IMPLEMENTING A CULTURALLY-ADAPTED EATING DISORDER PREVENTION PROGRAM IN AN ORTHODOX JEWISH HIGH SCHOOL

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Abstract

The objective of this study was to explore changes in student outcomes after participating in a culturally-adapted eating disorder prevention program. This program utilized dissonance induction in order to promote body satisfaction and reduce subscription to society’s weight-based standards for beauty, termed the “thin ideal”. The program was adapted to be culturally-sensitive and appropriate for use in Orthodox Jewish schools and institutions. The 9th and 10th grade students of an Orthodox Jewish all-girls high school in southern California participated in the study (n=22). Students completed questionnaires and rating scales prior to participating in the program and upon completion of the program, assessing body dissatisfaction, thin ideal internalization, self-esteem, negative affect, and weight and shape concerns. Repeated measures ANOVA’s were used to identify significant changes in scores from pretest to post-test. Additionally, MANOVA’s were utilized to examine potential interaction effects and variables that may impact change. Significant reductions from pretest to post-test were found for body dissatisfaction and negative affect. Interaction effects approached significance for initial severity of body dissatisfaction and its change from pretest to post-test, and for self-esteem and change in thin-ideal internalization. Limitations of this study included small sample size, lack of a control group, and utilization of a convenience sample. Implications of the study include suggestions for successful universal implementation. This study was exploratory, and more research utilizing larger samples, control groups, long-term measurement of outcomes, and school-based facilitators is recommended.
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Introduction

Background of the Study

A small, private Jewish high school for girls expressed interest in an eating disorder prevention program to be used as a universal intervention with its students (see Appendix for information on school selection). The school believed that voluntary participation in the program would foster better self-image and increased self-confidence. The school principal and the director of physical education agreed to use *The Body Project*, an empirically-based eating disorder prevention program, as an alternate option to participating in a different physical education curriculum. Participation would encompass four one-hour sessions spread over no more than five weeks.

The following are hypotheses regarding outcomes of students who participate in *The Body Project* groups:

- After participating in *The Body Project*, students will report reduced body dissatisfaction.
- After participating in *The Body Project*, students will report increased self esteem.
- After participating in *The Body Project*, students will report decreased internalization of society’s “thin-ideal.”
- After participating in *The Body Project*, students will report decreased levels of shape and weight concerns.
- After participating in *The Body Project*, students will report reduced negative affect.

Disordered Eating

Eating disorders refer to any of various psychiatric disorders characterized by abnormal eating behavior that alters consumption of food and significantly impairs physical and/or
psychosocial functioning (American Psychiatric Association, 2013). The most well-known of the eating disorders are anorexia nervosa, bulimia nervosa, and binge-eating disorder.

Studies indicate that 4-5% of young women meet criteria for anorexia nervosa, bulimia nervosa, or binge eating disorder, while an additional 5-6% meet criteria for Eating Disorder Not Otherwise Specified (EDNOS) (Hudson, Hiripi, Pope & Kessler, 2007; Stice, Marti, Shaw & Jaconis, 2009). These disorders are associated with more risk for suicide attempts, hospitalization, and functional impairment than most other psychiatric conditions (Newman, Moffitt, Caspi, Magdol, Silva & Stanton, 1996). Anorexia nervosa is associated with an almost six-fold increase in mortality rate, as compared to the reference population, while bulimia nervosa and EDNOS are associated with an almost two-fold increase (Arcelus, Mitchell, Wales & Nielen, 2011). A study comparing causes of death across a large sample concluded that eating disorders had the highest mortality rate of any mental illness (Lozano et al., 2012). Eating disorders are characterized by emotional distress, chronicity, relapse, medical complications, and psychiatric comorbidity (Crow et al., 2009; le Grange et al., 2006).

There are many characteristics that are considered risk factors for disordered eating and development of an eating disorder. One risk factor is simply being female – clinical populations of those suffering from eating disorders reflect a 10:1 female-to-male ratio (American Psychiatric Association, 2013). Another risk factor is young age, as onset typically occurs in adolescence or early adulthood (Garfinkel et al., 1995). The development of an eating disorder is complex and influenced by a variety of components. These components are usually a combination of biological, psychological, and environmental circumstances that result in more risk factors and consequently, increased likelihood of developing an eating disorder.
Biologically, genetic factors can impact on eating behaviors and eating disorder risk (Striegel-Moore & Bulik, 2007), with estimates of heritability from twin studies ranging from 48% to 73% for anorexia nervosa (Klump, Miller, Keel, McGue, & Iacono, 2001; Kortegaard, Hoerder, Joergensen, Gillberg, & Kyvik, 2001) and from 50% to 83% for bulimia nervosa (Bulik, Sullivan & Kendler, 1998; Walters et al., 1992). Psychologically, low self-esteem, negative body image, anxiety, negative affect, and perfectionism are all associated with an increased risk, as well (Stice, 2002). Finally, environmental factors, such as modeling of disordered eating behaviors (Stice, 1998), being involved in a profession or a sport where thinness is promoted or being subjected to cultural and peer pressure to be thin (Field, Camargo, Taylor, Berkey & Colditz, 1999; Striegel-Moore & Bulik, 2007), all are related to an increase in risk of developing an eating disorder.

**Disordered Eating in the Jewish Community**

Among Jewish females, research suggests that there may be a higher risk of abnormal attitudes and behaviors related to eating, as compared to non-Jewish peers (Pinhas, Heinman, Bryden, Bradley, & Toner, 2008). In one study, Jewish women were more than twice as likely to meet the strict criteria for eating disorders compared to individuals of other religious backgrounds (Rayworth, Wise & Harlow, 2004). Jewish women were also more likely than women of other religions to overestimate their body weight (Kim, 2007). The reported rate of eating disorders among American Jews (13%) is disproportionate to their representation in the general population (2%) (Baruchin, 1998). Additionally, the proportion of Jews in a U.S. population of female inpatients with eating disorders was also significantly higher (7.2%) than representation in the general population.
When focusing on the Orthodox Jewish community, there may be some epidemiologic differences. While faith and religious observance are generally protective factors against mental illness (Gartner, Larson, & Allen, 1991), the literature regarding eating disorders and Orthodox Jewish women is mixed. One study demonstrated that Jewish women who are secular report more eating pathology than those who are Orthodox, and were also twice as likely to have a fear of becoming fat and four times as likely to be influenced by their weight (Gluck & Geliebter, 2002). A different study, conducted in Israel among Modern-Orthodox Jewish adolescents, resulted that the more religious the participant, the less eating-related psychopathology was found (Latzer, Tzichinsky & Gefen, 2007). Similarly, a study comparing body image across the Jewish spectrum of observance, found that Ultra-Orthodox and Modern-Orthodox women reported more positive body image than the secular Jewish women (Handelzalts, Geller, Levy, Vered & Fisher, 2017).

However, there are studies that show no difference in disordered eating between the most and least religiously observant Jewish women, indicating strict religious adherence does not protect Ultra-Orthodox women from serious eating problems (Feinson & Meir, 2011). One study, comparing levels of body dissatisfaction, also found no difference between Jewish secular and Ultra-Orthodox women (Feinson & Hornik-Lurie, 2016). Furthermore, a preliminary study conducted by Sacker (1996) in the Jewish Ultra-Orthodox community in Brooklyn indicated that 1 out of 19 girls is diagnosed as having an eating disorder, a rate 50% higher than the number reported in the general population. While there is a need for further research exploring the incidence and prevalence of eating disorders within the Orthodox Jewish community, there is
anecdotal and informal evidence that the numbers of those suffering are significant and potentially on the rise (Krasna, 2016; Rabin, 2011).

