Exciting Recent Developments in the Field of Prevention

[Appears in the April 2015 Gürze-Salucore Online Catalogue]

Michael P. Levine, Ph.D., FAED

Part 1 of this series (Gürze-Salucore Newsletter, March 2015) explored the meanings of prevention and the criteria for determining whether a prevention program works, while providing a broad sketch of the empirical basis for the conclusion that ED prevention can indeed work and, in fact, is absolutely necessary.

Providing a snapshot of the current state of prevention research is difficult, given how extensively the field has grown since 2000. A PsychInfo search in mid-March of 2015, looking for “prevention or preventing” AND “eating disorders” in the title, yielded 90 articles and book chapters published in English since January of 2010, and 255 since January 2000. Thus, the purpose of this essay is to describe a variety of exciting recent developments in ED prevention. Presentation of programs is organized according to their place on the universal → selective → indicated (targeted) prevention spectrum (see Part 1) and the level of age/grade of the intended audience.

The programs were selected because research supports—and in some instances confirms—that they “work” (see Part 1). For more detailed information about them and about other promising interventions, readers are referred to recent reviews, such as those by Becker (2012), Levine, McVey, and Piran (2014), Piran, McVey, and Levine (2014), Stice, Becker, and Yokum (2013), and Yager, Diedrichs, Ricciardelli, and Halliwell (2013).
Preschool and Elementary School (Ages 3-11)

Although there are some promising programs (see reviews by Levine & Smolak, 2006, 2009; see also Bird, Halliwell, Diedrichs, & Harcourt, 2013), to date there is no prevention program for children that clearly works, using the criteria discussed in Part 1.

Middle School (Ages 12-14): Universal-Selective Programs

Planet Health

This multifaceted prevention program, developed in Boston (USA), was originally intended to prevent obesity in early adolescence by altering the ecology of the school to decrease television viewing and consumption of high-fat foods, while encouraging youth to consume more fruits and vegetables and to increase both moderate and vigorous physical activity (Austin, Field, Wiecha, Peterson, & Gortmaker, 2005). Schools participating in Planet Health receive teacher-training workshops, as well as lessons consonant with state-mandated curricula for physical education and for a wide variety of academic subjects. Project leaders also work with families to modify the home environment to reinforce Planet Health’s school programs.

Interestingly, in the initial randomized controlled trial (RCT) of Planet Health the program failed to prevent development (i.e., lower the incidence) of obesity, although obesity prevalence was reduced among female students. However, Planet Health very significantly reduced, over a 2-year period, initiation of two forms of disordered eating behavior in girls: purging (self-induced vomiting) and use of diet pills. Statistical analyses indicated that Planet Health could have prevented 91% of
the new cases of purging and diet pill use by girls who were not dieting at baseline (Austin et al., 2005). These positive results for girls, but not boys, were replicated (preventive fraction = 67%) in a second, very large RCT involving over 1400 girls and boys in grades 6 and 7 in 16 Massachusetts middle schools (Austin et al., 2007).

**Healthy Schools-Healthy Kids**

Another prevention program designed to engage staff and students in analyzing and changing the ecology of a middle school was developed by Gail McVey and colleagues in Toronto, Canada. *Healthy Schools-Healthy Kids* (McVey, Tweed, & Blackmore, 2007) provides and coordinates student lessons for improving body image, training and curriculum guides for teachers, and workshops and newsletters for parents. Curricular matters are further integrated with small, gender-segregated peer support groups, staff training, student-led public service announcements, and a school play.

At 6-month follow-up, girls and boys in the 7th grade who participated in *Healthy Schools-Healthy Kids* reported less body dissatisfaction than a comparison sample, while girls attending the intervention schools also reported less commitment to the slender beauty-ideal and fewer skipped meals. Under McVey’s leadership, these promising results and the collaboration with local stakeholders through which *Healthy Schools-Healthy Kids* was developed have generated further systemic developments. Prominent among them is a web-based set of resources (matched to curriculum expectations of the Ontario and Nova Scotia Ministries of Education) for teachers and public health professionals who work with girls and boys ages 9-12 years (Levine & McVey, 2012).
Not all exciting developments in universal-selective prevention at the middle school level are ecological in nature. In Adelaide, South Australia, Simon Wilksch and Tracey Wade (2009) developed an 8-lesson media literacy program called *Media Smart* (see http://sparky.socsci.flinders.edu.au/researchonline/projects/5). This interactive program helps girls and boys to become aware of and analyze how mass media influence body image, and then encourages students to get involved in media activism and advocacy. An RCT, conducted with over 500 grade 8 students (ages 13-14) in four schools, revealed that, compared to the control condition, *Media Smart* reduced weight and shape concerns and dieting at 30-month follow up for girls and 6-month follow up for boys. It appears that, for reasons that are not yet known, this media literacy program has a more positive effect on students who were initially more depressed (Wilksch & Wade, 2014).

