

## **Replication of a Peer Support Program Designed to Prevent Disordered Eating: Is a Life Skills Approach Sufficient for All Middle School Students?**

GAIL L. MCVEY

*Community Health Systems Resource Group, Hospital for Sick Children, Ontario, Canada*

MELISSA LIEBERMAN

*McMaster Children's Hospital, Ontario, Canada*

NANCY VOORBERG AND DIANA WARDROPE

*City of Hamilton Social and Public Health Services, Ontario, Canada*

ELIZABETH BLACKMORE AND STACEY TWEED

*Community Health Systems Resource Group, Hospital for Sick Children, Ontario, Canada*

*The evaluation of a school-based peer support group previously shown to improve body esteem and global self-esteem and reduce dieting in young adolescent girls was replicated in the present study. A total of 282 girls in grades 7 and 8, 196 of whom were in the control group, completed self-report questionnaires immediately before and after the life skills intervention, and 3 months later. Contrary to the findings reported in the original study, participation in the 10-session peer support group did not lead to improvements in body esteem or eating attitudes and behaviors beyond what was experienced by the control group. Interestingly, participants of the current intervention group exhibited higher disordered eating scores at baseline than those participants in the original study. Implications for matching prevention curriculum with the developmental and symptom levels of students are discussed.*

Teaching youth about cultural literacy, ways to challenge the thin ideal, size acceptance, healthy eating practices, and general life skills have become standard practice in the effort to prevent weight and shape preoccupation

---

Address correspondence to Dr. Gail McVey, Community Health Systems Resource Group, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, Canada, M5G 1X8. E-mail: gail.mcvey@sickkids.ca

and disordered eating (O'Dea, 2002; Kater, Rohwer, & Levine, 2000; Levine, Piran, & Stoddard, 1999; McVey & Davis, 2002; Shisslak, Crago, Renger, & Clark-Wagner, 1998; Smolak & Levine, 2001). The goal of these universal prevention programs is to foster resiliency factors (e.g., self-esteem) that have been found to prevent the later onset of problem behaviors (e.g., disordered eating). Given that high self-esteem in 11 to 12 year-old girls was previously shown to be a protective factor against the later development of disordered eating (Button, Sonuga-Barke, Davies, & Thompson, 1996), McVey et al. (2002) decided to evaluate the effectiveness of a classroom based life-skills curriculum on self-esteem and eating attitudes and behaviors in young girls. McVey et al. (2002) found that participation in their *Every BODY Is A Somebody* program (Seaver, McVey, Fullerton, & Stratton, 1997) led to improvements in global self-esteem, body image satisfaction, and eating attitudes and behaviors among girls in grade 6.

As an extension of their work, McVey and colleagues (McVey, Lieberman, Voorberg, Wardrope, & Blackmore, this issue) then delivered their life skills curriculum to slightly older students (grades 7 & 8) using a peer support group entitled *Girl Talk* rather than a classroom format. A peer group format was selected in light of the research that has shown that peer influences and friendships assume greater significance during adolescence (Heaven, 1994), and can have an important influence on girls' eating behavior and body image (Lieberman, Gauvin, Bukowski, & White, 2001; Lunner, Wertheim, Thompson, Paxton, McDonald, & Halvarsson, 2000; Paxton, 1996; Paxton, Schutz, Wertheim, & Muir, 1999). In addition to providing a forum for teaching girls about life skills, it has been suggested that peer support groups might also help to ease the transition into middle school by helping them cope with the teasing and dieting pressures from their peers (Shisslak, Crago, Estes, & Gray, 1996). This is especially useful given that concurrent changes experienced by girls during early adolescence (e.g., pubertal weight gain, dating, desire for peer acceptance, academic pressures) puts them at greater risk for body image concerns and dieting (Smolak & Levine, 1996).

Indeed, the findings from McVey et al.'s (this issue) study revealed that participation in the *Girl Talk* peer support program led to improvements in body esteem. The program had the additional benefit of decreasing the participants' dieting behaviors. While peer support groups have been reported to be successful in decreasing participants' self reported dieting behaviors among adolescent females within a high risk setting (Piran, 1999a,b), this has been a rare finding among studies evaluating the effectiveness of universal prevention programs. With some exceptions (McVey et al., 2002; O'Dea & Abraham, 2000) most universal prevention programs have led to changes in knowledge only.

