

Primary Prevention of Risk Factors for Eating Disorders in Adolescent Girls: Learning From Practice

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Abstract: Objective: *This study evaluates the effectiveness and feasibility of a primary prevention program for risk factors for eating disorders in adolescent girls. Method:* Nearly 500 seventh-grade girls participated in "Full of Ourselves: Advancing Girl Power, Health, and Leadership," and were assessed at baseline, immediately after program completion, and 6 months later on several self-report measures of knowledge, body image, and eating and weight-related behaviors. **Results:** *Significant differences were found between participants and controls on measures of knowledge and weight-related body esteem, which were maintained at 6-month follow-up. Eating related behaviors, including skipping meals and dieting, appeared unaffected by program participation. Discussion:* *The program was feasible, safe, and resulted in positive and maintained changes in knowledge and weight satisfaction for adolescent girls. © 2002 by Wiley Periodicals, Inc. Int J Eat Disord 32: 401–411, 2002.*

Key words: *eating disorders; prevention; adolescence; risk; risk factors and curriculum*

INTRODUCTION

The prevention of eating disorders is an elusive but essential goal. Recent evidence finds an increasing prevalence rate (Eagles, Johnston, Hunter, Lobban, & Millar, 1995;

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Götestam, Eriksen, & Hagen, 1995; Hall & Hay, 1991; Hoek, 1993), a younger age of onset (Woodside & Garfinkel, 1992), and a "normative discontent" (Striegel-Moore, Silberstein, & Rodin, 1986) that pervades the minds and bodies of adolescent girls, suggesting that our prevention efforts must be strengthened. The goals of empirically based prevention programs published over the past decade have been to increase knowledge about healthy eating and eating disorders, to change related attitudes, and to alter unhealthy behaviors. The small but growing literature identifies some effective strategies for increasing knowledge (Huon, 1994; Killen et al., 1993; Smolak, Levine, & Shermer, 1998), although relatively few studies have reported modifications in attitude change (Moreno & Thelen, 1993; O'Dea & Abraham, 2000; Porter, Morrell, & Moriarty, 1986; Smolak et al., 1998). Only three studies with school-aged youth have reported changes in behaviors (Moreno & Thelen, 1993; Neumark-Sztainer, Butler, & Palti, 1995; O'Dea & Abraham, 2000). To our knowledge, none of these studies have produced sustained attitudinal or behavioral change maintained over follow-up periods that range from 3 months to 1 year.

Several recently published studies have shown promising results. Neumark-Sztainer and her colleagues (Neumark-Sztainer, Sherwood, Collier, & Hannan, 2000) offered six 90-minute sessions focused on media literacy and advocacy skills to 10-year-old girls and found positive effects on media-related attitudes and behaviors. In addition, a modest effect of the program was reported for body-related knowledge and attitudes at posttest. Stewart and colleagues (Stewart, Carter, Drinkwater, Hainsworth, & Fairburn, 2001) found that participants reduced dietary restraint and altered attitudes toward shape and weight relative to controls at posttest. However, this reduction was not maintained at the 6-month follow-up assessment. Santonastaso and colleagues (Santonastaso et al., 1999) conducted a program with 16-year-old girls and reported that at one-year follow-up the program had a significant preventive effect on body dissatisfaction and bulimic behavior of "low risk" participants. There were no effects for high-risk participants or for either risk group on a measure of drive for thinness.

The mixed results from these empirical studies may be related both to the content and the didactic presentation of these programs. Many programs have used an information-based approach to prevention that focuses on topics related to nutrition, body image, and eating disorders (Austin, 2000). Recently, an innovative approach to the prevention of eating disorders was described by O'Dea and Abraham (2000), who eschewed entirely any attempts to increase knowledge related to diet and nutrition; instead, the goal of the program was "to improve body image by building general self-esteem" (p. 45). In addition, the educational approach was interactive and experientially based. The authors reported improvements and increases in body satisfaction and self-esteem at the end of the intervention; however, these changes were not maintained at follow-up. Although the normal-weight intervention girls gained weight over the course of the study as compared to the control girls, more participants than controls stated they were *trying* to lose weight. Thus, it is not clear whether the weight gain was due to healthy pubertal weight increase, greater body acceptance, or patterns of restricting, dieting, and bingeing related to their expressed wish to lose weight. This study highlights both the need to explore innovative approaches in prevention and the difficulties in measuring effects and interpreting the specific determinants of change in prevention research.