A recently published RCT with over 1,300 grade 7 and grade 8 students in Australia (mean age = 13.2) compared *Media Smart* not only to a no-intervention control condition, but also to two interventions focusing on health-related life skills and on the value of helping others, respectively (Wilksch et al., 2014). Given the four conditions each for boys and girls, and the pre-and-post assessments plus 6- and 12-month follow-ups, the results of this 4 X 2 X 4 mixed design are not easily summarized. It is fair to say, however, that *Media Smart* was the most effective for girls, producing the highest physical activity level and the lowest combination of weight and shape concerns, eating concerns, and perceived social pressures at follow-up. For boys, *Media Smart* produced the lowest internalization of media
messages at 12-month follow-up and the highest activity level at 6-month follow-up. As Wilksch et al. (2014) noted, this comparative outcome study supports further investigation of the value of *Media Smart* in reducing simultaneously risk factors for EDs and obesity.

**AMM-EC**

For approximately 10 years now, Rosa Raich, David Sánchez-Carracedo, and colleagues in Barcelona, Spain, have been carefully developing and rigorously evaluating a prevention program for girls and boys ages 12-14 (González, Penelo, Gutiérrez, & Raich, 2011; Raich, Sánchez-Carracedo, & López-Guimerá, 2008). The Spanish acronym *AMM-EC* represents what Sánchez-Carracedo (personal communication, March 14, 2015) translates as "Eating, Feminine Beauty Ideal and the Media. How to Train Secondary School Students to be Critical." The most recent version of *AMM-EC* uses approximately 6.5 hours (5 sessions over 4-5 weeks) of interactive, multimodal instruction to combine nutrition education with a critical analysis of the following: female beauty ideals across history and across cultures; the diversity of actual weights and shapes; how business and advertising use mass media to shape and reinforce a narrowly defined and slender beauty ideal; and what students can do to maintain a critical perspective and to use letter writing to be activists in protesting unrealistic and unhealthy advertising (González et al., 2011).

In the most recent in a series of RCTs, González et al. (2011) found that, compared to a no-intervention condition, at 30-month follow-up the *AMM-EC* program resulted in significantly lower scores on disordered eating attitudes and
behaviors, and on a validated measure of internalization of the potentially very unhealthy weight and shape messages emanating from “different social agents (advertising, verbal messages, social models and social situations)” (p. 351).

Subsequent statistical analyses by Espinoza, Penelo, and Raich (2013) showed that the AMM-EC program, with or without the nutrition education component, produced greater body satisfaction than was seen in the control group at 30-month follow-up.

Middle School: Selective-Targeted Programs

and

High School (Ages 14 – 18): Universal-Selective Programs

Once again, although there have been some promising developments (Levine & Smolak, 2006, 2009; Yager et al., 2013), as yet there is no selective-targeted prevention program for students ages 12-14 and no universal-selective program for high school students (ages 14-18) that clearly work, using the criteria discussed in Part 1.

High School: Indicated/Targeted Programs

Stice’s Body Project

The best known, the most widely researched, and the most rigorously evaluated new program for ED prevention is the dissonance-based approach developed by Eric Stice and colleagues at the Oregon Research Institute (USA). The Body Project was originally designed to reduce risk factors and ED symptoms in young women (ages 18-25) who volunteer to participate because they have high levels of body image concerns or bulimic symptoms. The theory, the extensive evidence base, and the individual lessons for this indicated (or “targeted”)
intervention are presented in detail in a 290-page facilitator guide (Stice, Rohde, & Shaw, 2013).

Briefly, *The Body Project*'s lessons and homework assignments seek to generate “cognitive dissonance” by having participants—working in front of a group and with minimal inducement by leaders or peers—*voluntarily* write, make statements, and behave in ways that contradict and challenge our culture’s (and their own) entrenched internalization of the slender beauty ideal. Various focused exercises create numerous opportunities for participants to engage in a critical analysis of the nature, origins, and sociocultural mechanisms, including “fat talk,” that promote this ideal. To reduce dissonance, group leaders use cognitive-behavioral exercises during group time and homework assignments to guide each participant and the group in an effortful commitment to creating and enacting counterarguments to society’s glorification of slenderness and vilification of fat. One paramount goal is to help participants to resist impossible standards of self-management by becoming “body activists” (Becker, 2012, p. 174).

