

Intended and Unintended Effects of an Eating Disorder Educational Program: Impact of Presenter Identity

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ABSTRACT

Objective: This study examines the impact of presenter identity on the intended and unintended effects of an eating disorder educational program.

Method: High school students viewed one of two identical videotaped discussions about eating disorders. In one condition, the presenter was identified as an “eating disorder specialist”; in the other condition, she was identified as a “recovered patient.” Before and after watching the video, participants reported on their awareness of various eating disorder symptoms, their beliefs about individuals with eating disorders, and their opinion of the presenter.

Results: At Time 2, both groups reported increased knowledge about eating disorder

ers. There was also evidence of increased endorsement of a number of implicit messages, particularly among those in the “recovered patient” group (e.g., “Girls with eating disorders are very pretty”; “It would be nice to look like” the presenter).

Conclusion: The unintended effects of eating disorder educational programs should be investigated before implementation because of their potential to undermine program efficacy. © 2006 by Wiley Periodicals, Inc.

Keywords: eating disorder educational programs; implicit messages; intended effects; unintended effects

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Introduction

The U.S. House of Representatives has deliberated the Eating Disorders Awareness, Education, and Prevention Act¹ in several successive congressional sessions from 2000 to the present. If passed, this legislation would promulgate the use of federal education funds to increase the awareness of eating disorders among parents and students, as well as to train educators in eating disorder prevention techniques. The prospect of implementing a nationwide prevention curriculum underscores the importance of identifying empirically supported strategies. A recent meta-analysis of research on eating disorder prevention programs indicated that 53% of interventions resulted in the reduction of at least one eating-disorder risk factor (e.g., body dissatisfaction), and 25% led to the reduction of eating pathology (e.g., reduced frequency of binge eating and purging).² Importantly, a number of moderators of intervention effects were

identified. For example, larger effect sizes were observed among programs that targeted high-risk populations (compared with those presented to a more general audience), and interactive programs were more effective than didactic programs.

One factor that has been relatively neglected in the empirical literature on eating disorder intervention and prevention programs is the impact of the characteristics of the presenter herself or himself. Clinicians and other specialists who work in the area of eating disorders are often recruited by various community groups (e.g., schools) to give educational talks about eating disorders. Their expertise is desirable as a means of effectively communicating information about eating disorders to audience members. Another common approach is to have presentations delivered by individuals who have themselves recovered from an eating disorder. The notion that listening to the personal story of a recovered individual would be preventative or therapeutic for vulnerable audiences is intuitively appealing. Twelve-step self-help programs, which are widely implemented in treating drug and alcohol addiction, feature personal recovery stories within a group format.³ In the context of educational programs for eating disorders, not only can recovered individuals provide information about the etiology, symptoms, and treatment of eating disorders in general, but they are also uniquely disposed to provide descrip-

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tions of their own personal experiences with the illness, which the audience members might find particularly moving. These types of activities appear to be commonplace at colleges and universities; in one study, 13 of 18 randomly selected campuses with eating disorder prevention programs reported using recovered students as presenters.⁴

Despite the intuitive appeal of having individuals who have experienced and recovered from an eating disorder deliver educational materials, the effectiveness of these prevention efforts has been debated in the literature.^{4,5} Several theorists have suggested that such interventions might be problematic in that they risk unintended iatrogenic outcomes by providing suggestive information about unhealthy weight control techniques, or even normalizing and glamorizing eating disorder symptoms,⁶ particularly among at-risk individuals. In particular, Garner⁷ proposed that personal stories, especially those of celebrities, may inspire vicarious learning and emulation of disordered behaviors. The finding that some individuals have reported attempting self-induced vomiting after learning of the behavior via magazine articles about eating disorders^{8,9} lends credibility to these concerns. More recently, investigators have expressed growing apprehension over pro-eating disorder websites, which promote anorexia nervosa and bulimia nervosa as lifestyle choices rather than psychiatric conditions by featuring weight loss and purging tips, chat rooms, and “thinspiration” photos of ultra-slim models. In a study of eating disorder patients, Wilson et al.¹⁰ found that 61% of those who had visited pro-eating disorder websites reported learning and implementing new weight loss or purging techniques as a result.