**Eating Disorder Prevention**

Professionals in the field agree that treatment of eating disorders is complex. One glaring issue in the treatment of eating disorders is that a large proportion of those suffering do not seek treatment at all. Of those suffering from anorexia, it is estimated that only one-third seek and obtain treatment (Hoek & van Hoeken, 2003). Another issue is the debilitating physical consequences of eating disorders, leading to elevated mortality rates for anorexia, bulimia, and binge-eating disorder (Arcelus et al., 2011). The physical aspect of the disorder requires treatment that is not only psychological, but comprehensively medical as well, in order to address myriad issues, such as deterioration of the cardiovascular, pulmonary, and endocrine systems. Of those who are treated for their eating disorder and enter remission, relapse occurs in 30% - 52% of cases at least once, depending on the disorder (Khalsa, Portnoff, McCurdy-McKinnon & Feusner, 2017; Strober, Freeman & Morrell, 1997). Unfortunately, treatment outcomes are worse for inpatients as compared to those who are able to be treated in outpatient settings (Keel & Brown, 2010). Finally, the costs of treatment can be prohibitive, with residential centers costing an average of $30,000 a month. The financial burden of treatment includes not only direct costs, such as the frequency and duration of health services utilization, but also indirect costs, including absenteeism from employment and the degree of impairment while at work (Striegel-Weissman & Rosselli, 2017). A study conducted in Germany calculated the 3-month cost of illness of anorexia nervosa to be an average of €5866 (approximately $6560), combining both direct and indirect costs (Stuhldreher et al., 2012).
These intricate issues in treatment point to the need for effective, accessible prevention programs. Earlier iterations of eating disorder prevention programs were usually psycho-educational in content and largely limited in success (Stice & Shaw, 2004). Some of these education-based interventions appeared to actually be iatrogenic, increasing risk factors for the development of disordered eating (Carter, Stewart, Dunn & Fairburn, 1997). Fortunately, many eating disorder prevention programs have been developed since and have incorporated different intervention modalities. In a recent meta-analysis of 66 studies evaluating 51 eating disorder prevention programs, 51% of programs reduced eating disorder risk factors, while 29% reduced current or future eating pathology (Stice, Shaw & Marti, 2007). Effect sizes were small-to-moderate. Factors that were associated with increased efficacy were selected higher-risk participants (as opposed to universally implemented), participants over the age of 15, interactive (as opposed to didactic), and multi-session (as opposed to single session) (Shaw, Stice, & Becker, 2009). Program content also moderated efficacy, with programs utilizing body acceptance, dissonance-induction, cognitive behavioral techniques, and media literacy content demonstrating stronger effects.

The Body Project. The Body Project is one of the effective eating-disorder prevention programs included in the meta-analytic review. The Body Project is a dissonance-based program that seeks to decrease participants’ thin-ideal internalization, body dissatisfaction, negative affect, and eating disorder symptoms (Stice, Rhode, & Shaw, 2013). This is accomplished through having participants critique the thin-ideal through verbal, written, and behavioral exercises in a public forum.
Dual pathway model. The theoretical underpinning of the program is the dual pathway model of eating pathology (see Figure 1). The model posits that internalization of the thin-ideal, that is, the subscription to the Western beauty ideal of women being ultra slim and toned, leads to body dissatisfaction, as many women find the ideal difficult to attain. Pressure to be thin, coming from family, friends, or media, is also hypothesized to increase body dissatisfaction, as the message of not being thin enough is likely to lead to body image concerns. Body dissatisfaction then leads to dieting behaviors, sometimes extreme, and negative affect (Cooley & Toray, 2001; Wertheim, Koerner, & Paxton, 2001). Restrictive dieting behaviors and negative affect predict future bulimic pathology and other eating disorders (Stice, Marti, & Durant, 2011).

Further empirical support for this model comes from studies that have decreased some of the risk factors in the model, such as thin ideal internalization, body dissatisfaction, and negative affect, and the resulting decreases in eating disorder symptomatology (Bearman, Stice, & Chase, 2003).

FIGURE 1. The dual pathway model
**Cognitive dissonance theory.** Cognitive dissonance theory, developed by Leon Festinger in the late 1950s, posits that when behavior or information are inconsistent with cognitions or previously held beliefs, it leads to psychological discomfort, and people will attempt to change either their behavior or cognitions in order to restore consistency, reducing the dissonance and resulting discomfort (Festinger, 1962). In classic experiments demonstrating this theory, participants are asked to voluntarily behave in a way that runs counter to their attitudes or beliefs, and as a result, creates cognitive dissonance. Participants then adapt their beliefs or attitudes in order to better accommodate their behavior, restoring consonance. It is key that all the behaviors participants engage in are perceived as voluntary, otherwise, participants can attribute the inconsistencies between behavior and thinking patterns to situational, extrinsic demands, thereby avoiding a state of cognitive dissonance (Festinger, 1962).

Attitudinal change occurs more effectively if participants maximize their levels of effort in expressing or demonstrating the counter-attitudinal viewpoint (Green, Scott, Diyankova, & Gasser, 2005). It also occurs more effectively when participants demonstrate the conflicting viewpoint in a public forum as opposed to private (Aronson, Fried, & Stone, 1991).

*The Body Project* maximizes dissonance-induction by having participants voluntarily argue against and critique the thin-ideal, using a variety of modalities, in front of other group members, and also completing exercises as “homework” on their own. This creates cognitive dissonance and seeks to effect attitudinal change in the participants, reducing their thin-ideal internalization, and consequently affecting body dissatisfaction, negative affect, dieting behavior, and ultimately eating pathology.
Evidence base. The Body Project has been extensively studied thus far, and therefore has accrued an impressive evidence base. Large, independent efficacy trials have shown that participation in The Body Project results in a significant decrease in thin-ideal internalization, body dissatisfaction, negative affect, and eating disorder symptoms as compared to several control conditions (Stice, Shaw, Burton, & Wade, 2006). A subsequent study found that many of these decreases were maintained at both 2- and 3-year follow-ups (Stice, Marti, Spoor, Presnell & Shaw, 2008). Additionally, those who participated in The Body Project showed a significantly lower risk for onset of threshold and sub-threshold eating disorders – 6% as compared to 15% of the participants in the control condition. Based on this finding, the authors of the intervention predict that for every 100 adolescent females who participate in the intervention, there should be 9 fewer cases of eating disorders occurring in the following three years, representing a 60% decrease from the normal expected rate (Stice, Rohde, & Shaw, 2013).

Effectiveness trials have shown successful results in real-world conditions, both in high school and college, when groups are facilitated by the clinicians employed in those settings (e.g. psychologists, nurses, college counselors) (Stice, Rohde, Gau, & Shaw, 2009; Matuscek, Wendt & Wiseman, 2004; McMillan, Stice & Rohde, 2011). Additionally, there is literature showing that the intervention can be effectively implemented using a peer-led model, with results indicating that the peer-led groups experienced similar significant decreases in risk factors as the professional-led groups (Stice, Rohde, Durant, Shaw & Wade, 2011). A study looking at the effectiveness of an Internet-delivered iteration of The Body Project intervention (termed the “eBody Project”) as compared to the traditionally delivered intervention and some control conditions, found that participation in the virtual program resulted in significant reductions of
eating disorder risk factors and eating disorder symptomatology as compared to the controls, with similar effect sizes as the traditionally delivered group intervention (Stice, Durant, Rohde & Shaw, 2012).

Recently, a study was conducted where participants who participated in The Body Project and those in a control condition were shown pictures of thin- and normal-weight models while undergoing fMRIs to measure neural responses. Participants who completed The Body Project showed significant decreases in activation of the reward regions of their brain when viewing the images of the thin models, as compared to participants of the control condition (Stice, Yokum & Warner, 2015).

Due to the encouraging results of both the efficacy and effectiveness trials, as well as the brevity and cost-effectiveness of implementing The Body Project intervention, the program is well-suited for dissemination. It is important to note, however, that most of the research cited is from a single research team.

Issues in Treatment/Prevention in the Orthodox Jewish Community

The stigma associated with mental illness and its obstructive effect on help-seeking behavior is well documented (Vogel, Wade, & Hackler, 2007). Stigma is defined as a flaw resulting from a personal or physical characteristic which is viewed as socially undesirable and/or unacceptable (Blaine, 2000). The most common reason given for the disinclination to pursue treatment for mental illness is the stigma associated with it (Corrigan, 2004).