A new prevention program, "Full of Ourselves: Advancing Girl Power, Health and Leadership," incorporates many of the features presumed to be effective from existing programs (e.g., a focus on esteem-building and a hands-on, experiential approach to learning) with three distinctive additions: (1) a strong feminist, sociopolitical perspective (Striegel-Moore and Steiner-Adair, 1998), (2) an emphasis on translating knowledge and

awareness into personal and public action, and (3) a mentoring component. The program was designed to reduce risk for disordered eating by increasing self-esteem, promoting body acceptance, providing leadership opportunities, and teaching a range of coping strategies to resist the cultural emphasis on maladaptive body preoccupation and unhealthy eating and dieting behaviors.

The Full of Ourselves program is one of only five tested prevention programs with a large sample size of early adolescents, a control group, and an extended follow-up period (Killen et al., 1993; Neumark-Sztainer et al., 1995, 2000; O'Dea and Abraham, 2000; Smolak et al., 1998; Stewart et al., 2001). The current project employed a rigorous methodology and was undertaken to develop and evaluate a program that would lead to sustained attitudinal and behavioral change in adolescent girls. We summarize in this report an examination of the effectiveness of the Full of Ourselves program and describe some of the complicated issues involved when implementing a prevention program for eating disorders.

HYPOTHESES

The program was designed to change knowledge related to healthy eating, alter negative body image attitudes, and improve eating-related behaviors. We predicted that changes in knowledge would be greater for the intervention than the control group. We also hypothesized that positive behavioral changes, including a decrease in dieting behaviors, and increases in healthy eating and positive body self-talk would be significantly greater in the intervention than in the control group. Finally, we predicted that both self-esteem and body satisfaction would increase for the participants relative to the controls, and that these differences would be maintained at the 6-month follow-up assessment.

METHOD

The Curriculum

The program, titled "Full of Ourselves: Advancing Girl Power, Health and Leadership," was designed for delivery in both school-based settings and in community-based organizations with 12-, 13-, and 14-year-old girls. The Full of Ourselves curriculum is a series of eight topical units delivered in weekly sessions of 45–90 minutes in duration. The curriculum takes 8–15 weeks to complete, depending on the session length. An outline of the eight units is given in Table 1. Through more than 70 activities—discussions, art activities, role plays, guided meditations and a host of others—groups of 10–15 girls explore a range of topics. Topics include understanding weightism as a social justice issue (Steiner-Adair, 1987); ways to identify and resist unhealthy media messages; the power of positive thinking and action; and how to be an activist at school, at home and in the wider world.

The program had two distinct phases geared toward different age groups of girls. During the first phase, a group of 12-, 13-, or 14-year olds completed the Full of Ourselves curriculum under the guidance of two women leaders. During the second program phase, the 12–14-year-old girl participants designed and delivered 1–3 program sessions to 9-, 10-, or 11-year-old girls, drawing upon suggested activities in a second curriculum titled, *Throw Your Weight Around: A Guide for Girl Leaders*. This report focuses on the first phase of the program.

Table 1. An outline of "The Full of Ourselves" curriculum units

Unit 1: Full of Ourselves
Icebreaker. Establish ground rules. "Full of Ourselves" brainstorm. Freewriting on key program topics. Bio-energetic punching. Body scan. "Dear Body" journal entry.
Unit 2: Body Politics
Discussion about changing bodies during puberty. Weightism activity. Debunking myths about body and dietary fat. One-minute body scan. Role plays to build assertiveness. Group pledge.
Unit 3: Claiming Our Strengths
Ethnography assignment to detect weightism in the world. "Tree of Strength" art activity to identify admirable women. A positive self-assessment. Body appreciation guided relaxation.
Unit 4: Combating Weightism
Ethnography incident reports on weightism. Role plays to combat weightism. Dyad interviews as a way of countering prejudice. "Hi Body" guided meditation. Affirmations.
Unit 5: Media Literacy
"10 Things I Find Beautiful": a freewrite. Defining personal values vs. media values. Group collage art activity. Three-minute body scan. Design your own magazine. Letter-writing campaign to magazine editors and advertisers. Body-outline drawings.
Unit 6: The Dieting Dilemma
Quiz to dispel myths about fad diets, define emotional hungers, etc. "Get Savvy" role plays. Athletic game or outdoor activity.
Unit 7: Nutrition Basics
A questionnaire about eating. Conscious eating activity. "Mommy, May I?": How to feed your healthy "daughter?" Picnic in the park.
Unit 8: The Power of Positive Action
Body statues theater activity. Coping skills. The role of emotional hunger. Menu of other hungers (spiritual, intellectual, friendship, creative, etc.). How to help a friend? Personal contracts.