To our knowledge, only two studies^{4,11} have investigated the impact of recovered patients on prevention program participants’ eating attitudes and behaviors.* First, Mann et al.⁴ conducted a controlled study of small group panel discussions with two “poised, self-assured, attractive and personable” (p. 217) campus leaders who had recovered from anorexia and bulimia nervosa. The presenters provided educational information on etiology and treatment as well as personal accounts of their struggles. Eating disorder symptoms were assessed before the intervention, as well as 4 and 12 weeks after the intervention. When the researchers conducted a within-subjects analysis that included participants who completed the survey at all three time points, they found no effect of the intervention on eating disorder symptoms. In contrast, using a “more exploratory assess-

ment” (p. 220) that included between-subjects comparisons of all participants who completed the survey at any time point, the researchers reported that at the 4-week follow-up, the intervention group had significantly higher eating disorder symptoms than were found in the control group. This latter finding was interpreted as indicating an iatrogenic effect of the intervention. However, the appropriateness of the exploratory analyses and subsequent conclusions have been challenged.²

In another study, Heinze et al.¹¹ presented 7th-graders and 10th-graders with an educational video in which the presenter, an actress who had previously recovered from anorexia nervosa, differentially identified herself as a recovered anorexic, a peer, an expert, or did not provide a specific identity. After viewing these videos, participants expressed decreased drive for thinness and intentions to diet regardless of alleged presenter identity. In their study, the recovered-anorexic presenter did not provide any personal details related to her ill state or recovery, and this might have been a critical difference between the Heinze et al.¹¹ study and the Mann et al.⁴ study.

The issue of presenter identity and disclosure of personal experiences in primary prevention for eating disorders remains a contentious one. The purpose of the present study was to explore one potential mechanism through which presenter identity could impact audience members. In particular, we focused on the explicit messages (intended effects) and on some possible implicit messages (unintended effects) of educational programs. We predicted that an eating disorder specialist and a recovered patient would be equally effective in communicating key information about the symptoms of eating disorders and the seriousness of those conditions. We also predicted, however, that the specialist and recovered patient would diverge with respect to the unintended or implicit messages that they conveyed. Based on previous theorizing regarding the normalization and glamorization of eating disorders, we hypothesized that an educational program delivered by a recovered patient would result in more positive views of women with eating disorders in general, and of the recovered-patient presenter in particular.

Method

Participants

Participants were 376 students who were present at their all-female, predominantly Caucasian, parochial high school on the day the data were collected. Participants ranged in

*A third study¹² also used a recovered patient as a part of a prevention program, but the authors did not directly assess the impact of that particular component on the various outcomes.

age from 12 to 18 years ($M = 15.50$, $SD = 1.16$); 25.3% ($n = 95$) were in 9th grade, 23.7% ($n = 89$) were in 10th grade, 26.3% ($n = 99$) were in 11th grade, 20.7% ($n = 78$) were in 12th grade, and 4.0% ($n = 15$) did not report their grade level. The protocol for this study was approved by the Yale School of Medicine Human Investigation Committee.

Materials

Educational Videotape. We produced two professional quality 12-minute videotapes depicting a clinical psychologist interviewing the third author (KMB) about eating disorders. The two videotapes were identical except that the 29-year-old female presenter was introduced by the interviewer as “Dr. Kristin Siebrecht, eating disorders specialist” in the first tape and as “Kristin, a recovered eating disorder patient” in the second. This information also appeared on the screen periodically throughout the video. The presenter was of normal weight, was well groomed and conservatively dressed, and wore light makeup. The first minute and a half of the interview described the personal story of a woman with an eating disorder who began dieting, binge-eating, and purging after being teased by her peers. In the specialist condition, the story was described as that of a typical patient, whereas in the recovered-patient condition, it was represented as the presenter’s own experience. Each of the videotaped interviews then presented identical information regarding the symptoms, prevalence, etiology, health consequences, and treatment of anorexia nervosa and bulimia nervosa.

Eating Disorders Awareness Questionnaire. The Eating Disorders Awareness Questionnaire (EDAQ) was constructed for the present study to assess the educational impact (intended effects) of the video. The scale contained 14 items addressing material that was explicitly discussed in the video presentation, including basic knowledge about eating disorders and the perceived seriousness of eating disorders. To simplify wording, most items were phrased referring to “girls” because the participants were enrolled in an all-female high school and most of those who develop eating disorders are female. Sample items include: “Girls who have anorexia nervosa are very afraid of becoming fat,” “Girls who lose a lot of weight can stop getting their periods,” and “People can die from eating disorders.” Participants rated their agreement with these statements on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). After some items were reversed scored, responses were summed and averaged, with higher scores indicating greater knowledge (Cronbach’s $\alpha = .70$).