Among minority groups the effects of stigma are even more pronounced (Wells, Klap, Koike & Sherbourne, 2001; Nadeem et al., 2007). Orthodox Jews are a minority group with several factors that make stigma of mental illness a particularly relevant notion (Langman, 1999;
Weinrach, 2002). For example, Orthodox Jews place strong emphasis on family and have a family-centric value system (Loewenthal & Rogers, 2004). As such, the stigma of mental illness is often associated with its deleterious effects on family functioning and children, and therefore it is not uncommon that the stigma will extend to children and siblings of the affected person (Margolese, 1998). Mentally ill members of the Orthodox Jewish community worry that they will be labeled “crazy” or “insane” by those that learn of their condition (Wikler, 1986). This can realistically impact shidduchim (the dating and marriage process among Orthodox Jews), where before a couple is set up on a date, both sides extensively investigate the personal and family background of the prospective shidduch (Greenberg & Witztum, 2013; Rosen, Greenberg, Schmeidler, & Shefler, 2008; Schnall, 2006). This is very pertinent to the discussion of eating disorders, where fertility problems are a common side effect (Linna et al., 2013).

Another element of the Orthodox Jewish lifestyle that contributes to the stigma of mental illness is the fear that mental health workers represent the secular world from which the community tries to separate itself (Bilu & Witztum, 1993). They worry that the professionals will challenge their values or fail to understand or respect the values important to them (Lightman & Shor, 2002; Sublette & Trappler, 2000). The community can be wary of engaging with those they believe are influential and possess an erroneous hashkafah (life philosophy). This is again applicable to treatment of eating disorders, which must be culturally sensitive to Orthodox Jewish beliefs surrounding body image and modesty, as well as the Jewish rituals around food and eating. These factors combine to create a situation where 60% of Orthodox Jewish mental health professionals estimate that their community is under-served in this arena, with 86%
identifying fear of stigma as a reason in Orthodox Jews not seeking or receiving mental health care (Schnall et al., 2014).

Therefore, it is particularly relevant to ascertain that any intervention servicing the Orthodox Jewish community is culturally sensitive and conducted in such a way as to reduce resistance from the community. Culturally-sensitive prevention programs that can be implemented universally are one such intervention that may be appropriate. Since universal programs do not single out individuals with mental illness or even those at-risk of developing mental illness, they will not invoke the same stigma that targeted prevention or treatment programs would (Offord, 2000).

**Cultural Adaptation of the Prevention Program**

When approaching implementation of a prevention program with any specific population, there has developed a “dynamic tension,” as termed by Castro, Barrera, and Martinez (2004). This tension is between the two equally important imperatives of ‘fidelity of implementation’ - that is, that the intervention is delivered as prescribed by the manual and program developer, and ‘program adaptation’, which is the modification of program elements in order to better fit the needs of a specific consumer group. Both of these imperatives are of utmost importance in program design and implementation, and the most effective way to maximize both is through an organized and systematic approach.

The cultural adaptation of *The Body Project* manual was designed to change only those elements that would impede program acceptance and usability in an Orthodox Jewish setting. By only changing wording and exercises that would render it unusable by the target population, program fidelity and effectiveness is maximized (Galler-Hodkin, 2013).
Cultural adaptation can occur on two levels (Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000) – there is the “surface structure” adaptation, which encompasses matching the intervention materials to superficial aspects of the target population, for instance, changing the appearance of role models in the program, and then there is the “deep structure” adaptation, which addresses the values, norms, and beliefs of the target population. Effective cultural adaptation must move beyond “surface structure” adaptation to the “deep structure” adaptation. Additionally, a key component of a successful adaptation is cultural competence on the part of those adapting the program and those involved in program delivery (Skaff, Chesla, Mycue, & Fisher, 2002).

In the adaptation of The Body Project manual, both surface structure and deep structure adaptation are evident. Language and surface-level references to celebrities, dating, the Internet etc. have been changed in the program to more accurately reflect the values of the Orthodox Jewish community, who largely disapprove of casual dating, and excessive involvement in the secular world. In addition, changes reflecting deeper cultural norms and sensitivities were made, like modifying the behavioral challenges that suggested “stand in front of a mirror wearing as little clothing as possible” or “wearing shorts to school.” These activities, if left unchanged, present a serious cultural conflict with the Orthodox Jewish norms of modesty and behavior, rendering it unacceptable to many Orthodox Jewish schools and community settings. The underlying dimension guiding this adaptation strategy is that of “affective-motivational” characteristics, as related to ethnic and religious background. Failure to adapt these “affective-motivational” characteristics would result in cultural conflict or behavioral resistance in the implementation (Castro, Rawson & Obert, 2001). The changes in the manual to more relevant
language, examples, and behavioral challenges have resulted in a manual that can be used by the strictest Orthodox community, while still maximizing fidelity to the original program (Galler-Hodkin, 2012). The adaptation was also reviewed for cultural sensitivity by a prominent rebbetzin (wife of a rabbi) who is affiliated with one of the largest American yeshivas (theological seminaries) and edited according to her feedback.

When comparing the original The Body Project manual to the culturally adapted manual, one can observe that none of the core components or lessons of the program have been changed. Notably, while one might expect an Orthodox Jewish cultural adaptation to incorporate mentions of “G-d,” “Torah,” or Orthodox Jewish religious practices, these references are absent in the manual. This is evidence of the adapter’s cultural competence in not assuming that every participant in the program, even if attending an Orthodox Jewish school, agrees with, believes in, or practices every tenet of Orthodox Jewish theology. Particularly since this program is designed to be implemented with adolescents, who characteristically grapple with religious beliefs as part of their identity formation and individuation from their parents (King & Boyatzis, 2004). While no mentions of G-d or Jewish theology appear in the manual, it is not an issue if a participant in the program organically brings it up during the discussions, and the facilitator should have enough cultural competence to discuss the topic effectively.

Indeed, the culturally adapted The Body Project manual seems to have a high level of acceptability in the Orthodox Jewish community, thus far. It is already in use at several Orthodox Jewish high schools and was recently the subject of a lecture presented at the Torah U’mesorah convention, the largest convention of Orthodox Jewish educators in the United States (Galler-Hodkin & Levinson, 2016). The schools where it has already been used report positive
experiences with the program anecdotally, however, there has not yet been any empirical studies conducted to evaluate the adapted program’s effectiveness with the target population.
Methods

Participants

Twenty-two female students from a small, Orthodox Jewish, girls’ private high school in Southern California were recruited to participate in the Body Project groups. Although the school is Orthodox, students tend to range in their level of religious observance, spanning from strictly observant to completely non-observant. Participants in this study likely also ranged in observance, but the exact distribution of religiosity is unknown.

The ages of participants at the onset of the study ranged from 13 to 16 years of age, and the mean age was 14.2-years-old. Participants were in either 9th grade (n=15) or 10th grade (n=7), as those are the grades where participation in physical education class is required.

Participants were excused from one physical education class weekly, for four consecutive weeks. The physical education teacher presented the program to the class for recruitment, explaining that participation in the Body Project sessions would fulfill an educational requirement of the physical education curriculum, but emphasized that participation was voluntary, as there will be other opportunities to fulfill that requirement over the course of the year. All participants who participated were provided with a parental consent form (see Appendix A) and a student assent form (see Appendix B) for participation in the program. Of the twenty-two students in physical education class, all twenty-two decided to participate. Three groups were run in order to accommodate all interested students, with group size ranging from 6 to 8 participants.

A power analysis was conducted in order to determine sufficient sample size. Using GPower and indicating a within subject, repeated measures design, a power of .80, an alpha level
of .05, and a medium effect size \( (f=0.25) \), the required sample size is 15. With the current study’s sample size of 22, the power rises to approximately .94 for a medium effect size \( (f=0.25) \) (see Figure 2 below).

