maintained improvement at follow-up. Most of the variables did not demonstrate improvement.

McCabe., *et al*. [12] recently reported improvement in body esteem among boys and girls postintervention with the program "Healthy Me", but these were not maintained at follow-up. In light of the modest achievements and methodological limitations reported in preventive programs delivered to preadolescents [13], there is a need for their further development and assessment.

Our study addresses some of the previous limitations reported in preadolescents' preventive programs. The program "Young in Favor of Myself" that was delivered and evaluated among preadolescents aged 10 - 12 years in Israel is a modification of the program "In Favor of Myself', which was previously delivered and assessed among middle adolescents [14].

Methods

Study Design and Population

This is a school-based cluster randomized controlled design study. The Tel Hai institutional review board approved the research protocol. All participants and their parents signed informed consent forms. Two-hundred and seventy-five adolescents (m = 138, f = 137), mean age 11.5 ± 0.6 years, from four primary schools in Israel, were assigned to intervention (n = 157) and control (n = 118) groups. Only participants who filled out the questionnaire on at least two occasions were analyzed for program evaluation.

Program deliverers

Sixteen B.Sc. and M.Sc. students participated in co-facilitating the program. The deliverer participated in didactic demonstration and discussion of each session, as well as in group supervision. A research assistant was in charge of data collection.

Program description

"Young in Favor of Myself" consists of 10 structured 90-minute sessions, delivered at approximately 1-week intervals, to groups of 15 - 20 participants. Each session describes the background of the topic and offers interactive activities to engage participants in the subject in both verbal and nonverbal ways. The program was integrated into a regular school-coping skills curriculum.

The current program is a modification of the original "In Favor of Myself" [14] with the addition of activities to enhance self-care, as well as age-tailored games as suggested in the literature (more physical games and peer activities) [15]. The current program highlights the protective factors, which have been recently suggested as key factors in prevention programs [16]. Table 1 describes the topics and contents of all sessions.

Session number	Topic	Description
1	Introduction	Getting acquainted with participants and with the program's objectives. Discussing expectations and establishing group contract.
2	Self-care	Discussing sleeping and eating hygiene. Sharing self-care experiences and outcome.
3	Self-preservation	Discussing territorial issues and self-space in light of examples from the animal world and participants' experiences.
4	Media literacy	Exploring advertisement tactics and their impact, and discussing ways to address media temptations. Participants create media advertisements against "adolescents' poisoning by media messages".
5	Our feelings	Facilitating a "feeling differentiation" activity. Sharing observed and hidden feelings. Suggesting management strategies.
6	Accepting appearance differences	Discussing current societal ideals for appearance in light of their unrealistic and narrow construction. Practicing strategies to avoid and challenge comparisons.
7	Accepting our weaknesses	Distinguishing between first image and authentic self. Examples of people who turned their defects into productive affects. Accepting disadvantages or weaknesses that cannot be changed.
8	My body and I	Exploring the physical changes during adolescence and role-play management strategies.
9	Adolescence rights and responsibilities	Promoting the desire to grow up due to the extensive opportunities it provides and despite its inherent responsibilities.
10	Summary and commitment	Reviewing key messages. Committing to engaging in positive self-care and positive body-image behaviors, and rejecting risk factors.

Table 1: *Topics and description of program's sessions.*

The program contains a kit with introductory material as well as a detailed guide for facilitators with 10 structured sessions, each described in detail. It includes background for each topic and interactive activities to engage participants both verbally and non-verbally.

Measures

All measures were previously validated and widely used with adolescents as well as with Hebrew speakers. Their psychometric properties in this study are described in table 2. At baseline, participants completed demographic information (gender, age, parents' education, birth order, religion, socioeconomic status, and residential form). The following outcomes were assessed:

Variable	Baseline (Time 1)	Program conclusion (Time 2)	Follow-up (Time 3)
Self-esteem	0.75	0.73	0.70
Body esteem	0.87	0.89	0.80
Internalization of appearance ideals	0.91	0.92	0.84
Approval by others	0.78	0.78	0.73
Approval by appearance	0.72	0.77	0.72
Eating behaviors and attitudes	0.82	0.85	0.80
Drive for thinness	0.78	0.79	0.81
Self-care	0.71	0.77	0.76

Table 2: *Cronbach's α for the scales at the three assessment times.*

Self-esteem was assessed using Rosenberg's self-esteem scale. The scale consists of 10 items scored on a scale of 1 - 4: (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree. The final score of this questionnaire ranges from 10 - 40. A higher score indicates higher self-esteem, while a lower score indicates lower self-esteem [17].