To evaluate whether or not the findings of McVey et al. (this issue) could be generalized to early adolescent girls across different schools, the study was replicated one year later using the same prevention program, peer support format, and evaluation tools. As such, the goal of the present study

was to assess the effectiveness of the peer support group in improving body esteem and global self-esteem and reducing dieting. Similar to the original study, participants in the peer support group were compared to those in the control (no-intervention) group on measures of body esteem (BE—Appearance, BE—Weight, BE—Attributions), global self-esteem, and dieting at post-intervention and 3-month follow up.

## METHOD

### Participants

A total of 282 young adolescent girls ( $M$  age = 12.3,  $SD$  = 0.63) recruited from Grades 7 and 8 at 16 Canadian suburban elementary schools completed the baseline survey. Two hundred and seventy (96%) girls completed the post-intervention surveys. The remaining 4% either dropped out of the study or changed schools. These girls were selected from a larger group of 1027 girls (control  $n$  = 553; intervention  $n$  = 474) who had all received information packages regarding study participation. Eight schools received the intervention program ( $n$  = 86) and eight schools acted as the control group ( $n$  = 196). Schools were solicited on the basis of interest in the peer support group program, and then matched to control schools as closely as possible on socio-economic status, size of school, and geographic location.

The majority of participants were Canadian born (92.9%), reported English as their first language (87.5%), and were living with two parents (76.6%). Approximately 86% of participants were Caucasian, while the remaining were African Canadian, South Asian, or East Asian.

Additional information was collected to describe the profile of the participants. A mean body mass index ( $BMI = \text{kg}/\text{m}^2$ ) was calculated ( $M$  = 19.4,  $SD$  = 3.6) for those participants (93%) who self-reported their height and weight on the questionnaire. Almost half of the participants (47.2%) answered *yes* to the question “Have you had your first period?” With respect to body image, the majority of participants reported feeling just right (63.5%), while 31.2% felt too fat, and 5.3% felt too thin. Using a response format of 1 = *no* and 2 = *yes*, 26.2% of participants answered *yes* to the question “Are you currently trying to lose weight?” Of the 208 participants who answered *no*, 36.1% answered *yes* to the question “If *no*, have you ever tried to diet to lose weight?”. See McVey et al., (2003) for a description of the peer support group, procedure, measures, and statistical analyses used.

## RESULTS

At baseline, there were no differences between the intervention and control groups with respect to age ( $p$  = .778), BMI ( $p$  = .767), menarchal status ( $p$  = .702), and body image perception (I feel: too fat, too thin, or just right) ( $p$  =

.909). However, in comparison to the control group (22%), there was a significantly higher number of participants in the intervention group (35%) who reported currently trying to lose weight [ $\chi^2 = 4.78$ ,  $df = 1$ ,  $p = .029$ ]. For those who were not currently dieting but had reported doing so previously (*If no, have you ever tried to lose weight?*), there was no difference between the control group (54%) and the intervention group (50%) [ $\chi^2 = .291$ ,  $df = 1$ ,  $p = .590$ ].

The significant difference between the two groups on the variable *Are you currently trying to lose weight*, was controlled for by performing repeated measures analyses of covariance (ANCOVA and MANCOVA where appropriate) on the outcome measures. The results are presented in Table 1.

There were no significant Group or Time X Group effects on any of the outcome measures including global self-esteem, body esteem, or dieting. However, there were significant Time effects, whereby participants of both the intervention and control groups showed improvements between the baseline and post-intervention time periods on all of the outcome measures (see Table 1).

To control for the possibility of a selection bias resulting from the differences in sample size and participation rate (i.e., percentage of students who volunteered to participate from the overall total who were offered the group) between the intervention ( $n = 86$ , 18%) and control groups ( $n = 196$ , 35%), the analyses were repeated using the original intervention group and a ran-

**TABLE 1.** Mean Scores and Significant Effects on the Outcome Measures Before and After the Program, and at 3-month Follow-up.

	Baseline (T1)		Post-Intervention (T2)		3-Month Follow-up (T3)		F Value <sup>a</sup>
	M	SD	M	SD	M	SD	
BE-Appearance							
Control	2.43	.95	2.55	.94	2.51	.98	$F(2, 520) = 4.74^{**}$
Intervention	2.49	.84	2.65	.89	2.60	.85	
BE-Weight							
Control	2.52	1.06	2.62	.95	2.62	1.03	$F(2, 520) = 11.89^*$
Intervention	2.49	1.08	2.60	1.00	2.58	1.01	
BE-Attributions							
Control	1.90	.80	1.95	.70	1.90	.66	$F(2, 520) = 3.64^*$
Intervention	1.78	.67	1.83	.67	1.94	.71	
Global Self-esteem							
Control	30.53	4.51	31.35	5.47	31.52	5.56	$F(2, 524) = 17.10^{***}$
Intervention	30.44	4.51	31.82	4.83	31.87	5.27	
Dieting Behavior							
Control	5.56	6.55	4.42	6.05	4.28	6.19	$F(2, 446) = 9.18^{***}$
Intervention	6.09	6.75	5.07	7.16	4.93	7.49	

<sup>a</sup>F value is presented for the Time effect only.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

dom, matched sub-sample of control participants. The ANCOVA's revealed findings that were similar to those previously reported.