**FIGURE 2. Power analysis**

**Materials**

Participants in the study filled out a series of questionnaires looking at social-emotional functioning, subscription to the thin ideal, and body dissatisfaction. These questionnaires were provided to the students prior to beginning the first session of *The Body Project* and at the conclusion of the last group meeting by the group facilitator. Completed questionnaires were submitted to the group facilitator in sealed envelopes directly by the participants. Each participant was assigned a numeric code with which to fill out the questionnaires, in order to protect their identities.
BASC-3 Self-Report. The Behavior Assessment System for Children – Third Edition, Self Report form was utilized in order to assess participants’ levels of self-esteem and social-emotional functioning. The adolescent form, for children ages 12-18 was the form used with the sample, since every participant fell in this age range. The Behavior Assessment System for Children – Third Edition is a widely used scale for assessing social-emotional functioning, utilized in both school and clinical settings. The adolescent self-report form asks 189 questions, that are either answered as ‘true’ or ‘false’, or as ‘never’, ‘sometimes’, ‘often’, or ‘always’ applicable. The BASC-3 Adolescent Self-Report overall has excellent internal consistency (ranging from α = .90 - .97 for different scales) and a test-retest reliability of r = .88, using the information for the combined-sex, general norm group. The internal consistency of the Self-Esteem subscale is α = .85 with a test-retest reliability of r = .86 (Reynolds & Kamphaus, 2015). The Depression, Anxiety, Self-Esteem, and Interpersonal Relations subscales were combined in order to create a measure of negative affect. The Depression and Anxiety subscales were reversed so that any increase would indicate positive change, consistent with the Self-Esteem and Interpersonal Relations subscales. Cronbach’s alpha between the variables was .92, so it was deemed reasonable to combine them into one variable, renamed “Negative Affect.”

The Body Project Survey. This was a survey consisting of three questionnaires, including the Ideal Body Stereotype Scale-Revised, the Satisfaction and Dissatisfaction with Body Parts Scale, and selected questions from the Eating Disorder Diagnostic Interview, relating to the Weight and Shape Concern scales (see Appendix A). These are all self-report scales that ask participants to respond using Likert scales, indicating how the questions are applicable to themselves.
A modified 8-item version of the Ideal Body Stereotype Scale-Revised (Stice, Fisher & Martinez, 2004) was used in order to assess participants’ level of thin-ideal internalization. Item scores were summed in order to create a total score variable. Data regarding the scale’s test-retest reliability is mixed. In the initial study where the scale was created and used, test-retest reliability was $r = .61$ (Stice, Schupak-Neuberg, Shaw & Stein, 1994), whereas in subsequent studies the test-retest reliability increased to $r = .63$ for a 10-month interval (Stice, 2001) and $r = .80$ for a two week interval (Stice, Fisher & Martinez, 2004). Internal consistency for the IBSS-R is $\alpha = .91$. For the current study, Cronbach’s alpha was acceptable at both pre-test and post-test, with scores of 0.90 and 0.92 respectively.

Eight items from the Satisfaction and Dissatisfaction with Body Parts Scale (Berscheid, Walster & Bohnstedt, 1973) were used in order to assess participants’ level of body satisfaction. This scale has demonstrated internal consistency ($\alpha = .94$) and strong test-retest reliability ($r = .90$) (Stice, Shaw, Burton & Wade, 2006). In the current study, the scale continued to show strong internal consistency at both pre-test ($\alpha = .94$) and post-test ($\alpha = .97$).

Selected items were chosen from the Eating Disorder Diagnostic Scale (Stice, Telch & Rivzi, 2000), which addressed levels of weight and shape concerns, creating a 4-item scale. The EDDS shows strong internal consistency of $\alpha = .89$ and sufficient test-retest reliability ($r = .93$). For the modified scale used in this study, it showed excellent internal consistency at both pre- and post-test, with Cronbach’s alpha of .92 and .96, respectively.

**Procedure**

The Body Project – enhanced dissonance version (Stice, Shaw & Rohde, 2012), with slight cultural adaptations (Galler-Hodkin, 2012) was the program used to run the groups at the
selected high school. The manual was followed exactly, with groups meeting for four, one hour-
long sessions over consecutive weeks. The groups met once a week, during the time scheduled
for physical education, on Tuesday or Thursday. Two of the groups took longer than four
consecutive weeks in order to finish the program, due to school breaks that coincided with the
day the group would have met (i.e. Thanksgiving, winter break). These groups were therefore
completed over five consecutive weeks.

Three groups were created from the participants who had submitted both the parent
consent and student assent forms. Each group ranged from 6 to 8 participants. Participants who
had submitted their paperwork prior to a group beginning were randomly assigned to the group.
Two of the Body Project groups ran concurrently, and the last group began after the first Tuesday
group had concluded.

Groups were all run by the same trained facilitator, the principal investigator’s mother,
who was trained in the program by both the principal investigator and a Body Project facilitator
who has been implementing the program professionally for several years. The facilitator
submitted fidelity checklists to the principal investigator after each session of each group. The
facilitator was a Marriage and Family Therapist with more than 25 years of clinical experience
running groups and working with adolescents, so it was determined that the facilitator possessed
the clinical skills and judgment to deliver the intervention effectively.

Missing data was dealt with for four participants. Of the four, three were missing a single
data point. In these cases, a list-wise missing data imputation was conducted in order to enter a
value. For one participant, who was missing data for more than one item in a scale, it was
decided that none of her scores would be used when analyzing that particular scale.
Results

*The Body Project*, an evidence-based eating disorder prevention program, was culturally adapted to be appropriate for implementation in Orthodox Jewish schools and organizations. The culturally-adapted version of *The Body Project* was implemented in an Orthodox Jewish all-girls high school in San Diego over the span of two months. Participants in the program filled out questionnaires and rating scales before beginning the program and upon completion, looking at variables such as body satisfaction, thin-ideal internalization, negative affect, self-esteem, and shape and weight concerns. This chapter analyzes whether there are significant changes in participants’ scores from pre- to post-test, indicating changes in the aforementioned variables. The test-retest correlation coefficient for each measure is calculated and presented before these analyses. This section concludes with post-hoc analyses, comparing older and younger participants, comparing participants with elevated scores at outset to those with more moderate scores, and examining a potential interaction effect between participants’ self-esteem and their change in thin-ideal internalization.

Correlations

Before testing hypotheses, the correlations between pre- and post-test scores for each measure was calculated, in order to gauge whether the data was operating as expected. All yielded significant correlations, \( p < .05 \), except for the *Ideal Body Stereotype Scale – Revised* which yielded the insignificant correlation \( r = .332 \) (see Table 1, below). As referenced previously, this measure has mixed literature on its test-retest reliability, which may partly explain the low test-retest coefficient in this data.
TABLE 1
Correlation Coefficients Between Pre- and Post-Test Scores

<table>
<thead>
<tr>
<th>Measure</th>
<th>Correlation Between Pre- and Post-test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction and Dissatisfaction with Body Parts Scale</td>
<td>.493*</td>
</tr>
<tr>
<td>BASC-3, Self-Esteem Subscale</td>
<td>.911**</td>
</tr>
<tr>
<td>Negative Affect, combined BASC-3 scale</td>
<td>.934**</td>
</tr>
<tr>
<td>Ideal Body Stereotype Scale-Revised</td>
<td>.332</td>
</tr>
<tr>
<td>Eating Disorder Diagnostic Scale</td>
<td>.840**</td>
</tr>
</tbody>
</table>

*Significant at the .05 level
**Significant at the .01 level

Hypotheses

Repeated measures ANOVA’s were conducted to test hypotheses and detect the effects of participation in the Body Project by comparing pre- and post-test scores (see Table 2).

There was a significant reduction in scores on the Satisfaction and Dissatisfaction with Body Parts Scale following participation in the Body Project, Wilks’ Lambda = 0.766, F (1,21) = 6.40, p = .019. Students reported greater satisfaction with their body parts at post-test (M=22.98, SD=9.59), corresponding to lower scores on the scale, than they did at pre-test (M=27.96, SD=8.68).

A significant change was also found for negative affect, based on combined changes on the Anxiety, Depression, Self-Esteem, and Interpersonal Relations subscales of the BASC-3, Wilks’ Lambda = 0.760, F (1,21) = 6.62, p = .018. A significant increase in student scores was found, meaning that students endorsed more items indicating positive affect, and thus showed a
A reduction in negative affect from pre-test ($M=-9.08$, $SD=12.75$) to post-test ($M=-6.56$, $SD=12.63$). Significant results are illustrated in Figure 3, below.