Body esteem was assessed using Mendelson's body-esteem scale (BES). The BES consists of 23 items scored on a 5-point scale from (0) never, to (4) always. A higher score indicates higher body-esteem [18].

Knowledge about advertising tactics was assessed by a single question. Participants were asked to recognize nine media advertising tactics. Each correct answer earned 1 point. Higher scores indicate more knowledge about advertising tactics [14].

Internalization of appearance ideals was assessed using the sociocultural attitudes toward appearance questionnaire (SATAQ-4). The measure includes 5 subscales: internalization of body fat (5 items), internalization of muscular/athletic shape (5 items), pressures from family (4 items), pressures from peers (4 items), and pressures from media (4 items). Items are scored on a 5-point scale from (1) never, to (5) always. A higher score means higher internalization of appearance ideals [19].

Affirmation by others' approval and affirmation by appearance were assessed using two subscales from the contingencies of self-worth (CSW) scale. Each subscale contains 3 items rated on a 7-point scale from (1) strongly disagree, to (7) strongly agree. A higher score indicates a stronger reliance on external affirmations by others and reinforcement by appearance [20].

Eating behaviors and attitudes were assessed with the eating attitudes test (EAT-26) [21]. The total EAT-26 score is the sum of the 26 items and scores can range from (0) never, to (6) always. Participants who score more than 20 are more likely to develop an eating disorder, with a higher score representing more unhealthy attitudes toward food, weight and eating.

Drive for thinness was assessed using single subscales from the eating disorders inventory (EDI-2). This includes 7 items rated on a 6-point scale: (1) never, to (6) always. Higher scores indicate higher drive for thinness [22].

Body image was assessed using figure body images. Participants chose their current and ideal body image from 9 gender-specific figures. We calculated the gap between the current body and the ideal body perception. The smaller difference, the higher the satisfaction with body appearance [23].

Self-care questions were developed specifically for this study. Examples of items include: "I eat at least three structured meals per day" and "I sleep at least 7 hours per night". Participants rated their self-care habits on a 4-point scale from (1) never, to (4) always with respect to 14 areas. A higher score indicates higher self-caring, while a lower score indicates lower self-caring.

Satisfaction from program: at the third (follow-up) assessment, participants were asked to rate 6 statements regarding satisfaction with the program.

Data analysis

Statistical analyses were conducted using Stata program (version 12, Stata Corporation, TX, USA). Chi-square and t-tests were conducted to compare groups at baseline only. Univariate analysis was performed for the descriptive part of the measurements. To address clustering issues, we used mixed-effects multilevel regression for each outcome, taking normality of variables, clustering and repeated measurement into account. Mixed models assume that the data within clusters are dependent among the observations. This is determined by the covariances among the regression coefficients and can be characterized by a covariance function [24]. The outcomes at the individual level were modeled taking into account the dependence of observations within individuals [25]. These models allow simultaneously estimating the parameters of the regression model and the variance components that account for the data-clustering [26]. Statistically significant model P-values were set at < 0.05.

Results

Characteristics of study participants

Sociodemographic characteristics of the studied population at baseline are given in table 3. Statistically significant difference between the intervention and control groups was only observed for mother's education [$X^2_{(4)}$ = 21.5], which was adjusted during the statistical analysis.