Due to the differing results between the original McVey et al. study (this issue) and the current study, participants' baseline scores were compared across the two studies. Chi-square analyses revealed that compared to the original (22%) study, a significantly higher number of intervention group participants from the present (35%) study were dieting to lose weight [ $\chi^2 = 3.65$ ,  $df = 1$ ,  $p = .05$ ]. Similarly, the sample of participants from the present study demonstrated significantly higher scores on disordered eating, as measured by the total Children's Eating Attitudes Test (ChEAT) score ( $M = 11.3$ ,  $SD = 10.5$ ) than their counterparts from the original study ( $M = 8.6$ ,  $SD = 8.2$ ) [ $t(181) = -1.92$ ,  $p = .05$ ].

## DISCUSSION

The purpose of the present study was to replicate the evaluation of a school-based peer support group, which was previously shown to improve the body esteem (weight and appearance esteem) and eating attitudes and behaviors (dieting) of female students attending grades 7 and 8 (McVey et al., this issue). It was again hypothesized that intervention participants would have significantly higher scores than controls on global self-esteem and body esteem (appearance and weight esteem) and lower scores for dieting at the post-intervention and 3-month follow-up periods. Symptom severity was expected to increase for the control group, given that there are developmental increases in body image concerns and dieting during the period of early adolescence (Smolak & Levine, 2001).

Contrary to findings reported previously by McVey et al. (this issue), no intervention effect was found in the current study, despite the use of the same curriculum, peer support group format, and age group. Instead, participants from both the intervention and control groups showed improvements on all of the outcome measures over time. The intervention and control groups were assigned at the school level to minimize spill-over effects; however, due to proximity it is possible that some intervention participants may have had contact with students from the control schools.

Alternatively, the program effectiveness may have been reduced as a result of the higher number of Girl Talk participants in the current study who were weight preoccupied. For example, the analyses revealed that the intervention participants from the current study had significantly higher scores on disordered eating at baseline than those from the original study. A prevention group which focuses on building resiliency factors to induce individual change may not be successful in a group already engaging in dieting behaviors. According to Piran (2001), conducting group activities that foster size acceptance as a shared experience among a peer group that already has

a high level of dieting preoccupation might maintain rather than decrease their preoccupation. In fact, the presence of weight preoccupied girls might even reduce the prevention efforts for the entire group. The rationale for this argument is that during the group sessions girls with more positive norms around dieting might be influenced more by their peers who have negative eating attitudes and behaviors than by the prevention messages themselves, overshadowing the desired prevention program effects. As such, Piran (2001) underscores the importance of developing prevention programs that attempt to create more positive group norms. This is especially relevant given the research which indicates that adolescent girls' body image attitudes and dieting behaviors are related to those of their peers (Paxton, 1999).

It can also be argued that the different results found across the two studies may have been due in part to issues related to program implementation. However, with the exception of two, the facilitators from the current study were recruited from the original study. As with the original study, the facilitators received in-service training on the delivery of the manualized program. In addition, regular supervision sessions were conducted throughout the study period to optimize adherence to the prevention protocol.

Despite the lack of an intervention effect, the participants from the current study still provided positive feedback in their evaluations of the Girl Talk group experience, suggesting that the peer support group format might be a popular venue for this age group. While keeping the peer support format, the curriculum content may need to be revised for a more weight preoccupied group. Such a curriculum can focus on eating-related negative attitudes and behaviors, in addition to promoting life skills. In fact, the life skills curriculum administered in the present study might be more suitable for elementary school children or middle school students who have not yet shown signs of elevated scores for dieting, such as those in the original study (McVey et al., this issue). Those efforts could be followed up with peer support groups that increase in intensity as the students settle into the early adolescent period of high risk for body image concerns and disordered eating. Interestingly, a recent evaluation of a universal program conducted with male and female students in high school health classes revealed that the program was equally effective with students at risk compared to those in the general student population (O'Dea & Abraham, 2000). However, the criteria used to define high risk in the study by O'Dea and Abraham (2000) differed from the current study. While the current study used disordered eating scores (i.e., problem behavior), O'Dea and Abraham used low self-esteem and high trait anxiety to define high risk (risk factors for problem behavior). Again, these types of universal programs might be effective with the sub-group of high risk students used by O'Dea & Abraham, since they have not yet experienced the problem behavior in question (e.g., disordered eating).