Significant changes were not found for the BASC-3 self-esteem measure ($p = .521$), the Ideal Body Stereotype Scale-Revised ($p = .247$), or the selected questions from the Eating Disorder Diagnostic Interview focusing on shape and weight concerns ($p = .513$), from pre-test to post-test. This indicates that the students’ participation in the Body Project did not have a discernible effect on their self-esteem, thin-ideal internalization, or shape and weight concerns.

**TABLE 2**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-test Mean</th>
<th>Post-test Mean</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Satisfaction and Dissatisfaction with Body Parts Scale</em></td>
<td>27.96</td>
<td>22.98</td>
<td>.019*</td>
</tr>
<tr>
<td>Negative Affect combined BASC-3 scale</td>
<td>-9.08</td>
<td>-6.56</td>
<td>.018*</td>
</tr>
<tr>
<td>BASC-3, Self-Esteem Subscale</td>
<td>41.68</td>
<td>42.59</td>
<td>.521</td>
</tr>
<tr>
<td>Ideal Body Stereotype Scale-Revised</td>
<td>23.57</td>
<td>21.78</td>
<td>.247</td>
</tr>
<tr>
<td>Eating Disorder Diagnostic Scale</td>
<td>9.5</td>
<td>8.86</td>
<td>.513</td>
</tr>
</tbody>
</table>

*Significant at the .05 level
Several post-hoc analyses were conducted in order to further understand and interpret the data, using multivariate analyses of variance (MANOVA). The scores on the Satisfaction and Dissatisfaction with Body Parts Scale were split in order to compare students aged 15 and older (n=6) to those below the age of 15 (n=16), based on the literature that suggests that eating disorder prevention programs tend to be more effective for older participants. The scores on this scale were also split in order to compare those who endorsed high levels of body dissatisfaction at pre-test with those who endorsed low levels of body dissatisfaction, based on literature indicating that eating disorder prevention programs are more effective for those who initially appear to be at higher risk.
The change in means between the group aged 15 and above from pre-\((M=30.33, SD=9.46)\) to post-test \((M=25.67, SD=10.40)\) did not significantly differ \((p=.924)\) from the change observed in the students aged 14 and below \((pre: M=27.07, SD=8.51, post: M=21.97, SD=9.42)\) (see Figure 4, below). This finding differs from the prevailing literature suggesting older participants show more marked changes in eating disorder risk factors as a result of participation in an eating disorder prevention program.

![Figure 4](image)

**FIGURE 4. Changes in group means - age**

However, when the interaction between initial body dissatisfaction (high- and low-) and changes in mean from pre- to post-test was examined, the finding approached significance \((p=.068)\) and accounted for 15.6% of the variance. To form the high- and low-body dissatisfaction groups, students were split based on their score at pre-test. A score of 27 indicated the student marking ‘neutral’ for every body part. Therefore, students who scored a 28 and above were grouped into the high-body dissatisfaction group \((n=8)\) and those scoring 27 and below
were grouped in the low-body dissatisfaction group (n=14). This division was also consistent with the overall combined group mean at pre-test, which was 27.96. The change in mean of the high-body dissatisfaction group from pre- (M=37.64, SD=3.57) to post-test (M=27.94, SD=11.22) differed from the change in mean of the low-body dissatisfaction group (pre: M=22.43, SD=4.91; post: M=20.14, SD=7.55) in a way that approached significance and implies an interaction effect between initial body dissatisfaction and program effectiveness (see Figure 5, below).

![Graph showing changes in group means – initial body dissatisfaction.](image)

**FIGURE 5. Changes in group means – initial body dissatisfaction**

Finally, a post-hoc analysis was run with the data from the *Ideal Body Stereotype Scale-Revised*, due to the low test-retest correlation coefficient. Consultation with the individual who adapted the manual generated that perhaps there existed an interaction effect between
participants’ self-esteem and the change in their scores on the *Ideal Body Stereotype Scale-Revised*. The sample was split based on the factor of self-esteem, creating a low-self-esteem group and a high-self-esteem group. A score of 40 and above on the BASC-3 for the Self-Esteem subscale indicates a self-esteem within normal limits, while below 40 indicates an At-Risk and then Clinically Significant score once below 30. Therefore, those who scored 40 and above were placed in the high-self-esteem group (n=13) and those who scored below were placed in the low-self-esteem group (n=8) (see Table 3). The results of the MANOVA yielded results with a significance of $p=.059$, signifying that there likely exists an interaction between participants’ self-esteem and changes in their scores on the *Ideal Body Stereotype Scale-Revised* (see Figure 6, below). The low-self-esteem group actually exhibited an increase in their scores on the *Ideal Body Stereotype Scale-Revised*, indicating an increase in thin-ideal internalization from pre- (M=21.38, SD=7.00) to post-test (M=23.17, SD=4.77), while participants in the high-self-esteem group demonstrated a decrease in scores (pre: M=24.92, SD=4.73; post: M=20.92, SD=6.82).

![FIGURE 6. Changes in group means – thin ideal internalization](image)
TABLE 3  
Sample/Group Sizes for Post-hoc Analyses

<table>
<thead>
<tr>
<th>Variable</th>
<th>n of &lt;15 group</th>
<th>n of ≥15 group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>n of Low group</td>
<td>n of High group</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>8</td>
<td>13</td>
</tr>
</tbody>
</table>

Summary

Test-retest correlation coefficients with the current data were significant for all measures used except for the Ideal Body Stereotype Scale-Revised. Participants in this implementation of The Body Project showed significant reductions in body dissatisfaction and negative affect. However, there was no significant change in self-esteem, shape and weight concerns, and notably, thin-ideal internalization. The change in body dissatisfaction was not significantly different between older and younger participants, nor significantly different between those who began with more elevated body dissatisfaction scores and those who began with more moderate scores. The interaction between self-esteem and change in thin-ideal internalization, while approaching significance, was ultimately not significant, as well.
Discussion

Adolescent females are at higher risk of developing eating disorders as compared to other segments of the population (American Psychiatric Association, 2013). Additionally, women who identify as Jewish are seemingly at higher risk of developing eating disorders as compared to women from secular or other religious groups (Pinhas et al., 2008). The existing literature is mixed regarding Orthodox Jewish women, with some studies finding observance to be a protective factor while others found no difference between the most and least observant groups, and still others found Orthodox Jewish women to be at potentially higher risk of eating disorders and abnormal attitudes and behaviors toward food (Feinson & Meir, 2011; Latzer, Tzichinsky & Gefen, 2007; Sacker, 1996).

Treatment of eating disorders is known to be complex and expensive, with potential for relapse and the necessity of physicians working alongside mental health clinicians (Khalsa et al., 2017; Striegel-Weissman & Rosselli, 2017). Among Orthodox Jews treatment is further complicated by the stigma of mental illness in general, and eating disorders in particular (Margolese, 1998; Schnall, 2006), due to perceived deleterious effects on family functioning and shidduchim (the dating and marriage process) (Greenberg & Witztum, 2013). In addition, there exists the fear that treatment may incorporate values antithetical to Orthodox Judaism (Lightman & Shor, 2002), especially in the treatment of eating disorders, which must respect Jewish beliefs concerning body image and modesty, and the many rituals involving food and eating. Therefore, effective, culturally-sensitive prevention is indicated as the ideal course, especially prevention that can be implemented universally, thereby reducing stigma.
A culturally adapted version of *The Body Project*, an evidenced-based prevention program based on the principle of cognitive dissonance, was implemented in an Orthodox Jewish high school in San Diego. The hypotheses, based on relevant literature, posited that after participating in *The Body Project*, the students would report decreases in 1) body dissatisfaction 2) subscription to the thin ideal 3) shape and weight concerns 4) negative affect, and an increase in 5) self-esteem. Data were collected immediately before beginning the program and within two weeks after completion of participation in the program. Therefore, outcomes are considered to be short-term, and no information is available regarding long-term outcomes.