Variable	Boys intervention	Girls intervention	Boys control	Girls control	*P*-value
Age (years)	11.5 ± 0.6	11.3 ± 0.5	11.7 ± 0.65	11.4 ± 0.6	NS
Siblings (number)	3.1 ± 1.05	3.1 ± 0.8	2.9 ± 0.8	3.1 ± 1.20	NS
Mother's education n (%)					
Elementary school	6 (7.8)	6 (7.7)	3 (5.1)	4 (6.8)	
High school	16 (20.8)	10 (12.8)	17 (28.8)	23 (39.0)	
Professional education	12 (15.6)	27 (34.6)	22 (37.3)	19 (32.2)	
Academic degree BA	25 (32.5)	23 (29.5)	9 (15.3)	7 (11.9)	
Academic degree MA	18 (23.4)	12 (15.4)	8 (13.6)	6 (10.2)	< 0.05
Father's education					
Elementary school	8 (10.4)	5 (6.4)	7 (11.9)	3 (5.1)	
High school	20 (26.0)	8 (6.3)	15 (25.4)	15 (25.4)	
Professional education	22 (28.6)	35 (44.9)	22 (37.3)	27 (45.8)	
Academic degree BA	18 (23.4)	19 (24.4)	10 (16.9)	9 (15.3)	
Academic degree MA	9 (11.7)	11 (14.1)	5 (8.5)	5 (8.5)	NS
Attitude toward religion					
Religious	4 (5.1)	5 (6.4)	3 (5.1)	2 (3.4)	
Traditional	41 (51.9)	35 (44.9)	24 (40.7)	20 (33.9)	NS
Secular	34 (43.0)	38 (48.7)	32 (54.2)	4 (6.8)	
Birth order					
Eldest	42 (53.2)	26 (33.3)	23 (39.0)	22 (37.3)	
Middle child	20 (25.3)	23 (29.5)	16 (27.1)	23 (39.0)	
Younger	16 (20.3)	27 (34.6)	19 (32.2)	10 (16.9)	
Single child	1 (1.3)	2 (2.6)	1 (1.7)	4 (6.8)	NS
Economic status					
Medium and high socioeconomic status	55 (69.6)	68 (87.2)	49 (83.1)	49 (83.1)	
Low socioeconomic status	24 (30.4)	10 (12.8)	10 (16.9)	10 (16.9)	NS
Type of residence					
City	36 (45.6)	42 (53.8)	33 (55.9)	34 (57.6)	
Village	9 (11.4)	9 (11.5)	8 (13.6)	7 (11.9)	NS
Kibbutz	33 (41.8)	27 (34.6)	18 (30.5)	17 (28.8)	

Table 3: *Sociodemographic characteristics of study population at baseline [means ± SD or frequencies n (%)].*

Process evaluation

The process evaluation revealed encouraging results: 65% of the participants evaluated the program as excellent and 31% as good, whereas only 4% did not like it. Furthermore, 95% of the participants reported that they would recommend program participation to their peers.

Intervention effect

Within the mixed-effects multilevel regression, we chose the boys' control group as the reference group. All except two models (body esteem and the figure body images) reached a statistically significant intervention effect. Results of means, SD and effect sizes are presented in table 4.

