

Research Review of Body Image Programs

An Overview of Body Image Dissatisfaction Prevention Interventions

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INTRODUCTION

Body Image Dissatisfaction in Australia

Body Image Dissatisfaction is a Public Health Problem

Body image dissatisfaction is increasingly being recognised as an important target for public health action (Paxton, 2000a). Research evidence links body dissatisfaction to physical and mental health concerns, especially, but not exclusively, in women. In Australian women, body dissatisfaction mainly focus on concerns about weight even in underweight and healthy weight individuals (Ben-Tovim & Walker, 1991) and is reflected in unhealthy weight loss practices (crash dieting, fasting, laxative misuse, vomiting etc) in those in all weight ranges (e.g. Wertheim et al., 1992). In males, body image dissatisfaction is less widespread but is more likely to take the form of desiring to be larger and more muscular in addition to being thinner (McCabe & Ricciardelli, 2001; Pope, Phillips & Olivardia, 2000; Ricciardelli, McCabe & Banfield, 2000).

Australian and New Zealand research has documented body dissatisfaction and weight loss behaviours in adolescent girls and boys. In high school girls, 70-76% choose an ideal figure thinner than their own (Fear, Bulik & Sullivan, 1996; Paxton, Wertheim, Gibbons, Szukler, Hillier, Petrovich, 1991; Tiggemann & Pennington, 1990), and over half have tried to lose weight (Fear et al., 1996; Grigg, Bowman & Redman, 1996; Patton et al. 1997; Paxton et al., 1991), while only a relatively small proportion of girls are objectively overweight. In one study of adolescent boys, a third wished to be thinner while over a third desired to be larger than their current size (Paxton et al., 1991).

While there is little Australian adult epidemiological data specifically related to body image, in the United States a recent survey found 56% and 43% of women and men respectively reported body dissatisfaction (Cash, 1997). In a community sample of Australian adults, 47% and 24% of healthy weight women and men respectively believed themselves to be overweight (Paxton, Sculthorpe & Gibbons, 1994). In a

representative sample of young Australian women (Kenardy, Brown & Vogt, 2001) found only 24% of healthy weight women were satisfied with their weight.

Body Image and Mental Health

Body image dissatisfaction and extreme dieting is associated with depression in adolescents and adults (Fabian & Thompson, 1989; Kenardy et al., 2001; Patton et al., 1997; Paxton, Schutz, Wertheim, & Muir, 1999). Patton et al. (1997) found 62% of adolescent girls who were extreme dieters were depressed, while Kenardy et al. (2001) found young adult women who dieted frequently were 50% more likely to be depressed than those who did not diet. In addition, poor body dissatisfaction is associated with low self-esteem in women and men of all ages (Fabian & Thompson, 1989; Stormer & Thompson, 1996; Stowers & Durm, 1996; Paxton & Phythian, 1999). Longitudinal studies also indicate that body dissatisfaction predicts the later development of depression, anxiety and low self esteem (Cole, Martin, Peeke, Seroczynski & Hoffman, 1998; Stice, & Bearman, 2001; Stice, Hayward, Cameron, Killen, Taylor, 2000; Thompson, Coovert, Richards, Johnson & Cattarin, 1995)

Body Image and Eating Behaviour

Research suggests a strong causal link between body dissatisfaction and disordered eating. Longitudinal studies have demonstrated body dissatisfaction predicts the development of disordered eating in adolescents (Attie & Brooks Gunn, 1989; Field, Camargo, Taylor, Berkey, Colditz, 1999; Killen et al., 1994; Stice, 2001; Stice, Mazotti, Krebs & Martin, 1998; Wertheim, Koerner & Paxton, 2001). In addition, Patton, Selzer, Coffey, Carlin and Wolfe (1999) have shown in a large representative sample of Australian adolescent girls, that extreme dieters are 18 times more likely to develop symptoms of eating disorder than non-dieters. Eating disorders affect about 5% of the female population in Australia (e.g. Ben-Tovim, Subbiah, Scheutz, & Morton, 1989; Clayer et al., 1995; Hay, 1998; Hay, Marley & Lemar, 1998), pose a substantial burden of disease (Hay, 2000, Mathers et al., 2000), and if untreated tend to become chronic problems (Fairburn et al., 2000).

Body Image and Physical Activity

Body image dissatisfaction can make participation in enjoyable and sustainable physical activity difficult. Avoidance of physical activity can stem from concerns

about exposing one's body in public, feeling "too fat" (Owen & Bauman, 1992) or feeling that one has to achieve a certain look before they can participate (Body Image and Better Health Program, 1997). Feeling self-conscious about one's body has also been shown to lead some teenage girls and boys to drop out of physical activity (Shaw & Kemeny, 1989; Women's Sport West, 1997).

Body Image and Weight

Through its effects on eating behaviour and physical activity, body dissatisfaction is likely to contribute to the development of overweight. For example, high body dissatisfaction and dieting predict *binge eating* (e.g. Patton, et. al., 1990; Wertheim & Weiss, 1989). Binge eating, especially when combined with reduced physical activity, can lead to unhealthy weight gain.

The Need for Prevention

In summary, body image problems are linked to serious health issues for Victorians. People of all ages seek help to deal with body image problems (e.g. from services such as the Victorian Women's Health Service). Related eating problems also pose a substantial burden of disease in our community and if untreated tend to become long-term problems. Identifying effective prevention interventions is an important step in improving the health of Victorians.

Public Health Approaches to Prevention

Types of prevention

The World Health Organisation (1997) has identified different types of prevention intervention, including:

- **universal prevention** that aims to change the population at large (e.g. by legislation);

- **selective prevention** that aims to prevent the development of symptoms in non-symptomatic individuals believed to be at risk (e.g. early adolescent girls); and
- **targeted prevention** that aims to prevent the further development of early symptoms of the problem.

To date universal prevention approaches have not been adopted in the body image field. Selective prevention interventions have been the predominant model of intervention, and have been conducted in school or community environments (e.g. Neumark-Sztainer, Sherwood, Collier, Hannan, 2000; O’Dea & Abraham, 2000; Steiner-Adair, Sjoström, Franks, Pai, et al, in press). However, these programs frequently are delivered to both non-symptomatic and symptomatic individuals and the effects of the program may differ according to symptom status (e.g. Santonasto et al., 1999). In addition, a number of studies have used a targeted intervention strategy involving women already showing body image problems (e.g. Higgins & Gray, 1998; Huon, 1994; Stice, Mazotti, Weibel & Agras, 2000; Winzelberg et al, 2000).

Identification of Risk Factors for Body Image Dissatisfaction

The public health approach to universal, selective and targeted prevention described above, requires the identification of risk and protective factors for the development of the problem to be prevented. What are the risk and protective factors for the development of body dissatisfaction? Or -why do some individuals become dissatisfied with their bodies while others do not?