Procedure

The program was implemented in schools in two regions: the Northeastern U.S. and in Tulsa, Oklahoma.

Participation was solicited from 24 schools (19 public, 5 private) in the Northeast and included schools in Massachusetts, New Hampshire, Connecticut, and Maine. Each site was required to have two site leaders who attended a training session prior to the program. Site leaders (teachers, nurses, and guidance counselors) were chosen by their principals based on criteria provided by the Harvard Eating Disorders Center (e.g., prior experience facilitating girls' groups or teaching small groups, preference for counseling experience, research experience). Informed consent was obtained from each participant and her parent prior to enrollment in the study. When possible (in 16 of 24 sites), subjects were randomly assigned to participant or control group. In eight sites, schools chose not to randomly assign students to groups. A total of 499 subjects were enrolled and 411 completed the study; 213 (82%) of the original 260 assigned to the intervention group and 198 (83%) of the 239 assigned to the control group provided data at all three time points. No significant differences were found between those who completed all assessments and those who did not on age, ethnicity, or body mass index; in most cases, students who were absent at posttest were simply unavailable during the posttest administration due to relocation, schedule changes, illness, or other absence from school. The procedure could not be standardized for the Oklahoma groups and these data were thus excluded from the analysis.

Measures

A self-report questionnaire was administered to determine the effectiveness of the program in sustaining or improving the knowledge, behavior, and attitudes of participants on issues central to the prevention of eating disorders. This instrument was ad-

ministered to participants and controls at three times: preprogram (T1), immediately after the end of the program (T2), and 6 months following the end of the program (T3). Thirteen knowledge questions covered health/nutrition, body/appearance, weightism/sociocultural issues, and media literacy. Several questions addressed specific behaviors in the areas of eating, dieting, efforts at weight loss, and weightist/teasing activities. Most of these questions were piloted in a previous trial round of implementation with a comparable sample, or used by other researchers in similar settings (Kater, Rohwer & Levine, 2000; Smolak et al., 1998).

Four standardized scales were used to measure program effects. The Body Esteem Scale for Adolescents and Young Adult (BES; Mendelson, Mendelson, & White, 2001; Mendelson, White, & Balfour, 1993) has three subscales: weight, appearance, and attributions. The BES purports to measure a respondent's esteem of her weight and appearance as well as the extent to which she attributes high/low esteem from others (how people judge her body). The Multidimensional Body-Self Relations Questionnaire (MBSRQ)—Body Areas Satisfaction Scale (BASS; Brown, Cash, & Mikulka, 1990; Cash, 1994) is a 9-item stand-alone subscale of the MBSRQ that measures satisfaction or dissatisfaction with specific aspects of one's body and appearance. The Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ; Heinberg, Thompson, & Stormer, 1995) has two validated subscales, Awareness and Internalization, and measures the extent to which students are aware of and have internalized societal standards for appearance. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a widely used and validated measure of general self-esteem.

Statistical Analyses

A series of *t*-tests were conducted at baseline to determine if there were any statistically significant differences between the intervention and control groups at the start of the study. No differences were found on any demographic or outcome variable. We also conducted *t*-tests on students who were and were not randomized to condition and found no differences on any variable. The data were analyzed at the participant level, since it was participants, and not classrooms, which were randomized to condition. We found no differences between those subjects who completed the program and those who did not on any study variable. To examine the effects of the intervention, repeated measures analysis of variance were conducted on all outcome measures. Any significant interaction effects were followed by univariate tests of within-group change scores.

RESULTS

Data for the outcome measures at T1 (preintervention), T2 (postintervention), and T3 (6-month follow-up) are presented for the intervention and control groups in Table 2.

Demographic Information

The sample consisted of White (89.3%), African American (2.7%), Hispanic (2.9%), and mixed ethnic groups (5.1%). The participants and controls did not differ on mean age [participants = 12.43 years (*SD* = .62, range 11–14); controls = 12.75 (*SD* = .57, range 11–14.5)], ethnicity ($\chi^2 = 6.9$, *df* = 1,6, *p* = .32) or body mass index [participants BMI = 19.3 (*SD* = 3.4, range = 12.55–35.3); controls BMI = 19.1 (*SD* = 3.0, range = 13.1–34.5)]; all *t*'s < 1.21, all *p*'s > .10].