**Hypothesis 1: Body Dissatisfaction**

Body dissatisfaction is a risk factor for later development of an eating disorders. *The Body Project* addresses this risk factor by having participants discuss positive physical attributes, and appreciate and celebrate their physical characteristics. Based on relevant literature, it was predicted that after participation in *The Body Project*, participants’ would report decreased body dissatisfaction. Actual results were consistent with the literature, showing a significant decrease in participants’ body dissatisfaction from pre-test to post-test.

Further analyses were conducted in order to assess the interaction between several variables on the change in body dissatisfaction, specifically age of the participants and initial level of body dissatisfaction (high- or low-). It was found that the age of the participants at the beginning of the program were not impacting the change in body dissatisfaction, as the oldest participants showed similar decreases in dissatisfaction as the youngest participants. This deviated from the literature, which showed that prevention programs tend to be more effective with older participants (Stice, Shaw & Marti, 2007). In our sample, while those who were 15 and
16 were compared to those 13 and 14, their ages are still quite close together. In the meta-analysis which established increased effectiveness for older participants, participants’ ages ranged from young adolescents, to older adolescents and even adults, representing a much larger range (Stice, Shaw & Marti, 2007).

Those who began the program with high initial scores of body dissatisfaction showed much greater decreases than those who initially reported lower levels of dissatisfaction. While this finding approached significance and accounted for a large portion of the variance in scores, because of the small sample size, when the group was split for comparison, power was compromised and a $p<.05$ result was not found. However, it is possible that if the sample had been larger, a true significant finding would have been demonstrated. This finding is encouraging, demonstrating that those who are more in need of this type of intervention are also those who seem to most benefit. However, it is important to note that there is psychometric impact on this, since those who scored higher initially have more room to decrease.

**Hypothesis 2: Subscription to the Thin Ideal**

Internalization of society’s thin ideal is associated with increased risk of eating disorders. Change in thin-ideal internalization is addressed in *The Body Project* by having participants argue against the thin-ideal, discuss the costs associated with it, and publicize their criticisms to each other and to those outside of the group. This induces cognitive dissonance and consequent changes in behavior and attitudes. The literature shows that changes in subscription to the thin-ideal mediate many of the other positive changes experienced after participation in the program, consistent with the authors’ model and theory (Stice, Presnell, Gau & Shaw, 2007). It was
hypothesized that participants in this sample would also report decreased levels of thin-ideal internalization after participation in the program.

However, the results did not show a significant decrease in thin-ideal internalization. Further analysis was conducted in order to try and understand the low correlation between pre- and post-test scores on the Ideal Body Stereotype Scale-Revised, the scale used to measure thin-ideal internalization. The correlation coefficient indicated there was absolutely no correlation between pre- and post-test scores on this scale, making it unique among all the other scales where a significant correlation existed between pre- and post-test.

The group facilitator reported that some participants in the program made comments toward the end of participation that they “never used to think about these things,” implying that participation in the program had made them more aware of society’s thin-ideal. Orthodox Jews are known to try and minimize secular influence by limiting exposure to certain secular media (Cohen, 2011). It is therefore consistent that some participants in the program may have had limited exposure to the thin-ideal as presented in the program prior to participation, and participation made them more conscious of it.

This is not to say that Orthodox Jews don’t subscribe to the thin-ideal – the reality is quite the opposite, as in even the most insular Jewish communities there exists a tremendous pressure to be thin (Rabin, 2011). However, they may not normally think of it in terms of media and the diet and fashion industries, which are prominent examples used in the program.

The individual who adapted The Body Project manual used in this study generated the theory that there may exist an interaction effect between participants’ self-esteem and change in thin-ideal internalization. Following the information from the group facilitator, that some
participants were not as exposed to the concept of the thin-ideal, she theorized that those with low self-esteem, once exposed to the programs’ discussion and focus on the thin-ideal, would be more conscious of it and subscribe to it more than they did previously, while those with high self-esteem would react in the way the literature leads us to expect.

The analysis returned a result falling short of significance, but accounting for a large portion of the variance. Similar to the other post-hoc analyses, power was compromised when splitting the sample and \( p < .05 \) was not found. If the sample had been larger and adequate power maintained, a true significant finding would be probable. This would suggest an interaction effect between self-esteem and change in thin-ideal internalization (see Figure 6, above).

Another possible contributor to this result was that The Body Project in this study was implemented universally, with the entire 9th and 10th grade of the participating school. While participation was voluntary, it was presented to students as a way of fulfilling a requirement for their physical education class, took place during the school day, and in the end, every student eligible to participate based on class schedule, did end up participating. This may have affected the extent of the cognitive dissonance induced by the program, since if there exists strong, external justification for a behavior, cognitive dissonance is reduced (Aronson, Wilson, & Akert, 2009). Most of the literature on The Body Project utilizes selective implementation as opposed to universal, where those who choose to participate may have had to stay after school, signed up from a large possible pool etc. These participants had weak external justification for completing the dissonance-inducing behaviors and tasks required by The Body Project, therefore maximizing cognitive dissonance and subsequent changes in thin-ideal internalization and other variables. In Carolyn Becker’s research on The Body Project in sororities, while implementation was
universal, the program was included as part of mandatory orientation in order to join the sorority (Becker, Ciao, & Smith, 2008). Obviously participants were freely choosing to join the sorority at all, therefore weakening external justification.

While universal implementation of The Body Project is important for reducing stigma for participants (a particularly important concept in the Orthodox Jewish community) it likely tempers effectiveness due to the consequent reduction in dissonance-induction. Therefore, when implementing the program universally, it is essential to try and increase participants’ buy-in and ownership of the choice to complete the program’s tasks. This can be done through encouraging participants to generate their own creative ideas for completing the assignments, and using effective, charismatic group facilitators. While this is encouraged in the manual, it should be especially stressed when being implemented universally.

Overall, it seems that for this sample, change in thin-ideal internalization was not mediating the changes in the other variables, as decrease in thin-ideal internalization was not significant, while other changes were significant. Additionally, the change in subscription to the thin-ideal was moderated by participants’ self-esteem – those with low self-esteem, once exposed to the lengthy discussions and information about the thin ideal in the program, appeared to become more conscious and internalize it more. This differed from the high self-esteem group, who showed a drop in thin-ideal internalization, as expected. Future research can examine whether this interaction effect is only relevant to Orthodox Jews, or if this interaction effect exists with other samples as well. Original studies of The Body Project’s efficacy and effectiveness did not measure self-esteem as its own construct, and therefore did not run analyses comparing high- and low- self-esteem groups’ changes on variables. Finally, dissonance
induction may have been reduced due to the universal nature of this implementation, thus decreasing change in thin-ideal internalization.

**Hypothesis 3: Shape and Weight Concerns**

Shape and weight concerns addresses specifically whether participants feel “fat” or fear becoming fat, and to what extent their shape and weight influences how they judge themselves. *The Body Project* is designed to address shape and weight concerns through the discussions and exercises focused on body positivity. Therefore, it was predicted that after participation in *The Body Project*, participants would report decreased shape and weight concerns. However, results showed no significant difference from pre- to post-test on this scale. This outcome may also have been impacted due to universal implementation of the program, possibly leading to a decrease in the cognitive dissonance experienced by participants.

**Hypothesis 4: Negative Affect**

While *The Body Project* is an eating disorder prevention program, and not intended as a prevention program for depression or anxiety, studies have shown it effective in reducing negative affect, which is a risk factor for eating disordered behavior. This study replicated those findings, with the sample also reporting significant decreases in negative affect.

While the measure used in this study was not the same scale used by the relevant literature to assess negative affect, it is comparable because it encompasses similar variables such as depression, anxiety, and interpersonal relationships, as the other scales do. The “negative affect” variable in this study was created by combining the Depression, Anxiety, Interpersonal Relationships, and Self-Esteem subscales of the BASC-3.
Hypothesis 5: Self-Esteem

While not directly addressed by *The Body Project*, self-esteem was predicted to be affected by participation in the program due to its emphasis on body positivity and disputing the thin-ideal, since self-esteem is usually affected by body image, especially in adolescent girls (Clay, Vignoles & Dittmar, 2005). However, self-esteem in this sample, as measured by the BASC-3, did not show significant change from pre-test to post-test.