A “risk factor” is any correlate that precedes an outcome, but it is important to note that it may not be causally related to the outcome (Kraemer et al., 1997; Stice, 2002). For example, being female increases the risk of developing body image problems but is not itself the cause of the body image problem. A “causal risk factor”, on the other hand, is one that, when changed, is shown to alter the outcome (Kraemer et al., 1997). Causal risk factors are those that are of most interest in prevention interventions. The aim of most prevention interventions is to alter a causal risk factor to reduce the likelihood of the development of the target attitudes or behaviours.

Causal risk factors for body image dissatisfaction may be considered under two broad categories: social/environmental factors and individual attributes. Both may potentially be altered through public health interventions but are likely to require different kinds of programs. Some social/environmental factors may be changed through structural interventions while individual causal risk factors may be altered through community intervention programs. Notably, environments and personal attributes interact and these interactions need also to be considered.

A review of the research literature implicates the following social environments and individual attributes as risk and protective factors for the development of poor body image.

Likely social/environmental risk and protective factors

- Weight and shape teasing from peers and family vs. low teasing (e.g. Barr Taylor et al., 1998; Cash, 1995; Paxton et al., 1999; Thompson et al., 1995; Wertheim et al., 2001);
- High parent concern about weight and shape (their own or their child's) vs. low concern (e.g. Davison, Markey & Birch, 2000; Wertheim, Martin, Prior, Sanson, & Smart, In press; Wertheim, Mee & Paxton, 1999);
- High value placed on non-appearance related skills and attributes as a protective environmental factor (proposed but no supporting data);
- High peer concern with weight and shape vs. low concern (e.g. Barr Taylor et al., 1998; Paxton et al., 1999);
- High exposure to unhealthy and unrealistically thin media body image ideals (e.g. Groesz & Murnen, 2002; Stice, Schupak-Neuberg, Shaw & Stein, 1994; Tiggemann & Pickering, 1996);
- Specific high risk environments, e.g. ballet schools, gymnastics classes, some gay male groups (Piran, 1999; Powers, 2000)

Individual attribute risk and protective factors

- High vs. low body mass index (e.g. Keel, Fulkerson & Leon, 1997; Paxton et al., 1999; Wertheim et al., 2001);

- High vs. low tendency to compare ones body with those of others (e.g. Schutz, Paxton & Wertheim, In press);
- High vs low internalization of the importance of thin body image ideal (e.g. Thompson, Heinberg, Altabe, Tantleff-Dunn, 1999; Stice et al., 1994; Schutz, et al, In Press);
- High vs low value placed on thinness above other skills and attributes (e.g. Paxton et al., 1999);
- High vs. low self-esteem (e.g. Button, Sonuga-Barke, Davies & Thompson, 1996);
- Negative and positive affect (e.g. Leon, Fulkerson, Perry, Keel, & Klump, 1999; Schutz et al., in press).

Interaction between environmental/social and individual attribute risk and protective factors

- Higher BMI associated with higher frequency of teasing, which contributes to higher body dissatisfaction (Wertheim et al., 2001);
- Higher negative affect contributes to perceptions of higher importance placed on thinness, weight and shape by self, friends and family, which contributes to higher body comparison leading to high greater body image dissatisfaction (Schutz, Paxton & Wertheim, under review); and
- Appearance comparison mediates the effects of family and media influences on body dissatisfaction (Van den Berg, Thompson, Obremski-Brandon & Coover, in press).

Risk Factors and Prevention Intervention Programs for Body Image Dissatisfaction

The majority of prevention intervention programs for body image dissatisfaction that have been evaluated have endeavoured to reduce individual risk factors rather than change social/environmental factors. They have typically focused on trying to reduce the value placed on extreme thinness, the internalization of the thin female beauty ideal, perceived pressure from the media to be thin and low self-esteem. Notably a small number of evaluated interventions have included attempts to alter parental or

school values, but these are still in their infancy (Piran, 1996; McVey, Davis & Shaw, unpublished manuscript A). Parents particularly seem very difficult to get involved (McVey et al., unpublished manuscript A). Ultimately, a combined approach is likely to have most power, changes in one reinforcing changes in the other.

Wider environmental influences such as advertising from the diet industry, pressures from fashion, the presentation of excessively thin characters in popular television sitcoms, and fitness centre environments, have been addressed by organizations such as Body Image and Health, Inc. These are likely to be helpful in changing negative cultural pressures. However, the direct impact of such programs is very hard to evaluate.

Prevention Interventions Reviewed for the Current Report.

The *Overview of Research Findings* that follows aims to draw together and interpret available research on selective and targeted body dissatisfaction prevention interventions. This overview is based on the accompanying document, the *Tabulated Summary of Evaluated Prevention Intervention Research Literature*. The review draws on prevention interventions that have specifically aimed to address body image issues. In addition, it also draws on evaluations of programs that aim to reduce disordered eating symptoms when there has also been an assessment of a body image variable.

With few exceptions, this is a review of published or in press research. There are un-evaluated intervention programs – some potentially available. However, it seems reasonable to assume that they are unlikely to have any more positive (or hopefully negative), impact than the published studies. In addition, it is very difficult to know what to conclude about the value of an intervention if no appropriate evaluation has been conducted. Thus, this review aims to present a broad reflection of the current state-of-the-art in the prevention of body image issues.

OVERVIEW OF RESEARCH FINDINGS

Support for the effectiveness of prevention intervention strategies designed either to prevent or ameliorate body dissatisfaction or to reduce risk factors for eating disorders, one of which is body dissatisfaction, is very mixed. Of the 22 controlled selective prevention interventions reviewed, 19 had post-tests, and 19 conducted longer-term follow up assessments over variable time periods. Ten studies reported a positive post-test effect on at least one measure of body dissatisfaction (e.g. EDI-Body Dissatisfaction, Body Esteem Scale, Body Shape Qn, SIQYA, Weight & Shape concerns (EDE-Q)), compared to the control condition, though this was typically only a modest to moderate effect size (Kusel, 1999; Martz & Bazzini, 1999; McVey et al, unpublished manuscript A; McVey et al., unpublished manuscript B; Moreno & Thelen, 1993; O’Dea & Abraham, 2000; Steiner-Adair et al., in press; Stewart et al., 2001; Stice & Ragan, 2002; Withers et al., in press). Of the studies that conducted a follow-up, half reported the maintenance of post-test effect (Kusel, 1999; Moreno & Thelen, 1993; Steiner-Adair et al., in press; McVey et al., unpublished manuscript B). A further two studies with only follow-up assessments found a positive effect on body dissatisfaction of intervention compared to the control (Santonastaso et al., 1999; Smolak et al., 2001). (Table 1 briefly summarises these findings).