Table 2. Means and standard deviations for dependent measures for participant and control subjects

	Participants			Controls		
	Pre-	Post-	Followup	Pre-	Post-	Followup
Knowledge	7.9 (2.1)	10.5 (2.3)	10.2 (2.3)	7.7 (2.4)	8.2 (2.6)	8.8 (2.5)
BES-Weight ^a	2.6 (.9)	2.7 (.9)	2.6 (.9)	2.6 (1.0)	2.4 (1.0)	2.4 (.9)
BBS-Appear. ^a	2.3 (.9)	2.5 (1.0)	2.4 (.9)	2.2 (.9)	2.3 (.9)	2.2 (.9)
BES-Attribu. ^a	2.5 (.6)	2.9 (.7)	2.9 (.8)	2.4 (.6)	2.7 (.8)	2.7 (.8)
BASS ^b	3.5 (.9)	3.5 (.8)	3.5 (.8)	3.4 (.8)	3.4 (.8)	3.3 (.8)
SATAQ-I ^c	2.6 (.9)	2.6 (.9)	2.6 (.9)	2.7 (1.2)	2.8 (.9)	2.8 (1.0)
SATAQ-A ^c	2.7 (.7)	2.9 (.7)	3.0 (.8)	3.0 (.7)	3.0 (.7)	3.0 (.7)
RSE ^d	31.3 (5.3)	32.0 (5.2)	31.7 (5.4)	30.5 (4.7)	30.3 (5.3)	30.8 (5.2)

^aBody Esteem Scale: Weight, Appearance, Attributions subscales.

^bBody Areas Satisfaction Scale.

^cSociocultural Attitudes toward Thinness Questionnaire: Internalization and Awareness subscales.

^dRosenberg Self-Esteem Scale.

Knowledge

On the knowledge measure, there were significant effects for group, $F(1, 409) = 47.8$, $p < .0001$, time, $F(2, 818) = 136.5$, $p < .0001$ and group \times time interaction $F(1, 409) = 47.82$, $p < .0001$. Univariate analyses of within group change scores found that participants made significant gains in knowledge from T1 to T2 [$t(203) = 14.6$, $p < .001$], and T1 to T3 [$t(203) = 13.2$, $p < .0001$]. As expected, no significant change occurred between T2 and T3 for the participants. For the controls, a small but significant increase occurred from T1 to T2 [$t(206) = 3.7$, $p < .001$], from T1 to T3 [$t(204) = 6.5$, $p < .0001$], and from T2 to T3 [$t(203) = 3.3$, $p < .001$]. However, the magnitude of the change scores for the participants was higher than for controls. The percentage of variance (R^2) accounted for at T2 was .18 and at T3 was .08.

Body Esteem Scale

On the weight subscale of the Body Esteem Scale, a group \times time interaction was found [$F(2, 804) = 3.85$, $p < .05$]. Univariate analyses of within group change scores revealed that the participants' weight satisfaction did not change over time, while the controls' satisfaction decreased from baseline to follow-up assessment [T1 to T2: ($t(201) = -2.1$, $p < .05$); T1 to T3: ($t(199) = -2.3$, $p < .05$)]. The percentage of variance (R^2) accounted for at T2 was .02 and at T3 was .01. The appearance scale of the Body Esteem Scale resulted in main effects for both group [$F(1,383) = 5.80$, $p = .0165$] and time [$F(2,766) = 7.3$, $p < .001$]. Similar effects were found on the attributions subscale [group effect: $F(1,395) = 8.33$, $p < .01$; time effect [$F(2,790) = 61.16$, $p < .0001$]]. Change scores on the appearance and attributions subscales indicated that participants' scores were higher than controls' scores at posttest and follow-up and that both groups increased their scores from pretest to posttest.

Body Areas Satisfaction Scale

On the Body Areas Satisfaction Scale, a main effect for group was found [$F(1,367) = 5.15$, $p < .05$], with participants scoring higher than controls at T2 and T3. The interaction and time effect were not significant.

Sociocultural Attitudes Toward Appearance Questionnaire

A significant main effect for group was found for both the internalization subscale [$F(1, 399) = 4.53, p = .033$] and the awareness subscale [$F(1, 403) = 4.88, p < .05$], such that the control group was slightly higher than the participants at all three assessments. The main effect for time and the group \times time interaction were not significant.

