



## School-based versus after-school delivery of a universal wellness programme – A randomized controlled multi-arm trial



Moria Golan<sup>a,b,\*</sup>, Wiessam Abu Ahmad<sup>a,c</sup>

<sup>a</sup> Department of Nutritional Sciences, Tel Hai College, Upper Galilee, Israel

<sup>b</sup> Shahaf, Community Services for the Management of Weight-Related Problems, Tel Aviv, Israel

<sup>c</sup> Brown School of Public Health and Community Medicine, the Hebrew University – Hadassah, Jerusalem, Israel

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### ABSTRACT

Positive self-image and body image as well as high self-esteem and media literacy are considered protective factors against health-compromising behaviours. Investigation of the optimal setting for body image prevention programmes is important to maximize outcomes from such programmes. Most universal wellness programmes are school based and thus delivered to a “captive” population. Only a few reports have been published about wellness programmes delivered in after-school settings, and none of them compared delivery after school to delivery in a school-based setting.

**Aims:** To assess the acceptability, feasibility and efficacy of an interactive wellness preventive programme (In Favour of Myself) when delivered in a school-based setting versus an after-school setting.

**Methods:** A randomized controlled multi-arm trial with 224 adolescent girls aged 13–15 years old was conducted. There were 102 girls participating in the after-school setting and 102 girls in the school-based setting. The programme contained nine 90-minute lessons, delivered weekly over 2 months. An intention-to-treat assessment was performed three times: at baseline, at the programme's conclusion (two months) and at follow-up (3 months).

**Results:** At programme termination and follow-up, the impact of In Favour of Myself was higher among participants in the after-school setting than in the school-based setting with respect to advertisement strategies, media pressure, gap between current and ideal body image, drive for thinness and self-esteem.

**Conclusions:** This study provides support for a community-led approach to promote health behaviours, an approach that currently is a significant feature of health improvement policy and practice.

### 1. Introduction

Positive self-image and body image as well as high self-esteem and media literacy are considered protective factors against health-compromising behaviours and thus are frequently targeted by prevention programmes (McVey, 2016; Wilkisch, 2014).

Most preventive programmes are school-based, and their impact has been described in numerous publications (Yager, Diedrichs, Ricciardelli, & Halliwell, 2013). There are reports that school-based programmes increase self-image, body-image and self-esteem among adolescents aged 12–14 years, with small to medium effect size (Cohen's  $d$  0.17–0.48) (Stice, Becker, & Yokum, 2013; Yager et al., 2013). Schools are a good platform for raising awareness to health issues since adolescents are more accessible, their social orientation is better, and they possess the motivation needed to participate in educational

activities. Furthermore, long-term interaction between same-age-group adolescents is potentially greater, and since social environment is very significant at this age, delivery of school-based groups may promote a significant impact on youth's perceptions and behaviours (O'dea & Abraham, 2000). Programmes for preventing body dissatisfaction and eating disorders involve discussions and activities that tackle media literacy (thinness and appearance issues), acceptance of diversity in respect to beauty and body shape, development of critical social perspectives regarding the body, and self-esteem enhancement as well as identification of non-appearance-related personal strengths and discussions about self-care (Levine & Smolak, 2016).

There have also been some reports on the trial efficacy of prevention programmes delivered in an after-school setting (Cook-Cottone, Beck, & Kane, 2008; O'Dea & Abraham, 2000), but this has been studied to a lesser extent. A high-quality after-school programme can have strong

\* Corresponding author at: Tel Hai Academic College, Upper Galilee, Israel.  
E-mail address: [Moria.Golan@mail.huji.ac.il](mailto:Moria.Golan@mail.huji.ac.il) (M. Golan).

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positive effects on children's academic, social, and emotional lives, and this can be especially true for at-risk youth. Some research suggests that what students do during their out-of-school time has as much bearing on their success as what they do during the school day (Durlak & Weissberg, 2007; National School Board Association, 2005). After-school programmes are structured programmes supervised by adults and operate after the end of the school day, during the school year. Unlike extra-curricular activities that also often occur after school, such as sports or academic clubs, after-school programmes are comprehensive and offer an array of activities that may include game and socializing activities, academic enrichment and homework help, snacks, community service, sports, arts and crafts, music, and scouting (Vandell et al., 2005). The after-school curriculum satisfies needs that conventional schools usually cannot meet, for instance, personal attention from adults, independence, and social skills (Stewart & Liddicoat, 2014). The learning process is not limited in time and place. Moreover, such systems promote social integration and offer more variability in the strategies available to address children's needs (Romí & Schmida, 2009). Nevertheless, often those who choose after-school programmes are from less privileged populations, and often their motivation for educational activities is low, especially if they are tired after a full school day. Moreover, most after-school programmes are less educative and more game-like, highly interactive and rely on a personal relationship with the leader rather than on hierarchy of staff, which is often needed in order to deliver psycho-education programmes. A meta-analysis of studies that examined after-school prevention programmes found that programmes dealing with self-esteem, positive self-image and self-concept yielded improvements, yet with small effect size (Durlak, Weissberg, & Pachan, 2010; Kremer, Maynard, Polanin, Vaughn, & Sarteschi, 2015). Thus, these systems are lesser common as the preferred setting for delivery of universal prevention programmes and our hypothesis was that the school-based setting would be more effective for universal prevention programme due to the mandatory nature of the activities and the learning mind-setting that girls come with, when such an interactive programme is delivered within the cluster structure of school-based. This is in contrast to after-school delivery, in which educational activities are less favourable, flexible and interactive activities are routine, often it is more as an open group where people may come and go and there is less hierarchy in the relationships between programme facilitators and participants.