Many of the selective prevention studies conducted secondary analysis on those considered ‘at risk’, (e.g. participants who were high on a body dissatisfaction or other risk factor measure at baseline), to examine the effect of the intervention on those most vulnerable. Of the eight at risk analyses, only six examined body satisfaction. Of these studies, two reported a positive post-test effect on a body dissatisfaction variable compared to the control (O’Dea et al., 2000; Withers et al., in press), with one reporting a maintenance of this effect on a body dissatisfaction measure over a one month follow-up period (Withers et al., in press).

Of the six targeted intervention studies reviewed, four reported a positive post-effect effect on a body dissatisfaction measure (Higgins & Gray, 1998; Posovac et al., 2001; Stice et al., 2000; Stice et al., 2001), with two reporting maintenance of the effect (Higgins & Gray, 1998; Stice et al., 2000), and one study reporting no post-test effect,

but a positive effect at follow-up (Winzelberg et al., 2000). Again these were generally modest effects. In addition, in studies in which a positive effect has been observed, often an effect was observed on only one measure of body dissatisfaction rather than all body dissatisfaction variables assessed again suggesting relatively modest effects. (Table 2 at the end of this document briefly summarises these findings).

While not the main focus of this review, it should be noted that of the 19 controlled selective interventions reviewed that assessed eating behaviour outcome measures (e.g. Children's Eating Attitudes Test; Eating Disorder Examination; Cognitive Behavioural Dieting Scale; extreme weight loss behaviours; Intention to Diet), nine of the studies found a positive change in at least one eating behaviour at post-test compared to the control condition (Dalle Grave et al., 2001; Martz & Bazzini, 1999, Study 1 & 2; McVey et al., unpublished manuscript A; McVey et al., unpublished manuscript B; Moreno & Thelen, 1993; Stewart et al., 2001; Stice & Ragan, 2002; Withers et al., in press), four of which were maintained at follow-up (Dalle Grave et al., 2001; Moreno & Thelen, 1993; Stewart et al., 2001; McVey et al., unpublished manuscript B). In addition, two studies that did not find post-test effects found an effect at follow-up (Baranowski & Hetherington, 2001; Smolak et al., 2001), and two studies which did not conduct post-test assessments observed positive change in an eating variable at follow-up compared to the control (Neumark-Sztainer et al., 2000; Santonastaso et al., 1999). (Table 1 at the end of this document briefly summarises these findings).

Of the eight selective interventions that also conducted an analysis of "at risk" participants, seven examined eating behaviour, with three reporting a positive effect (Neumark-Sztainer et al., 1995; Stewart et al., 2001; Withers et al., in press).

Of the six targeted interventions, two observed post-test changes in an eating variable compared to the control condition (Higgins & Gray, 1998; Stice et al., 2000), and one of these effects was maintained at follow-up (Higgins & Gray, 1998).

Not all interventions assessed changes in knowledge related to body image issues. However, of the selective interventions that did, all nine observed increases in

knowledge at post-test and/or follow-up compared to the control condition. Only one at risk analysis examined knowledge and it found increases at post-test and follow-up (Killen et al., 1993). None of the targeted interventions specifically examined knowledge.

Taken together, about half the selective prevention interventions have achieved a modest but measurable positive outcome on a body dissatisfaction measure. As described further below, no reliable negative effects of prevention intervention programs have been observed. Given the clear need for positive changes in body image in women of all ages, these findings support the implementation of intervention programs. As elaborated below, there do appear to be strategies that are more helpful than others, and at this stage developing programs incorporating the main elements of these seems most likely to be beneficial. Notably, the research interventions assess one-off interventions rather than the cumulative effect of developmentally appropriate interventions, that could be anticipated to be more effective in the long term. However, as a research and practice community, we do need to recognise that the changes observed at this stage are usually modest and short-lived. There is clearly a need for further research to identify more reliably effective and potent interventions.

The next sections review prevention approaches under the following categories:

- Settings for interventions
- Approach and content of interventions
- Maintenance of effects
- Importance of knowledge changes
- Selective or targeted interventions and timing of interventions
- What about boys?
- Interventions with parents
- Do interventions do harm?
- Who shouldn't participate in or lead an intervention program?
- Conclusions.

Settings for Interventions

School-Based Interventions

School-based interventions have been widely evaluated. They have the particular advantage of reaching a very vulnerable population, children and adolescents. At primary age, in many if not all cases, there is the potential for genuine prevention before body image problems have become entrenched. In later years, there may be the opportunity to reduce body dissatisfaction that may already be present. If school-based curricula incorporated into wider school programs could be demonstrated to be valuable, they would offer a viable mechanism for widespread intervention, an important goal of prevention interventions.

About half the school-based curricula have been shown to have some positive impact on some aspect of body image. A smaller proportion has produced changes in eating measures. Where knowledge has been assessed most programs also increase understanding of socio-cultural factors that contribute to body dissatisfaction and disordered eating symptoms. Typically these programs consist of about 5-10 classroom sessions addressing body image and eating issues with varying levels of student participation. They may be led by outside “experts” or the usual class teacher, but at present there is no reason to think one is more effective than the other. One study did find, however, that there was no difference in response to a video about body image issues when it was believed to be presented by a peer compared to an ex-sufferer from an eating disorder, an expert on eating disorders or of no given identity (Heinze, Wertheim & Kashima, 2000).

School-based programs have usually been primarily of the eclectic, psycho-educational approach (described below), although one has focused on elevating self-esteem (O’Dea & Abraham, 2000). At this point there has not been a definitive study identifying specific aspects of interventions that are associated with greatest impact. However, the more recent programs that include strongly interactive and participatory components (e.g. McVey et al., unpublished manuscript B; Steiner-Adair et al., in press; Stewart et al., 2001) do seem more successful than the more didactic style programs (e.g. Killen et al., 1993). It does appear that young women need to work

with ideas counteracting the wider social pressures to be very thin in a very active manner in order to internalise new body image attitudes.

A frequently asked question is whether an intervention should be tried in a whole class or in a small group. While this question has not specifically been addressed in the research, it is easier to have more interactive programs in small groups and these are the ones likely to be most helpful. The difficulty is of course, that these are most resource intensive.

It is also very likely that different kinds of material will be of greater interest and effectiveness at different developmental levels (Paxton, Wertheim, Pilawski, Durkin & Holt, in press; Shisslak, Crago, Estes, & Gray, 1996), but there is still insufficient research information to be specific about this.

A few evaluated curricula are available from research teams, though unfortunately, at this time, no evaluated school curriculum is commercially available to the author's knowledge.

Adolescent Community-Based Interventions

Few community-based interventions have been evaluated. Neumark-Sztainer et al (2000) evaluated a prevention program in Girl Scout settings. The main focus of this intervention was media literacy and activism. After girls explored the ways in which media misrepresented female bodies, they were encouraged to take action against this, for example, by writing to editors of women's magazines. While this program did not have a demonstrable effect on body image satisfaction in participants it did increase media knowledge and change attitudes towards media presentations that were maintained at follow-up. These attitudes may well be protective against a range of pressures from media in subsequent years and teach a healthy cynicism about believing all that is seen.