Implicit Message Items. Interspersed throughout the EDAQ were an additional eight items regarding the personal characteristics of individuals with eating disorders, how difficult it is to recover from an eating disorder, and

whether recovered individuals can lead normal lives. These items were designed to measure the implicit messages (unintended effects) that might be communicated by the video, and were based on previous theorizing regarding the normalization and glamorization of eating disorders. The eight implicit message (IM) items were as follows: “Having an eating disorder would not be that bad if it meant you could look like a model,” “Girls with eating disorders are usually very smart,” “Girls with eating disorders are usually very pretty,” “Girls with eating disorders are very strong (their personalities),” “Girls with eating disorders are especially in control of their lives,” “It’s not that hard to recover from an eating disorder if you get one,” “People who recover from eating disorders can go on to lead normal lives,” and “Having an eating disorder is a good way to lose weight.” Participants rated their agreement with IM items on the same five-point EDAQ scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The internal consistency for these items was low (Cronbach’s $\alpha = .38$); therefore, each item was treated separately in the analyses described below. Two additional IM items regarding the presenter herself were assessed only after participants viewed the video: “Kristin [Dr. Siebrecht], the woman being interviewed in the video, is a good role model for girls my age” and “It would be nice to look like Kristin [Dr. Siebrecht], the woman being interviewed in the video.”

Procedure

Participants were divided into two conditions by the first letter of their last names (A–L and M–Z) and led to separate rooms where they would complete the study; both groups participated simultaneously. Participants first completed the EDAQ, including the eight IM items. Participants then watched one of the two 12-minute videotaped interviews. After watching their assigned video, participants again completed the EDAQ, the IM items, and the two additional items about the presenter being “a good role model” and “nice to look like.” Participants were then debriefed as to the study purpose and were informed that the presenter in both videos was actually an eating disorder specialist. The presenters then led a media literacy discussion of the idealized body shapes depicted in television and magazine images.

Results

Of the 376 initial participants, 17 had missing data, leaving 359 participants with complete data available for the following analyses. Of these 359, 127 were assigned to the specialist condition and 232 were assigned to the recovered-patient condition.

TABLE 1. Means (SD) for the Eating Disorders Awareness Questionnaire (EDAQ) and implicit message (IM) items

	Specialist		Recovered Patient	
	Time 1	Time 2	Time 1	Time 2
EDAQ	47.57 ^a (5.58)	51.28 ^b (5.75)	47.00 ^c (5.39)	51.54 ^d (4.48)
IM items				
Model	1.50 ^a (0.97)	1.39 ^b (0.98)	1.53 ^c (0.98)	1.39 ^d (0.90)
Strong	2.18 ^a (1.09)	2.28 ^b (1.07)	1.94 ^c (0.99)	2.19 ^d (1.05)
Not hard to recover	1.39 ^a (0.80)	1.69 ^b (1.00)	1.68 ^c (1.14)	1.92 ^d (1.15)
Smart	3.02 ^a (0.77)	3.07 ^a (0.78)	2.79 ^c (0.89)	2.92 ^d (0.87)
Normal lives	3.65 ^a (1.24)	3.58 ^a (1.14)	3.62 ^c (1.16)	4.00 ^d (0.99)
Pretty	2.54 ^a (0.93)	2.60 ^a (0.92)	2.39 ^c (0.96)	2.61 ^d (0.91)
In control	1.82 ^a (1.00)	1.67 ^a (0.94)	1.59 ^c (0.95)	1.76 ^d (1.17)
Lose weight	1.39 ^a (0.82)	1.26 ^a (0.74)	1.40 ^c (0.84)	1.37 ^c (0.87)
IM posttest only				
Role model	—	3.59 ^e (1.03)	—	3.90 ^f (1.06)
Nice to look like	—	2.45 ^e (1.16)	—	3.04 ^f (1.21)

Note: Superscripts a, b, c, d, e, and f denote group differences at $p < .05$.

EDAQ

A time \times condition analysis of variance (ANOVA) on EDAQ scores revealed a significant main effect of time, $F(1,357) = 252.80$, $p < .001$, $\eta_p^2 = .42$, indicating that participants' overall understanding of basic facts about eating disorders and the relative seriousness of those disorders increased after watching the educational video (see **Table 1**). As predicted, there was no significant time \times condition interaction.