Rosenberg Self-Esteem

On the Rosenberg Self-Esteem Scale, the group \times time interaction was not significant, but reached an alpha level of .06 [$F(2,782) = 2.79$]. The main effect for group was significant, $F(1,391) = 6.04, p < .05$, with participants scoring slightly higher than controls at all three times.

Eating Behaviors

The eating behaviors assessed included currently dieting and frequency of weight loss attempts. A main effect for time was found for current dieting [$F(2,778) = 3.57, p < .05$], with the percentage of subjects admitting they were currently on a diet in both groups decreasing over the course of the study. A main effect for time [$F(2,802) = 3.87, p < .05$] was found for frequency of weight loss attempts in the previous 3 months. In both groups, fewer subjects reported that they had "often dieted" at T2 than at T1.

Weightist Thinking and Behaviors

A significant main effect for time was found on the variable asking how often the subject said "nice things to herself about her body," $F(2, 796) = 6.09, p < .01$, with both groups increasing over time. On the variable asking how often the subject said "mean things to herself about her body," the time effect was also significant, $F(2, 800) = 5.78, p < .01$; however, both groups also slightly increased the frequency with which they did so. Main effects for both group [$F(1,400) = 4.20, p < .05$] and time [$F(2,800) = 4.14, p < .05$] were found for "thinking unkind things about others' bodies." On this variable, although both groups reported an increase in the frequency with which they thought unkindly over time, the participants did so to a lesser extent than did controls.

DISCUSSION

The prevention program evaluated in this report resulted in changes in knowledge and weight-related body esteem, but not eating-related behaviors. The significant increase in knowledge about health, appearance, and weightism for participants relative to controls was maintained at follow-up, and this finding is consistent with most other prevention programs (Killen et al., 1993; Neumark-Sztainer et al., 1995; Smolak et al., 1998). The favorable changes found on the weight subscale of the Body Esteem Scale were also maintained at the 6-month follow-up assessment. There were no program effects on other body image variables or self-esteem.

With regard to weight-related body esteem, the program appeared to limit the decline in weight satisfaction in the participant group while the controls showed the characteristic decrease in weight satisfaction over time. Although other studies have reported changes in body satisfaction or decreases in concern with shape (Carter, Stewart, Dunn, &

Fairburn, 1997; O'Dea and Abraham, 2000; Stewart et al., 2001), many programs have not impacted this variable (Killen et al., 1993; Moriarty, Shore, & Maxim, 1990; Neumark-Sztainer et al., 1995; Paxton, 1993; Porter et al., 1986; Smolak et al., 1998). Further, none of the studies reporting a decrease in body dissatisfaction at posttest was able to demonstrate the maintenance of these changes at follow-up. Our data suggest that we were able to effect and sustain positive changes on an important risk factor in eating disorders. An association between negative body image and the development of eating disorders has been documented (Striegel-Moore and Franko, in press). The potential implication of this finding is that the participants, who evidenced greater body satisfaction than controls 6 months after the program ended, may have some protection against the development of eating disorders or disordered eating as adolescence progresses. It would be of interest to follow this group over time to see whether those who are able to maintain a more positive body image are in fact less likely to show disordered eating in the future.

Why did we fail to demonstrate changes in weight-related behaviors? One possibility is that "spillover effects" occurred. Because participants and controls came from the same schools and were likely to have had other contact, it is possible that the "controls" may have actually received some elements of the program inadvertently. Although this is ultimately a positive occurrence, it may have diluted the effects of the intervention. A second possibility relates to the curriculum itself. Although experiential in nature, the program did not direct or require girls to put skills into action between each session. This translation into action may not have been emphasized enough for actual behavior change to occur.

An additional explanation for the lack of behavioral change may be related to the target of the intervention. Disordered eating is a culturally mediated phenomenon and this program did not address any systemic issues in the school or home environment. As others have noted (Levine, Piran, & Stoddard, 1999; Piran, 1995) change is only likely to occur when parents, teachers, school administrators, and advertisers all make a concerted effort to challenge current cultural norms related to thinness and weight in adolescent girls.

Although we have some indication of positive effects as a result of the program, our results must be interpreted with caution. The magnitude of differences between participants and controls was very small as was the percentage of variance accounted for by treatment effects, and only occurred on the knowledge measure and one body image subscale. It is not clear whether these small significant effects are also clinically significant. That is, we don't know whether or to what extent small changes on measures of body image relate to the development of disordered eating. Our data do not permit us to examine what aspect(s) of the program were responsible for the changes we have reported. Future research is needed to determine the meaningfulness of changes on self-report measures to the prevention of eating disorders.