University Interventions

There is a high prevalence of body dissatisfaction and related problems in university age women. This means that normally it is too late to conduct primary prevention interventions as these aim to prevent the development of problems, rather than to

reduce them once they have become established. Consequently, mainly targeted, secondary prevention interventions have been trialed in college age women in which the main goal has been to reduce established body dissatisfaction and related attitudes. Typically, young women have self-selected into the program by responding to fliers advertising the intervention or by volunteering to take a course which addressing body image and eating issues.

As described further below, in university age students, a cognitive dissonance reduction program (Stice, Mazotti, Weibel & Agras., 2000), media image comparison reduction interventions (Posovac, Posovac & Weigel, 2001), internet-based body image reduction psycho-education interventions (Zabinski et al., 2001; Winzelberg, Epstein, Eldredge, Wilfley et al. 2000), and an in-depth psycho-educational course on eating disturbance (Stice & Ragan, 2002) have shown promise in terms of reducing body image dissatisfaction, internalization of the thin ideal and comparison with media images.

Adult Community Interventions

Few prevention interventions have been directed towards alleviating body image concerns in the adult community in Australia or elsewhere. One particularly innovative approach was an intervention conducted by Louise Wigg and Body Image and Health Inc. that aimed to change the body culture at a gym to de-emphasise weight/fat loss and increase emphasis on health, well-being and enjoyment of physical activity (Wigg, 2001). The program aimed to change all facets of the gymnasium to become “body neutral” as opposed to body negative demanding change at all costs. Staff were given training and support to encourage a focus on health, well-being and enjoyment of physical activity rather than a focus on weight loss and body change to fit current body image ideals. Following the intervention, 68% of attendees who were surveyed had noticed changes at the gym and believed them to be positive, encouraging a more positive attitude towards ones body and exercise.

Targeted intervention programs in adult women have also been shown to reduce body image concerns. An Australian study of particular interest (Higgins & Gray, 1998) evaluated a program for chronic dieters with high body dissatisfaction, drawn from community volunteers, with a mean age of 44.4 years. They participated in a six-

session program, *Freedom from Dieting*, that promoted a “natural” approach to eating. They observed marked reductions in body shape concerns in the intervention group that were maintained over a one-year follow-up. Targeted interventions of this kind in adults are likely to be very valuable.

Approach and Content of Interventions

Eclectic Psycho-educational Packages

The underlying goal of psycho-educational programs is to reduce the internalization of the thin ideal for girls or the excessively muscular ideal for boys, and importance placed on thinness, that appear to be causal risk factors for the development of body dissatisfaction, by providing more realistic information. They also aim to provide information that might prevent girls from developing disordered eating behaviours as a consequence of “normal” dieting. While eclectic, psycho-educational programs have different emphases they usually address aspects of the following content areas.

- Normal changes in body shape and physiology at puberty;
- Cultural influences on body image and eating behaviour, and changes over time;
- Suggestions for building a positive body image;
- Unrealistic and unhealthy body image ideals promoted in the media;
- Manipulation of female images in the media;
- Weightism and discrimination;
- The dangers of short-term crash dieting;
- The nature and symptoms of disordered eating and how to get help if required;
- Healthy weight management; and
- Understanding the relationship between feelings and eating.

Taken together, these programs appear to have a range of benefits. In quite short interventions they consistently increase knowledge and awareness of body image issues. While knowledge may not immediately translate into changed attitudes it potentially widens a young persons view of herself or himself and his or her environment in a manner that may later be psychologically protective. About half evaluated programs have found short-term improvements in a measure of self-

reported body dissatisfaction or unhealthy eating, though the effects sizes are not great. No negative effects have been substantiated.

An excellent illustration of this approach is the *Full of Ourselves* (Steiner-Adair et al., in press) program for adolescent girls, which is in the form of a structured curriculum that contains details of interactive activities. It is hoped by the authors that this program will be published.

Full of Ourselves curriculum units

Unit 1. Full of Ourselves: Icebreaker. Establish the ground rules. “Full of Ourselves” brainstorm. Free-writing on key program topics. Bioenergetic punching. Body scan. “Dear Body” journal entry.

Unit 2. Body Politics: Discussion of 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 free-write. 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. “Mummy, May I?”: how to feed your healthy “daughter”. Picnic in the park.

Unit 8. The Power of Positive Action: Body statues theatre activity. Coping skills. The role of emotional hunger. Menu of other hungers (spiritual, intellectual, friendship, creative, etc.). How to help a friend. Personal contracts.

Media literacy and activism

Media literacy and activism programs aim to raise awareness in women of the extent to which female images are distorted and to which dangerous dieting messages are promoted for commercial gain. As mentioned above media literacy skills and developing a challenging attitude in young women towards distorted female images does not appear to necessarily change individual body image attitudes. However, a media literacy and activism program (Neumark-Sztainer et al., 2000) has been shown to reduce internalization of the thin ideal and to increase self-efficacy to effect weight-related social norms. Media literacy interventions appear to teach a greater critical appraisal of media and to teach strategies for becoming active advocates on body image issues, which are likely to have broad benefit in many areas of life.

Free to be Me (Neumark-Sztainer et al., 2000) is an excellent example of a media activism program that has been implemented in Girl Scouts troops.

Free to be Me curriculum units

Body Truths 1:

Body Development

- Let me introduce you. An introduction to the program and an ice-breaker activity based on the game Bingo.
- Stepping Stones. Question-answer game in which girls learn about stages of body development. Each team advances to the next “stone” if question is answered correctly.
- Feeling good. Take-home activity. Interviews with family members and friends about perceived positive traits.

Body Truths 2:

Working with the Ideal Image

- Pin the tail on the time-line. Girls attach ideal images of women throughout history to their appropriate spot on the time-line.
- Sarah’s story. Discussion of a story about a girl with poor body image who diets excessively. Discuss reasons for dieting, negative effects of skipping meals, and alternative approaches for Sarah.
- People watching. Take-home activity. Girls look for different body types in their community and then compare them to the body types they see in magazines.

Body Truths 3:

What else is out there?

- Looking for the alternative (stop-n-go posters). Girls look through teen magazines and make collages of the pictures that promote positive traits vs those that promote negative traits. Pictures are glued to either green poster board (go) or red poster board (stop).
- Take-home activity. Girls read “girl-friendly” magazine provided such as New Moon and discuss magazine with parent.

Body Myths:

Media madness

- Commercial crazy. Girls look at a variety of different TV commercials and look for positive and negative media messages (body types shown, messages about healthful eating vs dieting).
- What do you see on television? Take-home activity. Girls and their parents watch 15-30 minutes of televisions and look for positive and negative messages they see in the commercials.

Take Action 1:

What can you do to affect the media?

- Write a letter. Each troop writes a letter to a company that has positive or negative impact on dieting and body image. Letter posted on web site for other advocates to sign.
- Take home activity. Girls develop and practice their own girl-friendly skit or commercial promoting positive body image and healthful eating.