	TIME 1				TIME 2				TIME 3				Effect size †	
	Control		Intervention		Control		Intervention		Control		Intervention		Group	Gender
Variables	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys		
Self-esteem	22.7 ± 4.6	21.8 ± 4.1	22.3 ± 4.4	21.8 ± 4.8	22.6 ± 5.0	22.9 ± 5.0	22.8 ± 5.6	22.6 ± 4.8	24.1 ± 5.4	24.0 ± 4.2	22.8 ± 5.2	24.2 ± 4.1	0.1	0.3
Body esteem	2.9 ± 0.6	2.8 ± 0.6	2.7 ± 0.7	2.8 ± 0.8	2.9 ± 0.6	2.8 ± 0.7	2.7 ± 0.8	2.7 ± 0.7	2.9 ± 0.6	2.9 ± 0.7	2.7 ± 0.8	2.8 ± 0.7	0.09	0.05
Advertising knowledge	1.7 ± 1.3	1.6 ± 1.2	1.9 ± 1.4	1.8 ± 1.5	2.0 ± 3.6	2.2 ± 3.0	2.5 ± 1.7	2.4 ± 1.9	1.8 ± 1.4	1.7 ± 1.2	2.6 ± 1.6	2.5 ± 1.7	0.43	0.01
Internalization of appearance ideals	1.88 ± 0.7	2.1 ± 0.7	2.2 ± 0.9	2.3 ± 0.8	1.7 ± 0.7	2.0 ± 0.6	1.7 ± 0.8	2.3 ± 0.8	1.6 ± 0.7	1.8 ± 0.7	1.8 ± 0.7	2.2 ± 0.7	0.03	0.2
Others approval	5.2 ± 1.8	4.7 ± 1.6	4.1 ± 1.9	4.5 ± 1.8	4.0 ± 2.3	4.5 ± 2.2	4.3 ± 2.0	4.4 ± 1.9	4.2 ± 2.2	4.7 ± 2.2	4.4 ± 2.0	4.3 ± 1.9	0.3	0.1
Appearance approval	2.2 ± 1.6	2.1 ± 1.6	3.3 ± 1.8	3.1 ± 2.1	2.4 ± 1.8	2.5 ± 1.8	2.6 ± 1.6	2.6 ± 1.6	2.4 ± 1.5	2.0 ± 1.7	2.6 ± 1.7	2.7 ± 1.7	0.33	0.03
Eating behaviors and attitudes	10.9 ± 10.6	9.3 ± 6.4	11.3 ± 10.2	14.0 ± 10.3	11.7 ± 15	9.6 ± 6.1	8.7 ± 5.6	9.4 ± 9.3	9.6 ± 11.5	8.6 ± 7.0	8.5 ± 8.5	10.6 ± 7.1	0.2	0.01
Drive for thinness	1.4 ± 2.4	1.8 ± 3.0	2.8 ± 4.1	3.2 ± 4.7	2.7 ± 3.8	2.9 ± 3.5	3.6 ± 4.2	3.5 ± 3.4	2.9 ± 3.7	2.2 ± 2.6	3.4 ± 3.8	3.5 ± 3.9	0.09	0.12
Body image current – ideal	0.48 ± 1.0	0.58 ± 1.3	0.62 ± 1.1	0.47 ± 1.4	0.3 ± 1.0	0.3 ± 1.2	0.4 ± 1.2	0.3 ± 1.4	0.42 ± 0.8	0.6 ± 1.2	0.64 ± 0.8	0.3 ± 1.4	017	0.3
Self-care	3.0 ± 1.3	2.9 ± 0.3	3.0 ± 1.4	3.0 ± 1.5	3.2 ± 0.3	3.0 ± 0.5	3.1 ± 0.4	3.3 ± 0.3	3.2 ± 0.30	2.9 ± 0.6	3.2 ± 0.2	3.2 ± 0.3	0.27	0.45

Table 4: *Means ± SD and effect sizes of study variables across the three time assessments.*

† Cohen effect sizes of 0.1 = small, 0.5 = moderate, 0.8 = large [27].

Self-esteem was statistically significantly improved at follow-up only among boys in both intervention (b = 0.98 ± 2.86, P = 0.003) and control (b = 0.79 ± 2.12, P = 0.007) groups. Nevertheless, the improvement was greater among intervention participants with small effect size.

Knowledge about advertising strategies demonstrated significant improvement in the intervention group for boys postintervention (b = 0.27 ± 0.79, P = 0.003) and at follow-up (b = 0.27 ± 0.90, P = 0.001), and for girls at postintervention (b = 0.28 ± 0.83, P = 0.003) and at follow-up (b = 0.27 ± 0.87, P = 0.002). Effect size for group intervention was near moderate and small for gender.

Internalization of appearance ideals demonstrated a statistically significant improvement at follow-up among intervention (b = -0.53 ± 0.12, P < 0.001) and control group (b = -0.48 ± 0.15, < 0.001) as well as among control boys (b = -0.31 ± 0.17, P = 0.007) but with very small effect size.

Approval by appearance was only significantly reduced among girls (b = 0 - 0.35 ± 0.17, P < 0.03) and boys (b = -0.2 ± 0.17, P < 0.05) in the intervention group, with small effect size with respect to group and no effect with respect to gender.

Self-care was reported as statistically significantly improved among intervention group boys postintervention (b = 0.27 ± 0.11, P = 0.013) and at follow-up (b = 0.19 ± 0.11, P = 0.008), and among girls at follow-up (b = 0.26 ± 0.10, P = 0.02). Girls in the control group also showed improvement at follow-up (b = 0.26 ± 0.11, P = 0.013).