This may be partly attributed to the construction of the BASC-3 Self-Esteem subscale. Of the seven questions which contribute to the Self-Esteem subscale score, only two address appearance (“My looks bother me” and “I like the way I look”). The other five are global statements which encompass more than just physical appearance (e.g. “I like who I am” and “I feel good about myself” etc.). Therefore, it may be that the BASC-3 Self-Esteem subscale is not particularly sensitive to changes in body image, which is what *The Body Project* is specifically addressing. However, it is reasonable to assume that positive changes in body image can affect change in the more global self-esteem statements used by the measure, which is why the subscale was utilized for this study.

Limitations

There are several limitations to this study that inhibit generalizability to other schools and contexts. Foremost is the lack of a control group, which precludes the ability to make a true causal statement about the culturally-adapted *Body Project*’s effects. While a control group would have been ideal, the reality of the site (a small school with about 40 total students) made it logistically impossible to procure a control and experimental group big enough to ensure adequate power. This limit in sample size also presented an issue when conducting post-hoc
analyses. While the sample was large enough to attain adequate power for the overall analysis design, when splitting the sample in order to examine interaction effects during post-hoc analyses, adequate power was not maintained.

Another limitation to external validity is the site chosen for the study. First of all, the site was not chosen randomly, but rather as a sample of convenience due to prior relationship between the principal investigator and the school administration, which facilitated the process of obtaining permission for and conducting the study. While the site was an Orthodox Jewish all-girls high school, the nature of the Jewish community in San Diego is such that the sample was very heterogeneous in terms of religious observance, with participants ranging from strictly observant to completely non-observant. However, it is important to note that while perhaps other schools in larger communities are more homogeneous in terms of their student body’s religious observance, there will always be some heterogeneity and differences, even in the most sheltered, insular school environments. Therefore, the aim of the adaptations to the manual was less to tailor fit each individual participant’s observance level, but rather to make the manual acceptable for use in Orthodox Jewish institutions and organizations.

Since all the data collected were self-reported, there were no objective data to analyze and compare, which would have strengthened and added to the study. For instance, it would have been helpful to have data such as participants’ Body Mass Index (BMI), which is an objective measure of adiposity. Having this, or other objective data, would have facilitated the analysis of students’ self-report data. For instance, if there was a student who reported feeling fat “extremely” and who also had a BMI that places her in the “underweight” range, that would be much more concerning than a student endorsing the same item on the questionnaire but who had
a BMI in the “overweight” or “obese” ranges. The lack of objective data is a limitation of the study and is an improvement that could be implemented in future studies.

Due to the short-term nature of the current study, only risk factors for eating disorders were measured. The ideal study would include long-term follow-up, in order to gauge whether positive outcomes from participation are maintained and how many participants actually develop eating disorder symptomatology. Since the primary focus of the program is eating disorder prevention, the latter would be the most important outcome to examine.

Another possible limitation in the study is the relationship between the principal investigator and the group facilitator. Since the group facilitator was the principal investigator’s mother, it could be that the group facilitator had a vested interest in what the findings would be, thereby subtly influencing the results. However, the group facilitator was informed that the study would still be valid even if all findings were not significant. Additionally, in this type of intervention there are no true “blind” facilitators, who are unaware of the goals of the intervention, since the manual and training make clear to facilitators the aim of the groups and what desired participant outcomes are.

**Future Directions**

Future research into the effectiveness of the culturally-adapted Body Project manual would benefit from addressing some of the limitations in the current study. Specifically, using schools which allow for larger samples, utilizing a control group, and collecting objective data from participants in addition to self-report data.

Future studies should also further explore how thin-ideal internalization operates in the development of eating disorders among Orthodox Jewish women, since the results of this study
suggest this may differ from how thin-ideal internalization operates within the general population. While there were no main effects, an interaction effect between thin-ideal internalization and the sample’s self-esteem was implicated. It is possible that those who may not have previously thought much about society’s thin-ideal or had much exposure (through media, news etc.), the intervention’s focus on the thin-ideal, coupled with low-self esteem, end up experiencing a slight increase in thin-ideal subscription. It is possible that in more insular Orthodox Jewish communities (whereas the community in San Diego is relatively diverse and open), this effect is even more marked.

Finally, the intervention in this study was delivered by a very experienced group facilitator, who had years of clinical training and experience working with adolescents and the group modality of intervention delivery. Therefore, future research into the culturally-adapted manual of The Body Project should explore whether positive outcomes are maintained when school staff are trained to implement the program. School personnel such as school psychologists and social workers would be particularly well-suited, due to their related training and experience, but it would be beneficial to also research whether other school staff, such as nurses and teachers, may also effectively deliver this intervention. This would be especially applicable, since there are many Orthodox Jewish high schools that do not employ school psychologists or social workers due to budgetary constraints and other considerations.

Overall, the present study demonstrates that the culturally adapted Body Project manual can be implemented in an Orthodox Jewish high school with successful outcomes. Future research addressing the current study’s limitations and exploring these additional relevant research questions, would strengthen the evidence base and aid with the dissemination of the
culturally-adapted version of *The Body Project*. This would benefit a traditionally under-served community, potentially protecting young, Orthodox Jewish females from developing eating disorders in the future.
References


CULTURALLY-ADAPTED EATING DISORDER PREVENTION


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doi:10.1177/070674370805300907


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CULTURALLY-ADAPTED EATING DISORDER PREVENTION


Appendix A: Parent Consent Form

THE BODY PROJECT: PARENT/GUARDIAN INFORMED CONSENT
A Minimum Risk Study
Evaluating Student Outcomes after Participation in The Body Project

Your child is invited to participate in an educational program and research study conducted by Alexandra Glovinsky, MA, a doctoral student at the Graduate School of Applied & Professional Psychology, Rutgers University as part of a dissertation requirement.

The purpose of this research is to study the impact of your child’s participation in The Body Project groups at Torah High School, run by Mrs. Iliana Berezovsky-Glovinsky, MFT. Mrs. Berezovsky-Glovinsky is a local mental health professional who has been trained to administer the group, since the Principal Investigator is out-of-state. The Body Project is an evidence-based group designed to educate girls about positive self-image, as well as healthy lifestyles, and personal development.

All Torah High students are invited to participate. Individual participation will involve participating in a group in school for one hour for four sessions, spread over a maximum of six weeks. Groups will run at a time that does not conflict with participants' academic class schedule. Additionally, participants will be asked to complete several questionnaires and surveys before participation begins and once participation has been completed. These measures will be delivered directly to the students in an envelope at school prior to the first group meeting. Materials will be returned to the group facilitator during the first group meeting. When the group is completed your child will receive materials in another envelope during the last group meeting and can return the sealed envelope directly to the group facilitator or to a lockbox in the Torah High main office to be retrieved by the group facilitator, who will secure all materials.

The surveys will assess your child's beliefs in their ability to achieve, knowledge regarding cultural standards of beauty and healthy life styles, and socialization with peers. These surveys should take approximately 30 minutes to complete.

Your child will be asked to participate in the following:
• Group discussions with peers regarding their beliefs about beauty and cultural standards of body image.
• Activities in The Body Project’s workbook, provided by the researcher. Activities include role-plays, written narratives, thought exercises, and self-reflection prompts.
• Home activities to be completed in between group meetings in the workbook. Activities include written narratives, thought exercises, and self-reflection prompts.
• Completion of surveys and questionnaires measuring student outcomes.

All participants will be asked to keep discussions confidential.