Take Action 2:

Spreading the word.

- Lights, camera, action. Girls perform their girl-friendly commercials or skits in front of their parents and troop.
- Class review.

Posovac, Posovac and Weigel (2001) have adopted another approach to reducing the negative impact of viewing advertising images of idealised women in college women who have high body dissatisfaction (targeted intervention). They asked participants to view a video-tape of a psychologist speaking on two topics, (1) that media images were inappropriate targets for comparisons because the model’s beauty was artificial (Artificial Beauty) and (2) that media images of female attractiveness are inappropriate targets for comparisons because the majority of women are genetically predisposed to be heavier than fashion models (Genetic Realities). They also had a

Combination condition – a combination of both messages. They found that all three conditions decreased the likelihood of participants comparing their bodies with media images and prevented media induced body image disturbance, compared to a control condition. The findings from this study are encouraging. However, it is notable that interventions with similar content for adolescent girls who have not been targeted for high body dissatisfaction, have not proved so successful. It is likely that some styles of intervention are more effective with older than younger females.

Self-esteem interventions

It has been argued that if the psychological factors which may underpin the development of body dissatisfaction, such as low mood and self-esteem, are prevented from developing, there will be a subsequent prevention of the development of body image dissatisfaction and other problems with a similar foundation. One of the difficulties here is that to date, the risk factors for the development of body dissatisfaction are not entirely clear. There is tentative support for the proposal that low self-esteem and depression do underpin the development of these problems (e.g. Button et al., 1996; Leon et al., 1999; Schutz et al, under review), and it does seem an intuitively logical hypothesis.

Only one controlled, evaluated intervention has implemented a program which aimed to build self-esteem but examined body image and eating disorder outcome variables (O’Dea & Abraham, 2000). The program was titled *Everybody’s Different*. The program was conducted in Grade 7 and 8 children. It did show promise. At post-test but not follow-up, decreases in body dissatisfaction were reported. In addition at follow-up, the importance of social acceptability and physical appearance were lower in the intervention group. However, at follow-up the standard body weight of the intervention group had gone up compared to the control group and dieting had increased. The authors suggested that the control group, through restrained eating, may have limited the normal weight gain usually observed at this age. I consider it unlikely that these relatively small negative effects, would contribute to the development of disorder, but future research is needed to clarify these relationships, since higher BMI and dieting are known risk factors for the development of disordered eating. This program was published by Kellogg’s but is not currently available.

Everybody's Different curriculum units

Lesson 1: Dealing with stress

Relaxation tape. Ways of dealing with stress. Feeling good in your body.

Lesson 2: Building a positive sense of self

Building your self-esteem. Identifying your unique features and self-image and how it might be destroyed.

“I am OK” self-esteem building activity.

Lessons 3, 4, 5: Stereotypes in our society

Collage posters of stereotypes. Male and female stereotypes.

Being an individual – being yourself. Learning to accept and value differences.

Lesson 6: Positive self-evaluation

Exploring individuality. What is unique about you?

Self-advertisement activity. Learning to value uniqueness.

Lesson 7: Involving significant others

Ways of improving your self-image. Receiving positive feedback from others. Hand outline activity.

Lesson 8: Relationship skills

How other people affect our self-image. Dealing with relationships. Video of self-esteem.

Role plays.

Lesson 9: Communication skills

Games and activities to build self-esteem.

Pictionary game. Program evaluation by students and teachers.

Cognitive Dissonance Intervention:

One of the most promising interventions has been conducted in first year university students, in young women with elevated body image concerns, (a targeted prevention intervention) by Stice and colleagues (2000; 2001). In these studies, the focus was to reduce the internalization of the thin body ideal (the extent to which youth “buy into” the culturally prescribed ideal body image for women). This attitude was selected as it is an important risk factor for the later development of body dissatisfaction and disordered eating. Dissonance theory states that the possession of inconsistent attitudes and beliefs causes psychological discomfort that motivates people to alter their beliefs to make them consistent with each other.

Stice et al. (2000; 2001) reasoned that if they could get females who internalised the thin ideal to voluntarily take a stance against it, that this should reduce the extent to which they endorse the thin ideal. “A reduction in thin-ideal internalization should lead to consequent decreases in body dissatisfaction, dieting, and negative affect, which in turn should result in decreased bulimic symptoms... To induce participants into adopting an anti-thin-ideal stance we told them research suggests that when women discuss ways to help younger girls avoid body image problems, it often helps improve women’s own body satisfaction and related factors. We thus designed an intervention that involved a series of verbal, written, and behavioural exercises that required participants who had internalised the thin-ideal to take a stance against it.” The dissonance-based intervention had three sessions held a week apart as indicated below.

Participants in this intervention showed significant decreases in thin-ideal internalization and body dissatisfaction that remained over the 4-week follow-up period. While this approach has been used specifically with young women who are dissatisfied with their bodies, it seems that this style of approach may be useful with younger girls as well, though this has yet to be examined.

Eric Stice has kindly made available to the author a more detailed account of the sessions and he is happy for its distribution.

Cognitive Dissonance Intervention

Session 1. An overview of the purpose of the program was provided and that it was based on the idea that the act of discussing how to help younger women avoid body image problems can help them improve their own body satisfaction. Accordingly participants were asked if they would be willing to help to create a body acceptance program for younger girls by discussing ways that youth can avoid internalizing the thin-ideal. Time was then spent discussing (1) the origin of the thin-ideal, (2) how it is perpetuated, (3) the impact of messages about the thin-ideal from family, peers, dating partners and the media, and (4) who benefits from the thin-ideal. Finally participants were asked if they would be willing to write a one-page statement about the costs associated with the pursuit of the thin-ideal before the next session and to bring it along.

Session 2. After an overview of the previous session, participants (1) shared their experiences of writing the statement, and the costs of the thin-ideal, (2) discussed who benefits and profits from the thin-ideal, (3) participated in a counter-attitudinal role play in which they endeavoured to dissuade the group leaders from pursuing the thin-ideal, and (4) were asked to engage in a body acceptance exercise at home in which they viewed their own body and recorded positive aspects of themselves (but not negative ones).

Session 3. After an overview of the previous session participants were asked to (1) discuss their feelings and thoughts during the body review exercise, (2) explore difficulties they might encounter in resisting the thin ideal and how they could be overcome, (3) participate in a role-play making counter thin-ideal statements to resist peer pressure, (4) consider ways they might unwittingly promote the thin ideal, (5) challenge themselves if they noticed themselves engaging in thin-ideal thinking and to engage in behavioural challenges related to body image in coming months.