An RCT conducted by Stice, Rohde, Shaw, and Gau (2011) found that, compared with controls, high school girls who participated in the *Body Project* showed greater decreases in body dissatisfaction at 2-year follow up and ED symptoms at 3-year follow up. Further analyses of these data by Stice, Marti, Rohde, and Shaw (2011) indicated that the CD program worked by reducing both internalization of the thin ideal and body dissatisfaction.

It is noteworthy that, in the United Kingdom, Emma Halliwell and Phillippa Diedrichs (2014) have created a modified version of *The Body Project* as a universal-
selective classroom prevention program for 12-to-13-year-old girls. Compared to a wait-list control condition, this relatively brief intervention (four weekly 20-min sessions) did not affect self-reported dietary restraint. However, it did reduce both body dissatisfaction and internalization of a thin body ideal by the end of the intervention. Moreover, a month later girls learning the critical social perspective that is an essential part of The Body Project were able to resist the immediate negative effects of media images presented in the context of a separate experiment.

University and College (Ages 18 - 25): Universal ➔ Selective Programs

Becker's Body Project Program

Since the early 2000s, Carolyn Becker and colleagues at Trinity University in San Antonio, Texas (USA) have been developing a universal-selective version of the dissonance-based Body Project prevention program. Their line of program development and outcome evaluation differs from Stice et al.’s work in four important ways (Becker, 2012; Becker, Plasencia, Kilpela, Briggs, & Stewart, 2014). First, it was designed to integrate prevention with Becker’s role as professor in teaching undergraduates and promoting undergraduate research. Second, it expressly focuses on prevention effectiveness (vs. efficacy; see Part 1 of this series) in real-life settings, including minimal involvement of costly, sometimes infeasible professional time coupled with limited availability of funds. Focusing on effectiveness has made it easier to train a variety of interested parties in the basics of the program and how to transport it to collegiate settings that differ from Trinity University.
Third, Becker et al.’s adaptation of *The Body Project* adds an ecological perspective by engaging young women in the college community (e.g., sorority members) as partners in leading the programs and in determining how the program is presented in particular settings, and how the resulting knowledge is used. Finally, this version of *The Body Project* also embodies an ecological approach by working hard to promote sustainable changes in peer interactions, healthy peer norms, and peer leadership. For example, professional and/or sorority peer leaders will have young women, working in groups of 7 or 8 drawn from different sororities, apply basic elements of the *Body Project*. Leaders help the women to generate—and advocate for—suggestions for policy changes within individual sororities and the sorority system. In this regard, Becker and colleagues recently demonstrated that they have developed an effective intervention in which two critically important tasks—group leader for program implementation and *trainer* of subsequent peer leaders—can be shifted from very experienced professionals (e.g., Becker) to either graduate students or undergraduate peer leaders (Kilpela et al., 2014).

Program content, including the 9-hour training for peer-facilitators, and the results of the very successful initial evaluation studies are described in detail elsewhere (Becker, 2012; Becker, Stice, Shaw, & Woda, 2009; Becker et al., 2014). More recently, it has been shown that a modified version of *The Body Project* designed for groups of female intercollegiate athletes (at various levels of risk for ED) produced significant reductions in bulimic symptoms, weight and shape concerns, and negative emotionality at 1-year follow-up (Becker, McDaniel, Bull, Powell, & McIntyre, 2012). Further evaluation of *The Body Project’s* effect on
Exciting Recent Developments in Prevention
Michael P. Levine

collegiate women who are not athletes indicates that, as predicted, long-term reductions in risk of ED symptoms are mediated by reductions in body dissatisfaction, which in turn reflect reductions in both thin-ideal internalization and self-objectification (Kroon Van Diest & Perez, 2013).