It has also been suggested that incentives might be necessary to draw students who are in need of more intensive school-based interventions (Franko, 2001). This suggestion was made in response to a recent study which reported a low participation rate on the part of high risk middle school students who were offered a targeted school-based prevention program (e.g., in-depth information on media literacy, learning about the impact of teasing and of puberty on body image, as well as strategies to help with communication and problem-solving skills and ways to improve a negative body image) (Varnado-Sullivan et al., 2001). That program, which was offered in conjunction with a universal program for the entire school, led to decreases in fear of fatness among the female participants. Given their popularity, the peer support group format used in the present study could serve as an incentive for high risk students to seek this type of additional support.

Finally, it is possible that peer support groups offered to middle school students might be more beneficial when offered as one component of a comprehensive approach (McVey et al., 2003; Neumark-Sztainer, 1996; O'Dea & Maloney, 2000; Varnado-Sullivan et al., 2001). As an example, the peer support groups in Piran's (1999b) study were only one of several initiatives designed to help adolescent females feel empowered and less likely to select dieting as a coping method to combat prejudice and inequalities in a ballet school setting. In fact, Piran's long-standing program of research focused on making changes to the entire school system, with the goal of making a healthier social and relational environment in the lives of the female adolescent dancers. This was accomplished by including awareness training and educational activities with parents, teachers, coaches and health professionals. In addition, there was an effort to create an intervention milieu that did not collude with adverse societal structures and prejudices. Those efforts led to a reduction in disordered eating among the female adolescents who attended the ballet school.

A limitation of the original and current studies was that the schools were not randomly assigned to the intervention and control groups. Instead, schools that expressed interest in the peer support groups were selected to be part of the intervention group, and all efforts were made to match control schools as closely as possible on demographics. That selection process might have biased the results, since some schools may have opted for the intervention program as a result of a perceived need on the part of their student population. As such, the generalizability of the findings may be limited to schools that identify as a priority the issues of body image and disordered eating. The need for ongoing development and evaluation of preventative approaches that are tailored to the developmental stage and symptom severity of the students is imperative given that disordered eating is occurring in younger age groups and has a propensity to increase in severity throughout adolescence.

## REFERENCES

- Button, E. J., Sonuga-Barke, E. J. S., Davies, J., & Thompson, M. (1996). A prospective study of self-esteem in the prediction of eating problems in adolescent schoolgirls: Questionnaire findings. *British Journal of Clinical Psychology, 35*, 193–203.
- Franko, D. L. (2001). Rethinking prevention efforts in eating disorders. *Cognitive and Behavioral Practice, 8*, 265–270.
- Heaven, P. C. L. (1994). *Contemporary adolescence: A social psychological approach*. Melbourne: Macmillan.
- Kater, K. J., Rohwer, J., & Levine, M. P. (2000). An elementary school project for developing healthy body image and reducing risk factors for unhealthy and disordered eating. *Eating Disorders: The Journal of Treatment & Prevention, 8*, 3–16.
- Levine, M. P., Piran, N., & Stoddard, C. (1999). Mission more probably: Media literacy, activism, and advocacy as primary prevention. In N. Piran, M. P. Levine, & C. Steiner-Adair, *Preventing eating disorders: A handbook of interventions and special challenges* (pp. 1–25). Philadelphia, PA: Brunner/Mazel.
- Levine, M. P., & Smolak, L. (2002). Ecological and activism approaches to the prevention of body image problems. In T. F. Cash, & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 497–505). New York: Guilford.
- Lieberman, M., Gauvin, L., Bukowski, W. M., & White, D. R. (2001). Interpersonal influence and disordered eating behaviors in adolescent girls. The role of peer modeling, social reinforcement, and body-related teasing. *Eating Behaviors, 2*, 215–236.
- Lunner, K., Wertheim, E. H., Thompson, J. K., Paxton, S. J., McDonald, F., & Halvarsson, K. S. (2000). A cross-cultural examination of weight-related teasing, body image, and eating disturbance in Swedish and Australian samples. *International Journal of Eating Disorders, 28*(4), 430–435.
- McVey, G., & Davis, R. (2002). A program to promote positive body image: A one-year follow-up evaluation. *Journal of Early Adolescence, 22*, 96–108.
- McVey, G. L., Davis, R., Tweed, S., & Shaw, B. F. (2002). *Evaluation of a school-based program designed to improve body image satisfaction, global self-esteem, and eating attitudes and behaviors: A replication study*. Manuscript submitted for publication.
- McVey, G. L., Lieberman, M., Voorberg, N., Wardrope, D., & Blackmore, E. (2003). School-based peer support groups: A new approach to the prevention of eating disorders. *Eating Disorders: The Journal of Treatment and Prevention, 11*, 169–185.
- McVey, G. L., Tweed, S., & Blackmore, E. (2003). *Correlates of body image, dieting and muscle gain in male and female middle school students: Preliminary findings from a comprehensive prevention study*. Manuscript in preparation.
- Neumark-Sztainer, D. (1996). School-based programs for preventing eating disorders. *Journal of School Health, 66*, 64–71.
- O'Dea, J. (2002). The new self-esteem approach for the prevention of body image and eating problems in children and adolescents. *Healthy Weight Journal, 16*, 89–93.