Feminist Approaches:

This approach to prevention is best exemplified by the work and writings of Niva Piran (e.g. 1999), who conducted a feminist prevention strategy in a Canadian ballet school over a ten-year period. This took the form of regular group discussions facilitated by Dr. Piran which aimed to allow girls to express their own concerns and facilitate action that might address identified problems. Much of her evaluation has been qualitative and the insights from her long and close involvement with young women in this setting are most illuminating. It is very likely that to bring about long

term social changes that will reduce pressures on women to have the “perfect” body shape, women will need to be empowered to challenge many aspects of our patriarchal social world.

A Feminist Approach (Piran, 1999)

“Through group discussion, knowledge emerges and is voiced about the meaning of the social experience of owning a young woman’s body. From a discussion of body shape, body functions, and expectations of one’s appearance, the dialogue is transformed into a discussion of power and voice. Through the articulations of the problems within the safety of the group, wise solutions emerge.”(p.150)

Actions taken may relate to going to those in authority to request change, but also may relate to endeavouring to change the immediate social environment. “Revisions in peer relationship among students are an equally important objective. Peers can be encouraged to form support groups to combat the expression of prejudices and inequities. The program established consensual norms about many aspects of the school milieu, including ways the teachers and peers... could and could not talk to each other. Specific norms were established around comments about the body. Therefore if norms were violated students felt empowered to voice their experience directly and with authority to staff and peers.” (p.152)

“From a feminist perspective, body weight and shape preoccupation may be seen as the expression by women of the prejudicial, unequal, and harsh treatment on themselves and their bodies in their social context and an attempt to cope with these challenges. A feminist prevention program critically examines the many varied contextual factors that affect women’s experience of themselves, their bodies, and their eating. It then targets aspects of the social and political environment for direct intervention. The changed context reinforces the process of transforming bodily expressions of oppression into authoritative voices, which, in turn, guide further systemic changes.” (p.152)

Changing the social environment – environment, peers and family:

The greater the change in the wider school, family and social environment in body image attitudes, the more changes made by individuals are likely to be supported and maintained. The studies that seems to have been most successful in achieving this are those of Piran (1996) in which the values of the ballet school were influenced at all

levels and McVey et al., (unpublished manuscript B) in which school peer groups are likely to have been influenced. Both programs worked with small groups of girls who had regular opportunities to discuss material and explore problem-solving approaches to change. Louise Wigg's (2001) intervention in the gym environment is another example of a positive intervention that successfully changed attitudes and messages conveyed in a body focused environment, that are likely to enhance the sense of well-being and pleasure in exercise.

Peers provide a very influential social environment. Weight related teasing has been shown to be a causal risk factor for the development of body dissatisfaction. In addition, there is strong evidence that body dissatisfaction and disordered eating behaviours do vary by school, family and peer environment. It appears that in environments in which there is a higher frequency of weight related teasing and condoning of weightist comments, body dissatisfaction is higher. Teasing may be considered a form of verbal bullying. Most schools have well developed anti-bullying policies but they seldom recognize this particular variety of damaging bullying. An environmental intervention that tackles weightist bullying at all levels may raise awareness of the negative impact of this teasing, which is often regarded as innocuous. Such an intervention has not been evaluated, but it is certainly one that is likely to be beneficial.

Most, though not all, interventions have targeted girls and while boys have their own body image issues, they also make up the social environment of the girls.

Interventions that also change the attitudes of boys are likely to have greater and more enduring impact on girls. Dalle Grave, Luca and Campello (2001) state, "We believe that, even if the vast majority of the subjects with eating disorders are females, it is important to educate also our males to be informed as to what is happening in our society and what they could do to help a friend or another person affected by these disorders. Males, moreover, can play a significant role to reduce the social pressures on women to be thin and beautiful; pressures that promote body dissatisfaction, restrictive diets, and other factors implicated in the development of eating disorders in normal weight subjects."

In other areas of health promotion it has been shown that multi-level approaches that target the individual, the immediate social environment, and the wider community and culture are ultimately those that are most effective. There is every reason to think that the same will be true of preventing body dissatisfaction.

Single issue program vs. general lifestyle program

There is currently no research of which the author is aware that compares the effectiveness of addressing body image issues in a relatively focused program compared to addressing them in a broader health or mental health promotion context. At this stage it seems that the more opportunities taken the better in any context.

Maintenance of Effects

Of the evaluations of selective prevention interventions that observed a positive effect on a body image satisfaction variable, effects were more frequently observed at post-test (i.e., immediately following the program) than at follow-up (usually some months or a year later). Thus, one can conclude that on the whole changes brought about by interventions are typically, though not always, short-lived.

One implication of this observation is that it is insufficient to have one intervention and then no further support of the ideas and attitudes introduced in the program. When young women complete an intervention, they continue to be confronted by contradictory information. Rather than assuming it is futile to conduct a program with short-lived effects, it might be concluded that continued interventions raising developmentally appropriate issues, need to be considered. Booster sessions may also be valuable. However, these are yet to be evaluated.

One-off prevention programs are unlikely to be effective in achieving sustained protection against the development of body image dissatisfaction in this or any health risk area. Most likely, developmentally appropriate interventions should continue to be introduced throughout childhood, adolescence and young adulthood.

Importance of Knowledge Changes

As the central focus of this review has been programs that evaluated body image satisfaction, not all studies reviewed examined knowledge changes. However, where knowledge has been evaluated, programs nearly always achieve positive effects compared to the control condition. How should this be valued? It might be argued that knowledge gains should be viewed very positively even in the absence of other measurable changes in body image. Although knowledge may not immediately translate into behavioural changes, it may well provide protection against external pressures at a later date, and provide a foundation on which to evaluate new situations. There is little doubt that in the current social and cultural environment where pressures to endorse the slim body ideal are so ubiquitous that forewarned is forearmed.

Selective or Targeted Prevention and Timing of Interventions

A frequently asked question is “What is the best age at which to deliver an intervention for maximum impact?” This is, in part, a question of selective vs. targeted prevention. Just as a reminder, selective prevention aims to prevent the development of symptoms in groups that might be thought to be at risk e.g. primary school girls. Targeted prevention aims to reduce symptoms once they have already started to appear. Clearly, in relation to body image issues, the younger the group receiving the intervention the more likely it is that selective rather than targeted prevention will be being conducted. However, intervening in primary age children raises a number of issues. Will participants have the cognitive ability to manage the information? Will they perceive it as sufficiently relevant to internalise the message? Will the effects last long enough to protect against the increased challenges of teenage years?

Of course the answers to these questions depends to some extent on the nature of the intervention. However, there is research to suggest that there is a marked increase in body image and eating concerns between about Grade 7 and 8 (Wertheim et al., 2001) and that intervention at late primary school and early high school represents an

opportunity for prevention of the development of body image problems (e.g. Heinze et al., 2000; O’Dea & Abraham, 2001; Smolak et al., 2001).

Currently, selective interventions will always be insufficient. There will always be older girls who develop body image problems despite an intervention or do not receive a protective intervention if it were available. So there will continue to be an urgent need for targeted interventions. To the question “When’s the best time to start?” it might be suggested that at any age and at any time there will be issues to deal with.