Although many wellness prevention programmes are widely used, both at school and after school, it is unclear which of these settings is most efficient in improving self-esteem and body image and decreasing health-compromising behaviours. Such comparison is essential to address issues of cost-effectiveness and to decide which is the superior setting for such programmes, where the best results are obtained and whether the financial return on investment justifies the resources dedicated to such prevention programmes. Since data on the cost effectiveness of school-based interventions are mixed, and there are no publications that compare the effect of the same programme in these two settings, this study addresses this gap.

This study compares the delivery of “In Favour of Myself”, a wellness programme that was adopted by the Israeli Ministry of Health and was provided for this comparison study in both an after-school setting and a school-based setting to assess which setting would lead to greater outcomes for wellness programmes.

## 2. Methods

The study was approved by the Tel Hai Institutional Research Board as well as by the primary researcher of the Israeli Ministry of Education. The NIH study registration number is [NCT02653586](#). All participants and their parents received information about the study and the programme and signed an informed consent.

### 2.1. Design

A randomized controlled intervention was employed. Two schools and 10 after-school sites participated in the study. All classes of grades 7–9 in each school were eligible for inclusion and were randomized using the Microsoft Excel randomization function into an intervention group vs. a control waiting list group (which received the programme after 6 months). The same step was taken with respect to the ten after-school sites – five each were randomized into an intervention group and a waiting list control group. Intervention classes were segregated by sex. The programme was delivered only to the girls. Teachers in our country until recently, preferred that classes be divided according to gender and that programmes that address body issues be administered to girls-only groups. Only recently we provided evidences that mixed gender groups are preferred and this position is being changed (Agam-Bitton, Abu Ahmad, & Golan, 2018). So in the current study, while the girls in the groups received the intervention, the boys participated in a game activity with a gym teacher/guide. Each group in both settings consisted of 10–15 participants.

### 2.2. Participants

Altogether, 261 adolescent girls from two schools (6 classes in each school) aged 13–15 years (8th and 9th grades) participated in the school-based arm of the study. The schools are public, located in the urban area of north Israel and consist, according to school reports, of students from a medium-low socio-economic class. A research assistant who was blind to the characteristics of the target classes used the randomization function in Excel to classify the classes at each school into the control and intervention groups. The same function was used for the randomized allocation (intervention vs control) in the after-school setting. The randomization and programme delivery units were the class in the schools and the club in the after school setting. Six classes were randomized to the intervention arm, including 87 girls. Six classes were randomized to the control-waiting list arm, including 61 girls. After randomization, the contact person for each school was advised regarding which study arm his groups belong to.

In parallel, all ten informal educational units in the northern region received an invitation and agreed to participate in this study. These units are regional free clubs for adolescents, operate once to three times a week at a fixed time and managed by the local welfare committee. These systems operate in an open group format, and most adolescents come in a consistent manner. The clubs provide them a social meeting space where activities may be either structured similar to those delivered in youth organizations or completely non-structured. The facilitator may steer discussions around different relevant issues or just serve as a responsible agent while adolescents initiate activities. All 10 clubs closest to Tel Hai College were offered and accepted the invitation to participate in this study. All participants signed up the formal consent to participate in the study with no further obligations. Only girls were included in this intervention and were randomly assigned to the intervention or control groups so that there were approximately 85 girls in each study arm, 10–15 girls in each group. The same programme was delivered to the intervention groups in both settings, so that the school-based and after-school programmes received identical material.

The participation flow is provided in [Fig. 1](#). All study participants filled out a computerized questionnaire at baseline, post-intervention (at 2 months) and follow-up (at 3-months).

### 2.3. The intervention programme

The intervention programme was initiated by the Dove Self Esteem Fund and Unilever Israel. The topics and the activities were developed by the first author of this manuscript (Golan, Hagay, & Tamir, 2013, 2014). The funders had no role in the study design, data collection or analysis. The aims of the programme were to promote positive self-

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