Limitations

There are a number of limitations in this study related to sampling, methodology, and instruments. The schools that participated were not randomly selected and one third of the schools did not follow random assignment to the intervention and control groups. Because of this self-selection bias, both by schools and potentially by subjects, we cannot say that our findings would generalize to all schools. In addition, because we did not employ a placebo control condition, it is entirely possible that the program effects are due to expectancies, demand characteristics, or other nonspecific effects.

Another shortcoming in the current study was the lack of a formal check on the extent to which site leaders adhered to the program. Although regular site visits were made to the Northeast schools, we were not able to assess what aspects of the program were covered in each session. Finally, there were several problems with the instruments. First, the creation of a self-report questionnaire to assess both knowledge and behaviors was somewhat problematic. These questions were not subjected to rigorous psychometric testing to assess their reliability and validity. In particular, dieting was not clearly defined. It is possible that subjects used different and idiosyncratic meanings for the term "diet" when responding to these questions. Second, the results of the SATAQ must be considered cautiously, since this questionnaire was designed for and has been used only with college students.

Lessons Learned

This project represents one of the few efforts in the literature to evaluate a prevention program with a large sample size over an extended follow-up period (Killen et al., 1993; Neumark-Sztainer et al., 1995, 2000; O'Dea and Abraham, 2000; Smolak et al., 1998; Stewart et al., 2001). We have learned a great deal concerning the implementation of a large-scale prevention program. It appears that the Full of Ourselves program is feasible as a school-based prevention effort and that it causes no harm. This is important, in light of findings from other studies (Carter et al., 1997; Mann et al., 1997) in which prevention efforts have led to untoward effects. Implementation must be closely monitored particularly when the program is being evaluated in an experimental or quasi-experimental design. Work in school-based settings may necessitate some loss of experimental control, since school personnel invest a great deal of time implementing the program and may be less concerned about internal and external validity of the research protocol. Thus, the importance of leader training in both program implementation and research design cannot be overemphasized.

FUTURE RESEARCH

We suggest that future prevention programs place more emphasis on behavior change, by including a stronger link between knowledge and attitudes and behavior. One way to do so would be to highlight an activism component that would stress the importance of taking what is learned in the program out into the world of family and peers (Levine et al., 1999). Booster sessions have not been incorporated into prevention research, and we would argue that the time has come to make this standard in prevention programs. We also did not examine the effects of the older students working with the younger students in this study. Finally, future research might consider the inclusion of multiple methods of measurement to contextualize questionnaire-based data. We have not yet analyzed the qualitative interviews we conducted with a subset of the participants, but anticipate that such information will provide insight into what works best for whom and deepen our understanding of the difficulties inherent in effecting behavior change.

Based on our experience, we would make several suggestions to support the implementation and evaluation of school-based prevention efforts. First, the program must be easy to implement within a school-based time frame. Lessons should be able to be completed within 50 minutes. Second, leaders should be trained extensively before program implementation occurs. Third, program fidelity should be monitored on an

ongoing basis, which occurs most readily when the sites are in close proximity to the research team. Fourth, to maintain scientific rigor, every effort must be made to obtain agreement by the school to follow research procedures. Fifth, a program may realize greatest benefit if it is administered across the entire grade, with the involvement of school administrators, teachers, and parents; further research will clarify this. The integrity of the research design may be enhanced if the control group is at a separate site to eliminate possible contamination effects. Sixth, we suggest that prevention researchers should work together to develop a standard set of assessment tools so that crossstudy comparisons can be made in the future. Finally, follow-up assessments of 6 months or more should be conducted routinely in prevention research.

As suggested by Levine and others (Austin, 2000; Levine & Piran, 2001), the prevention of eating disorders must move toward translating prevention theory into research and practice. We have seen that behavior change is difficult to achieve. Perhaps, this is due to the lack of integration between theory and research in the prevention field (Cowen, 1996; Price, Cowen, Lorion, Ramos-McKay, 1989). In addition, future studies must better integrate risk factor research into prevention programs (Franko & Orosan-Weine, 1998; Striegel-Moore & Franko, in press) to strengthen the link between the factors that increase the vulnerability to eating disorders and the strategies that work to prevent their onset.

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