The interventions evaluated in university women have in common the fact that participants had higher than average body image and eating problems and might therefore be described as targeted interventions. Stice & Ragan (2002) note that the most successful interventions do seem to be targeted interventions. They propose: “It may be that those who have struggled with body image and eating related issues have more motivation to engage in the programs and to attempt to change factors that contribute to distress. An additional benefit of targeted programs is that they may be more cost effective because resources can be focused more intensively on those at greatest risk.” (p.169)

At university age it is appropriate to ask women to volunteer or self-select into a program. For the same reasons that targeted interventions are beneficial in university-age women, they may be valuable in school-age girls who wish to participate. However, at present, there are reasons why targeted interventions do not seem so appropriate in younger girls. Many girls with problems may not self-select into a program for fear of stigmatisation and teasing which may well be the consequence. Despite this possibility, young women with established body image problems may prefer to address them in a formal program and be frustrated by their lack of availability. Further research needs to examine the viability of this strategy.

An alternative possibility is to screen all girls in a class and to invite those who score above a threshold to participate in a program. This approach, however, also is likely to result in stigmatising and potential pathologizing of otherwise happy children. Clearly, caution would be required in this approach. An interesting variation on this

approach was evaluated by Austin et al. (2001). In experimental schools, adolescent girls were given a disordered eating self-assessment device and the suggestion was made that if they scored above a cut-off they might like to consider discussing the issue with the school counsellor. Help-seeking for eating problems was increased in the schools in which this program operated, compared to control schools.

In school age children, interventions that are suitable for both girls with no present body dissatisfaction and those who are dissatisfied appear most practical. A number of programs have noted greatest effects on high-risk girls (e.g. O'Dea & Abraham, 2000, Stewart et al., 2001; Heinze et al., 2000) but this has not been a consistent finding. Santonastaso et al. (1999), for example, observed that low-risk girls' body dissatisfaction and bulimic attitudes went down following an intervention, while those of the control had gone up, but there was no difference in attitudes between high-risk girls in the intervention and control groups. Such inconsistencies, however, are somewhat characteristic of this literature. Interventions in which all adolescents can participate are likely to provide maximum opportunity for both prevention and early intervention for body image dissatisfaction.

What About Boys?

As body dissatisfaction is higher in girls than boys, the majority of prevention interventions have had a focus on the needs of females. As mentioned above, it has been recognized that it is important that attitudinal change take place in boys as well as girls to support change in girls. However, research does indicate that boys do have body image concerns which may result in body dissatisfaction, steroid use and body dysmorphic disorder (McCabe & Ricciardelli, 2001; Pope et al., 2000; Ricciardelli et al., 2000). Thus, addressing the issues of boys specifically is also important, especially as they are somewhat different from those of girls.

A number of studies have included boys in the interventions (e.g. Dalle Grave et al., 2001; O'Dea & Abraham, 2000; Smolak & Levine, 2001). O'Dea and Abraham (2000) report that the *Everybody's Different* program was significantly beneficial to male as well as female students. An average of 87% of male students reported that

the education program had been of value to them and 72% indicated that they would like to be involved in another similar education program if it were available in the future. However, when analysed separately, the program had no impact on body satisfaction or drive for thinness in males. Smolak and Levine (2001) noted in their program, that girls appeared more affected by the intervention than boys. They suggest this is not surprising as the intervention was more geared towards the problems of girls.

Despite this need, Phelps, Dempsey, Sapia and Nelson (1999) in a discussion of an intervention program specifically to prevent disordered eating, (no body image data are reported and the study is therefore it is not included in the review summary), raise some very practical issues. Their program was completed by 1066 middle school (grades 6-8) students in coeducational groups. No effects were observed on the disordered eating measures assessed in this age group, in part due to the fact that very few were present in the first place. They drew some important conclusions about male participation. "The maturational level of middle school males is notably lower than their female counterparts. As a result, there were striking gender differences in the ability to actively and appropriately participate in this prevention program. In short, many of the males at this age were unable to critically examine their beliefs about feminine beauty or scrutinize current sociocultural mores. As a result, the research team concluded that coeducational sessions were not efficacious." (p.169)

At the moment it appears that judgement will be required in regard to the inclusion or exclusion of boys. It may well be that girls, perhaps more particularly older girls, will feel inhibited and vulnerable discussing body image issues in the company of boys, and this would have a negative impact on those who arguably need the program most. In addition, the issues for boys, e.g. bulking up and height, may not be very relevant for girls and better be managed in programs specifically for boys. Further, different maturational levels of boys and girls may present difficulties for mixed discussions on some issues. On the other hand, boys contribute in a very powerful way to the social environments of girls and vice versa, so awareness of each group on the pressures on the other, may well be beneficial.

Interventions with Parents

A few school based programs have also tried to encourage parental involvement but participation has been very low (McVey et al., unpublished manuscript A; Smolak et al., 1997). It is unfortunate that parents seem so difficult to engage as, especially at earlier ages, they are likely to be crucial to the development of a healthy or unhealthy body image, for example by teasing or building high self-esteem. Thus, while involving parents would seem to be a very valuable goal, means by which to achieve this seem elusive. Further research is vitally needed in this area.

Do Interventions do Harm?

It is very important to consider whether prevention intervention programs may actually have a counter-productive effect. It is possible, for example, that raising body image issues may make girls more self-conscious about their bodies and more concerned about weight loss at any cost. It cannot be assumed that the good intentions of professionals deeply committed to reducing body image problems necessarily brings about positive outcomes. Further, it is the obligation of all working in the field to be alert to any possible negative effects of interventions, and for research to attempt to assess this. On the other hand, there is NO reliable evidence supporting the view that body image dissatisfaction or disordered eating prevention interventions have any harmful effect.

Because of the profound importance of this issue, I will look briefly at each of the two studies in which a negative finding has been suggested. One of the first studies to raise this issue was that of Carter et al. (1997) who conducted an eight session school based program in 46, 13-14 year old girls and found a slight increase in eating concerns at six months follow-up. However, there was no control group and other studies of this age group find eating concerns normally increase at this age. Further, in the controlled study of the same program (Stewart et al., 2001), an improvement in dietary restraint at six months follow-up in the intervention group was found.

A second study that has been suggested to indicate a negative effect of an intervention program in college women is that of Mann et al. (1997). In an appropriate statistical analysis no effect of the intervention was found on body image or eating measures. However, in a less sound statistical analysis, the authors observed a slight elevation in eating symptoms at four but not 12 weeks following the intervention. It appears that the small effect observed at four weeks was an artefact of the analysis strategy used.

Given the number of intervention studies that have now been conducted in this area that have observed positive or neutral effects, and the unreliability of those cited suggesting caution, it appears appropriate to conclude that there is no known or likely harmful effect of these interventions. It remains important however, that care is taken to observe or evaluate potential negative effects.