University and College: Selective → Indicated/Targeted Programs

Student Bodies™

Student Bodies™ (SB) is a 6-week, 8-lesson multimedia on-line program for college women who are at moderate to high risk for ED. SB is one component of over 20 years of prevention program development and research led by C. Barr Taylor and colleagues at Stanford University (California, USA) and by Corinna Jacobi at the Technische Universität (Dresden, Germany; see Beinter, Jacobi, & Taylor, 2012; Sinton & Taylor, 2010). An exciting aspect of this work is an ongoing attempt to make SB part of a campus-wide program that uses a validated screening tool to identify each student’s level of risk and then tailors for that student the appropriate level of prevention or treatment (Jones, Kass, et al., 2014)

SB is designed to promote healthy eating and exercising and to reduce prominent risk factors such as body dissatisfaction, perceived pressures to be thin emanating from peers and media, internalization of the slender ideal, and weight and shape concerns. Guided by social cognitive, cognitive-behavioral, and feminist-critical models, SB offers interactive psychoeducation and cognitive-behavioral exercises, while encouraging participants to give and receive social support in moderated on-line discussions.
Numerous RCTs in the USA and Germany have shown that SB and similar interactive Internet-based programs are effective over follow-up periods of up to 2 years (Beintner et al., 2012; Sinton & Taylor, 2010). The statistical strength of the reductions in body dissatisfaction and disordered eating attitudes and behaviors tend to be small to moderate, and thus smaller than those typically generated by The Body Project. Nevertheless, SB is particularly effective for college or university females at high risk for EDs (Sinton & Taylor, 2010).

An expanded version of SB has been developed as a targeted program for integrating prevention of obesity and disordered eating in overweight adolescents (Jones et al., 2008). Student Bodies-Binge Eating Disorders (SB-BED) features 8 more lessons that constitute a cognitive-behavioral approach to weight reduction, including management of over- and binge eating. The web-based SB-BED has been used successfully with overweight adolescents ages 14 through 16 as a stand-alone program (Jones et al., 2008) and as part of a school-and-family-based ecological intervention (StayingFit) for adolescents, regardless of weight, who have high levels of weight and shape concerns (Jones, Lynch, et al., 2014).

Stice’s Body Project

As noted above, The Body Project was developed for and validated with female college students at high risk for ED. Its positive effects, sustained over time, have been demonstrated in efficacy and effectiveness studies by research teams at different universities and with African American, Asian American, Hispanic, and White participants (see, e.g., Stice, Marti, & Cheng, 2014). Several studies support, but do not conclusively demonstrate, that dissonance induction and dissonance
reduction are partly responsible for these positive effects (Becker, 2012; Levine et al., 2014; Stice et al., 2013).

A recent study by Stice, Durant, Rohde, and Shaw (2014) demonstrates how far this line of research has advanced. Female college students at risk for ED due to high levels of body dissatisfaction were randomly assigned to one of four conditions: The Body Project, an Internet-based version of The Body Project (eBody Project), or one of two conditions that controlled for the impact of relevant education. As compared to control conditions, the eBody Project reduced ED risk factors and symptoms at both 1- and 2-year follow-up, although the small to moderate effects of the Internet program were significantly less than the high-moderate effects of the standard Body Project. As Stice, Durant, et al. (2014) note, the finding that the eBody Project produced large weight reduction effects relative to controls, and greater effects than The Body Project, has potentially important implications for combined obesity and ED prevention.

Healthy Weight Intervention

Stice and colleagues initially developed a healthy weight management intervention (HWI) to serve as a strong placebo-control in RCTs evaluating the effects of The Body Project on college women at risk for ED. The HWI uses psychoeducation, motivational interviewing, and behavior modification techniques to facilitate modest but sustained changes in knowledge, attitudes, and behavior that together can replace restrictive dieting and chaotic eating with a balanced diet and regular exercise.
A series of studies (see Becker et al., 2009, e.g., for a review) demonstrated that, like The Body Project, at 1-year follow-up the HWI produces significant reductions in ED risk factors, ED symptoms (including binge eating), and the probability of becoming obese. As is the case for The Body Project, the HWI also reduces the incidence of clinically significant eating pathology at 3-year follow-up. Although the comparative effectiveness of The Body Project and the HWI is a complicated issue (Levine et al., 2014), it appears that the HWI is the indicated prevention program of choice for at-risk adolescent girls and emerging adult women who at program outset have a higher BMI and a tendency toward emotional eating (Stice, Marti, Shaw, & O’Neill, 2008).

In the Becker et al. (2012) study described above, female intercollegiate athletes at varying levels of ED risk participated in a peer-led version of the HWI. The prevention results were just as positive at 1-yr follow-up as those for Becker’s modified form of the Body Project, but the modified HWI program was more acceptable to athletes. As Becker et al. (2012) observed, this greater acceptance of the HWI may reflect the athletes’ greater focus on performance, relative to body image and to sport-specific or non-specific thin ideals.

Conclusions and Future Directions

What Works?