- O'Dea, J., & Abraham, S. (2000). Improving the body image, eating attitudes, and behaviors of young male and female adolescents: A new educational approach that focuses on self-esteem. *International Journal of Eating Disorders, 28*, 43–57.
- O'Dea, J., & Maloney, D. (2000). Preventing eating and body image problems in children and adolescents using the health promoting schools framework. *Journal of School Health, 70*, 18–21.
- Paxton, S. J. (1996). Prevention implications of peer influences on body image dissatisfaction and disturbed eating in adolescent girls. *Eating Disorders: The Journal of Treatment and Prevention, 4*, 334–347.
- Paxton, S. J., Schutz, H. K., Wertheim, E. H., & Muir, S. L. (1999). Friendship clique and peer influences on body image concerns, dietary restraint, extreme weight-loss behaviors, and binge eating in adolescent girls. *Journal of Abnormal Psychology, 10*, 255–266.
- Piran, N. (1999a). The reduction of preoccupation with body weight and shape in schools: A feminist approach. In N. Piran, M. P. Levine, & C. Steiner-Adair (Eds.), *Preventing eating disorders: A handbook of interventions and special challenges* (pp. 148–159). Philadelphia, PA: Brunner/Mazel.
- Piran, N. (1999b). Eating disorders: A trial of prevention in a high risk school setting. *Journal of Primary Prevention, 20*, 75–90.
- Piran, N. (2001). The Body Logic Program: Discussion and reflections. *Cognitive and Behavioral Practice, 8*, 259–264.
- Seaver, A., McVey, G., Fullerton, Y., & Stratton, L. (1997). *Every BODY is Somebody: An active learning program to promote healthy body image, positive self-esteem, healthy eating and an active lifestyle for adolescent females: Teachers Guide*. Brampton, Ontario: Body Image Coalition of Peel.
- Shisslak, C. M., Crago, M., Estes, L. S., & Gray, N. (1996). Content and method of developmentally appropriate prevention programs. In L. Smolak, M. P. Levine, & R. H. Striegel-Moore (Eds.), *The developmental psychopathology of eating disorders* (pp. 341–363). Mahwah, NJ: Lawrence Erlbaum Associates.
- Shisslak, C. M., Crago, M., Renger, R., & Clark-Wagner, A. (1998). Self-esteem and the prevention of eating disorders. *Eating Disorders: The Journal of Treatment and Prevention, 6*, 105–117.
- Smolak, L., & Levine, M. P. (1996). Adolescent transitions and the development of eating problems. In L. Smolak, M. P. Levine, & R. H. Striegel-Moore (Eds.), *The developmental psychopathology of eating disorders. Implications for research, prevention, and treatment* (pp. 207–233). Mahwah, NJ: Lawrence Erlbaum Associates.
- Smolak, L., & Levine, M. P. (2001). A two-year follow-up of a primary prevention program for negative body image and unhealthy weight regulation. *Eating Disorders, 9*, 313–325.
- Varnado-Sullivan, P. J., Zucker, N., Williamson, D. A., Reas, D., Thaw, J., & Netemeyer, S. B. (2001). Development and implementation of the Body Logic Program for adolescents: A two-stage prevention program for eating disorders. *Cognitive and Behavioral Practice, 8*, 248–259.