Who Shouldn't Participate in or Lead an Intervention Program?

Apart from anyone who doesn't want to, there is no clear answer to the question "Who should not participate in an intervention program?" Based on the research, there are no particular contra-indications. There is no reason to think that those with more severe problems should not participate in an intervention program. In fact, they may be the people to benefit the most. Further research is required to address this issue.

Again the research has not addressed the question "Who should not lead an intervention program?" but there are some practical pointers. Many potential leaders of body image prevention interventions may themselves have body image issues. They may indeed benefit themselves from delivering a program, but they must be especially careful not to inadvertently convey their own concerns to student participants. Such leaders may model body image concerns and inadvertently convey discriminatory attitudes towards all but the slimmest. They may also inadvertently model or encourage potentially unhealthy weight loss strategies. Anyone intending to deliver an intervention should carefully assess his or her own attitudes, concerns and body image, and ensure they have been thoroughly thought through before agreeing to lead an intervention program.

Conclusions

Body dissatisfaction prevention intervention programs are still in their infancy as is their evaluation. Many intervention programs show promise. However, clearly there is a long way to go before it can be suggested that a program will reliably prevent the development of body dissatisfaction. While targeted interventions are generally more effective in reducing body dissatisfaction, it would not seem appropriate to recommend waiting until an individual had developed a problem causing distress, unhappiness and potentially serious health consequences, before attempting to do something about it.

This review suggests the need for more multi-level interventions that do not just attempt to reach individuals but also make an impact on the socio-cultural environment that is toxic to women especially. It also suggests the need for continued research and evaluation so that prevention programs may be built on a firm evidence-based foundation. Much has been learnt in the last ten years about body image intervention programs. The practice and research communities have reason to continue with optimism.

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Table 1: A brief summary of selective intervention studies reviewed and their finding. It includes the presence or absence of a post-test assessment (Post), of a follow-up assessment (Follow-up), an “at risk” analysis (At risk), a body dissatisfaction assessment at post-test (Body at Post), a disordered eating assessment at post-test (Eat at Post), a knowledge assessment at post-test (Know at Post), a body dissatisfaction assessment at follow-up (Body at FU), a disordered eating assessment at follow-up (Eat at FU), a knowledge assessment at follow-up (Know at FU), a body dissatisfaction assessment in “at risk” women (Body in At Risk), a disordered eating assessment in “at risk” women (Eat in At Risk), and a knowledge assessment in “at risk” women (Know in At Risk).

	Post	Follow up	At Risk	Body at Post	Eat at Post	Know at Post	Body at FU	Eat at FU	Know at FU	Body in At Risk	Eat in At Risk	Know in At Risk
<i>Selective Prevention</i>												
1. Dalle Grave et al., 2001	✓	✓12mths	✗	✗	✓	✓	✗	✓	✓	--	--	--
2. Baranowski & Hetherington, 2001	✓	✓6mths	✗	✗	✗	--	✗	✓	--	--	--	--
3. Buddeberg-Fischer et al., 1998	✓	✓3mths	✓	--	✗	--	--	✗	--	--	✗	--
4. Killen et al., 1993	✓	✓7, 14, 24mths	✓	✗	✗	✓	✗	✗	✓	✗	✗	✓p&fu
5. Kusel, 1999	✓	✓3mths	✗	✓	✗	--	✓	✗	--	--	--	--
6. Mann et al., 1997	✗	✓1, 3mths	✓	✗	✗	--	✗	✗	--	✗	✗	--
7. Martz & Bazzini, 1999, Study 1	✓	✗	✗	✓	✓	--	--	--	--	--	--	--
8. Martz & Bazzini, 1999, Study 2	✓	✗	✗	✗	✓	--	--	--	--	--	--	--

9. McVey & Davis, 2002	✓	✓6, 12mths	✗	✗	✗	--	✗	✗	--	--	--	--
10. McVey et al., unpublished A	✓	✓6, 12mths	✗	✓	✓	--	✗	✗	--	--	--	--
11. McVey et al., unpublished B	✓	✓3mths	✗	✓	✓	--	✓	✓	--	--	--	--
12. Moreno & Thelen, 1993	✓	✓1mth	✗	✓	✓	✓	✓	✓	✓	--	--	--
13. Neumark-Stzainer et al., 1995	✗	✓6, 24mths	✓	--	--	--	✗	✓	✓	✗	✓fu	--
14. Neumark-Stzainer et al., 2000	✓	✓3mths	✗	✗	✗	✓	✗	✗	✓	--	--	--
15. O'Dea & Abraham, 2000	✓	✓12mth	✓	✓	--	--	✗	--	--	✓p ✗fu	--	--
16. Paxton, 1993	✓	✓12mth	✗	✗	✗	--	✗	✗	--	--	--	--
17. Santonastaso et al., 1999	✗	✓12mths	✓	--	--	--	✓	✓	--	✗	✗	--
18a. Smolak et al., 1998	✓	✗	✗	✗	✗	✓	--	--	--	--	--	--
18b. Smolak et al., 2001	✗	✓24mths	✗	--	--	--	✓	✓	✓	--	--	--
19. Steiner-Adair et al, in press	✓	✓6mths	✗	✓	✗	✓	✓	✗	✓	--	--	--
20. Stewart et al., 2001	✓	✓6mths	✓	✓	✓	✓	✗	✓	✓	--	✓p &fu	--
21. Stice & Ragan, 2002	✓	✗	✗	✓	✓	--	--	--	--	--	--	--
22. Withers et al., in press	✓	✓1mth	✓	✗	✓	✓	✗	✗	✓	✓p &fu	✓p ✗fu	--

Table 2: A brief summary of targeted intervention studies reviewed and their findings. It includes the presence or absence of a post-test assessment (Post), of a follow-up assessment (Follow-up), a body dissatisfaction assessment at post-test (Body at Post), a disordered eating assessment at post-test (Eat at Post), a knowledge assessment at post-test (Know at Post), a body dissatisfaction assessment at follow-up (Body at FU), a disordered eating assessment at follow-up (Eat at FU) and a knowledge assessment at follow-up (Know at FU).

	Post	Follow-up	Body at Post	Eat at Post	Know at Post	Body at FU	Eat at FU	Know at FU
<i>Targeted Intervention</i>								
Higgins et al., 1998	✓	✓6, 12mths	✓	✓	--	✓	✓	--
Posovac, 2001	✓	✗	✓	--	--	--	--	--
Stice, 2000	✓	✓1mth	✓	✓	--	✓	✗	--
Stice, 2001	✓	✓1mth	✓	✗	--	✗	✗	--
Winzelberg, 2000	✓	✓3mths	✗	✗	--	✓	✗	--
Zabinski, in press	✓	✓10wks	✗	✗	--	✗	✗	--

This review, along with *Shapes: Body Image Program Planning Guide* and *Best Bets: Body Image Programs Overview*, is part of the Department of Human Services series on evidence-based health promotion.

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