This review supports the following basic conclusions, drawing on Part 1’s extensive and strict criteria for determining whether a prevention program “works”: 
There are currently several effective prevention programs for middle school girls and boys (ages 12-14). These can reasonably be categorized as universal-selective interventions (see Part 1).

*The Body Project*, a dissonance-based program, is effective for high school females (age 14-18) who are at risk for an ED due higher levels of negative body image. Given the girls’ age, their gender, and our cultural standards, coupled with their level of risk, this program can reasonably be categorized as a selective-indicated intervention.

*The Body Project*, delivered in a traditional group formal or over the web, is one of three selective-indicated prevention programs that are effective for female undergraduates who are at high risk for an ED. The other two are *Student Bodies* and the *Healthy Weight Intervention*.

Becker’s peer-led, ecological version of the dissonance-based *The Body Project* is an effective, practical prevention program for groups of undergraduate women in sororities and on intercollegiate athletic teams. These women at elevated risk for a variety of developmental and perhaps environmental reasons, so this program is probably best categorized as universal-selective.

**Why and How Prevention Works**

It is likely that, in general, effective ED prevention programs work by reducing key proximal risk factors such as internalization of the slender beauty ideal, body dissatisfaction, and negative emotionality. More specifically, dissonance-based programs probably work in a variety of ways, but they certainly exert their
positive effect by generating dissonance and then providing participants with cognitive-behavioral skills for reducing dissonance and for increasing resistance to negative sociocultural messages glorifying thinness and vilifying body fat and fat people.

A review of the effective programs highlighted in this essay, coupled with a review of promising programs developed during the years 1990-2005 (Levine & Smolak, 2006), indicates that there is great variety in the nature of successful programs. This makes it hard to generalize about their key ingredients. Using a prototypical approach, my colleagues and I believe that the more successful programs reviewed here and elsewhere (e.g., Levine & Smolak, 2006; Piran, 2010) tend to have 4 or more of the following 7 Cs (Levine et al., 2014):

- The program promotes a Critical Social Perspective that fosters awareness and analysis of sociocultural risk factors operating at the cultural (e.g., media), subcultural (e.g., sports or dance), peer, and family levels.

- It helps children, youth, and young adults develop various Competencies for resisting unhealthy sociocultural influences and for promoting health and resilience.

- It builds Connections (e.g., fostering dialogue) between participants themselves and between participants and both peer leaders, influential adults, and the community.
Exciting Recent Developments in Prevention
Michael P. Levine

- It enables participants to use their critical social perspective, their
developing competencies, and their connections to make *Choices* about ways
to *Change* negative sociocultural influences.

- It helps young people develop and extend the *Confidence* necessary to make
health-promoting changes in themselves, their peer relationships, and their
cultures. The program, in essence, helps young people and those who
support them to find the *Courage* to pursue positive goals, despite ongoing
anxiety and doubt, and in the face of inevitable criticism.

**Future Directions**

It is now a cliché to state that there is still much to be done in developing and
evaluating programs for preventing EDs. Yet, its repetition does not make it any less
true. This review suggests that, at a minimum, high priority areas for further work
are further development of effective (1) prevention, across the spectrum, for pre-
school and elementary school children; (2) selective-targeted prevention for middle
school students; (3) universal-selective prevention for high school students; and (4)
prevention, across the spectrum, for young adults in the military, in the fitness and
bodybuilding worlds, and in non-collegiate communities in general. This does not
mean that there are no theoretical or empirical guidelines for prevention in these
areas (Levine & Smolak, 2006, 2009; Yager et al., 2013). It means that we are far
from having programs that clearly work according to strict scientific criteria (see
Part 1).
Whatever the focus of new developments, three other areas should be high priorities. First, we need to continue creating programs for males as well as females. Second, we need to blend current ecological approaches to prevention (Becker et al., 2009; McVey et al., 2007; Piran, 2010) with a public health perspective so as to emphasize the importance of collective action and social justice in transforming dominant cultural beliefs and practices into healthier practices regarding weight, shape, gender, and self-management (Levine & McVey, 2012; Piran et al., 2014). The third area follows from the second. Since similar psychosocial factors are operating in other mental health problems, we need work on prevention programs that seek to change, for example, depression and substance abuse, along with eating disorders (Becker et al., 2014; Levine, 2014).
Exciting Recent Developments in Prevention
Michael P. Levine

References


Exciting Recent Developments in Prevention
Michael P. Levine

... beyond the research-to-practice gap? *Behaviour Research and Therapy, 47*, 265-274.


Exciting Recent Developments in Prevention
Michael P. Levine