Body esteem, approval by others and body image did not show any significant changes. Participants in both groups had scores within the normal range for the eating behaviors and attitudes scale and the drive for thinness subscale, and there was no significant change.

Discussion

This study evaluated the impact of the school-based "Young in Favor of Myself" preventive program to enhance self-care, self-esteem, positive body image and media literacy among preadolescents. The participants accepted the program enthusiastically.

The program was modified for a younger population and demonstrated improvements in participating boys and girls in knowledge about advertising tactics with medium effect size. In the control group, only boys demonstrated improved advertising knowledge at follow-up, with small effect size. This variable has been improved and sustained in other prevention programs [28] as well as in previous studies with the "In Favor of Myself" program that was delivered to 13- to 15-year-old adolescents [14,29].

Self-esteem is known to be lower during adolescence [30] and is considered a protective factor against risky behaviors [31]. In contrast to previous studies with "In Favor of Myself" that reported significant improvement in self-esteem in both genders participating in the intervention group [29], in our study, self-esteem was improved in both intervention and control groups, but only among boys with superiority to those participating in the intervention groups vs. control groups. Other programs delivered to preadolescents have reported such improvements [32], whereas some have reported no improvement [11,32] or a better outcome for girls, in contrast to our findings. These contradictory changes in self-esteem might be due to low validity of Rosenberg's self-esteem scale when introduced to young adolescents, as well as to the longer periods required to improve self-esteem. The program's impact on the different genders should be further explored, to address the inconsistencies in the literature.

Internalization of appearance ideals is an important dimension in adolescence, since almost half of preadolescents suffers from body dissatisfaction and a desire for either thinner or more muscular body shapes [33]. Moreover, body dissatisfaction in preadolescence has been shown to continue into later life [34]. Our program demonstrated a small effect size on this dimension at follow-up in both groups' participants. This is in contrast to the significant improvement found in older adolescents [14,29]. In comparison, some studies have also reported on improvements in appearance internalization from baseline to postintervention and to follow-up in the control group for both genders [28,35,36]. When it comes to preadolescents, it might be that in the short run, challenging media ideals using images in magazines and videos is counterproductive [37] and novel ways of increasing discrepancies between logical thinking and current perceptions in this area should be further developed. Nevertheless, in our intervention group, we did not notice any significant deterioration in this dimension.

To the best of our knowledge, this is the first study to assess the topic of self-care, although it has been widely investigated in the context of diseases such as diabetes [38]. We emphasized this important dimension following Piran's developmental theory of embodiment [39], which suggests that mindfulness to one's physical and emotional needs improves general well-being and reduces risk behaviors. The significant improvement in our study demonstrates the efficacy of the "Young in Favor of Myself" program in this area, although its effectiveness should be subjected to repeat examinations.

Consistent with other studies, since eating behaviors and drive for thinness at this age are usually within the normal range, as found in our study, it is not surprising that no statistically significant improvements were found [14,28].

These multisession classroom-based interventions, delivered by students, have been shown to produce sustained improvements in self-care and self-esteem but not in body image. The current study considers both genders, incorporates a reasonable sample size, has a 3-month follow-up assessment, takes into consideration the cluster design, develops and assesses the self-care component in the program and provides deliverer didactic and group dynamic supervision. Nevertheless, the effect sizes of the improvements were small to medium.

A few limitations in the current study should be noted. Preadolescents face difficulties when asked to fill out a questionnaire that takes more than 30 minutes. Some of the internal validity scores were only medium or lower than those published in previous studies with adolescents [14]. Although we validated all scales with this age group and with the local language, it seems that with preadolescents, shorter instruments are recommended. Moreover, novel strategies to improve body image and body esteem among preadolescents should be further developed and explored.

Conclusion

The "Young in Favor of Myself" program was received with enthusiasm among the preadolescent sample. Despite its acknowledged shortcomings, the current study adds to the limited evidence-based reports on wellness programs for preadolescents. Self-care should be further investigated, and included and assessed in long-run wellness programs. Assessment tools for use with preadolescents should be further developed and investigated. Future research evaluating the various versions of "In Favor of Myself" is warranted to ascertain the extent to which the findings from this study can be generalized.

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