If you agree to allow your child to take part in this study, she will be assigned a random code ID that will be used to fill out all questionnaires and surveys. There will be one list linking the random ID's to participants' names, to be used in the event that responses on the questionnaire indicate a problem of clinical severity. This document will be encrypted, password-protected, and only viewable by the Principal Investigator. Your child's name will also appear on a list of participants, for contact during the duration of groups should it be necessary to change the time, date, or location of group meetings. Both of these lists will be destroyed upon completion of the data collection.
No one will have access to completed surveys, except the Principal Investigator, the group facilitator, and Research Advisor, Dr. Kenneth Schneider. Any survey your child completes will only be viewed by theses individuals, responses will not be shared with school personnel, unless a participant reports an issue which is a danger to herself or others. There is some risk associated with participation in this study. The foreseeable risk for this study includes the possibility of emotional distress and self-disclosed disordered eating behaviors, acquired either before or during group participation. This is an educational program and is not designed to evoke such responses, however Rabbi Michoel Peikes, the school principal has been appointed as the point of referral for such instances. The group facilitator, Mrs. Berezovsky-Glovinsky, a trained marriage and family therapist, will conduct a screening, and together with Rabbi Peikes determine if further action is necessary. You will be notified if this occurs. Rutgers University and associated personnel will not be responsible for any adverse experiences from participation.

Participation in this study is completely voluntary. Your child may choose not to participate, and may withdraw participation at any time during the course of the group. In addition your child may choose not to answer any items on questionnaires or surveys with which she is uncomfortable. Your child must volunteer and provide assent to participate in this group in addition to obtaining parent/guardian consent.

This research is confidential. The research records will include some information about your child and this information will be stored in such a manner that some linkage between your child's identity and response in the research exists. Some information collected about your child includes age, grade, and ethnicity.

Please note that we will keep this information confidential by limiting individual’s access to the research data and keeping in a secure location. Data will be kept in a locked box, which only Ms. Glovinsky, the group facilitator, and her dissertation committee as well as the Institutional Review Board at Rutgers University are permitted to see, except as may be required by law. This lock box will be secured either in a secure office in Torah High School or the residence or offices of Ms. Glovinsky, the group facilitator, or her dissertation committee. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated and the school will remain anonymous. All study data will be kept for 3 years after the study is complete. After three years original data will be destroyed.

If you have any questions about the study or procedures, you may contact Alexandra Glovinsky at 858-414-8882 or by email at aglovinsky@gmail.com.

If you have any questions about your child's rights as a research participant, you may contact:
Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 848-932-0150
Email: humansubjects@orsp.rutgers.edu

If you would like your child to have the choice to participate in this group and study please sign below:

Parent/Guardian: _________________________________ Date: __________________

Principal Investigator: _____________________________ Date: __________________
Appendix B: Student Assent Form

THE BODY PROJECT: STUDENT INFORMED ASSENT

A Minimum Risk Study
Evaluating Student Outcomes after Participation in The Body Project

You are invited to participate in an educational program and research study conducted by Alexandra Glovinsky, MA, doctoral student at the Graduate School of Applied & Professional Psychology, Rutgers University as part of a dissertation requirement.

The purpose of this research is to study the impact of your participation in The Body Project groups at Torah High School, run by Mrs. Iliana Berezovsky-Glovinsky, MFT. Mrs. Berezovsky-Glovinsky is a local mental health professional who has been trained to administer the group, since the Principal Investigator is out-of-state. The Body Project is an evidence-based group designed to educate students about positive self-image, as well as healthy lifestyles and personal development.

All Torah High students are invited to participate. Individual participation will involve participating in a group in school for one hour for four sessions, spread over a maximum of six weeks. Additionally, you will be asked to complete several questionnaires and surveys before participation begins and once participation has been completed. These measures will be delivered directly to you in an envelope at school prior to the first group meeting. Materials will be returned to the group facilitator during the first group meeting. When the group is completed you will receive materials in another envelope during the last group meeting and can return the sealed envelope directly to the group facilitator or to a lockbox in the Torah High main office to be retrieved by the group facilitator, who will secure all materials.

The surveys will assess your beliefs in your ability to achieve, functioning in school, knowledge regarding cultural standards of beauty and healthy lifestyles, and socialization with peers. These surveys should take approximately 30 minutes to complete. No one will have access to completed surveys, except researchers associated with this study.

You will be asked to participate in the following:
- Group discussions with peers regarding their beliefs about beauty and cultural standards of body image.
- Activities in The Body Project’s workbook, provided by the researcher. Activities include role-plays, written narratives, thought exercises, and self-reflection prompts.
- Home activities to be completed in between group meetings in the workbook. Activities include written narratives, thought exercises, and self-reflection prompts.
- Completion of surveys and questionnaires measuring student outcomes.

All participants will be asked to keep discussions confidential.

If you agree to take part in this study, you will be assigned a random code number that will be used to fill out all questionnaires and surveys. There will be one list linking the random ID's to participants' names, to be used in the event that responses on the questionnaire indicate a problem of clinical severity. This document will be encrypted, password-protected, and only viewable by the Principal Investigator. Your name will also appear on a list of participants, for contact during the duration of groups should it be necessary to change the time, date, or location of group meetings. Both lists will be destroyed at the conclusion of the group.
No one will have access to completed surveys, except the Principal Investigator, the group facilitator, and Research Advisor, Dr. Kenneth Schneider. Any survey you complete will only be viewed by these individuals, responses will not be shared with school personnel, unless a participant reports an issue which is a danger to herself or others. There is some risk associated with participation in this study. The foreseeable risk for this study includes the possibility of emotional distress and self-disclosed disordered eating behaviors, acquired either before or during group participation. This is an educational program and is not designed to evoke such responses, however Rabbi Michoel Peikes, the school principal, has been appointed as the point of referral for such instances. The group facilitator, Mrs. Berezovsky-Glovinsky, a trained marriage and family therapist, will conduct a screening, and together with Rabbi Peikes determine if further action is necessary. Parents will be notified if this occurs. Rutgers University and associated personnel will not be responsible for any adverse experiences from participation.

Participation in this study is completely voluntary. You may choose not to participate, and may withdraw participation at any time during the course of the group. In addition you may choose not to answer any items on questionnaires or surveys with which you are uncomfortable.

This research is confidential. The research records will include some information about you and this information will be stored in such a manner that some linkage between your identity and response in the research exists. Some information collected about you includes age, grade, and ethnicity.

Please note that we will keep this information confidential by limiting individual’s access to the research data and keeping in a secure location. Data will be kept in a locked box, which only Ms. Glovinsky, the group facilitator, and her dissertation committee as well as the Institutional Review Board at Rutgers University are permitted to see, except as may be required by law. This lock box will be secured either in a secure office in Torah High School or the residence or offices of Ms. Glovinsky, the group facilitator, or her dissertation committee. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated and the school district will remain anonymous. All study data will be kept for 3 years after the study is complete. After three years original data will be destroyed.

If you have any questions about the study or procedures, you may contact Alexandra Glovinsky at 858-414-8882 or by email at aglovinsky@gmail.com.

If you have any questions about your child's rights as a research participant, you may contact:
Rutgers University Institutional Review Board for the Protection of Human Subjects
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Tel: 848-932-0150
Email: humansubjects@orsp.rutgers.edu

If you would like to have the choice to participate in this group and study please sign below:

Participant: _________________________________ Date: __________________

Principal Investigator: _____________________________ Date: __________________
Appendix C: School Recruitment

The school used for the current study is an Orthodox Jewish high school in San Diego, California. The principal investigator attended that high school as a student and later returned to that school as a teacher for one academic year. As such, the principal investigator was well known to and on good terms with the school’s administration. Therefore, the school and its students can be considered a convenience sample, because they were primarily chosen from all other Orthodox Jewish high schools due to their accessibility to the principal investigator.

In the early planning stage of the dissertation, the principal investigator informally communicated to the school principal the planned topic and study for dissertation. During this conversation, the principal offered his school as a potential study site. As progress on the dissertation progressed, the principal investigator contacted the principal again to more seriously explore the possibility of implementing *The Body Project* in his school. The principal was very receptive and eager to have the program implemented.

After the principal confirmed that his school would participate and students at his school could be offered the option of taking part in the program, the principal investigator’s mother was contacted by the principal investigator for recruitment as the group facilitator. She was affiliated with the school in the capacity of a former parent and currently, a consistent member of annual fundraising committees. She did not have a role in the school recruitment process, joining the project only after the school had already confirmed their participation.