Implicit Messages

The unintended effects of the education programs were examined using a 2 \times 2 (time \times condition) multivariate analysis of variance (MANOVA) on the IM items, which revealed a significant main effect for time, $F(8,347) = 5.13$, $p < .001$, $\eta_p^2 = .11$, as well as a significant time \times condition interaction, $F(8,347) = 2.70$, $p = .01$, $\eta_p^2 = .06$. Each IM item was then examined in separate univariate analyses (see **Table 1**).

There was a main effect of time for the item "Having an eating disorder would not be that bad if it meant you could look like a model," with ratings decreasing after the interventions ($p = .01$, $\eta_p^2 = .02$). There was also a main effect of time for the items "Girls with eating disorders are very strong (their personalities)" ($p = .01$, $\eta_p^2 = .02$), and "It's not that hard to recover from an eating disorder if you get one" ($p < .001$, $\eta_p^2 = .04$), indicating that ratings increased after watching the video. A trend was found for a main effect of time for the item "Girls with eating disorders are usually very smart" ($p = .06$, $\eta_p^2 = .01$).

For the item "People who recover from eating disorders can go on to lead normal lives," there was a main effect of time, $F(1,354) = 6.55$, $p = .01$, $\eta_p^2 = .02$, qualified by a significant time \times condition interaction, $F(1,354) = 12.70$, $p < .001$, $\eta_p^2 = .04$. Simple-effects analysis revealed that participants in the recovered-patient group significantly increased

their ratings ($p < .001$), whereas participants in the specialist condition did not ($p = .53$). For the item "Girls with eating disorders are usually very pretty," there was a main effect of time, $F(1,354) = 8.61$, $p = .004$, $\eta_p^2 = .02$, qualified by a marginally significant time \times condition interaction, $F(1, 354) = 3.00$, $p = .08$, $\eta_p^2 = .01$. Simple-effects analysis revealed that participants in the recovered-patient condition significantly increased their ratings ($p < .001$), whereas those in the specialist condition did not ($p = .45$). For the item "Girls with eating disorders are especially in control of their lives," there was only a significant time \times condition interaction, $F(1,354) = 5.35$, $p = .02$, $\eta_p^2 = .02$. Simple-effects analysis again revealed that ratings increased in the recovered-patient condition ($p = .04$), but not in the specialist condition ($p = .19$). Finally, there was no main effect or interaction for the item "Having an eating disorder is a good way to lose weight."

A one-way MANOVA on the two posttest items ("good role model" and "nice to look like") yielded a significant effect of condition, $F(2,350) = 10.98$, $p < .001$, $\eta_p^2 = .06$. In both cases, ratings were higher in the recovered-patient condition than in the specialist condition (good role model: $p = .01$, $\eta_p^2 = .02$; nice to look like: $p < .001$, $\eta_p^2 = .05$).

Conclusion

The aim of the present study was to determine whether an educational program designed to increase awareness about eating disorders would have a differential impact, particularly in terms of some possible implicit messages, when delivered by an eating disorder specialist, as compared with someone who herself had purportedly recovered from an

eating disorder. As hypothesized, the educational video successfully increased knowledge about the specific symptoms of eating disorders and the seriousness of those conditions (the intended effects). Also as hypothesized, the presenter's purported identity did not differentially impact knowledge acquisition. The observed increase in knowledge about eating disorders is consistent with the findings of Stice and Shaw's² meta-analysis that most prevention programs were successful in increasing such knowledge. The finding is also consistent with previous research in showing that presenter identity does not differentially influence knowledge acquisition.^{11,13} Perhaps it is the case that both types of presenters were viewed as being "experts" on eating disorders, one because of professional training, and the other because of personal experience.

In addition to the intended effects of the educational videos on knowledge about eating disorders, we also found preliminary evidence of some unintended effects, or implicit messages, associated with the educational videos. Several of these unintended effects emerged irrespective of presenter identity. After watching the video, participants in both the specialist and recovered-patient conditions were less likely to indicate that having an eating disorder would be "not that bad if it meant you could look like a model," were less likely to indicate that it is difficult to recover from an eating disorder, and were more likely to agree that girls with eating disorders have strong personalities. Other IM items, however, were differentially affected by the presenter's identity. Participants who saw the recovered-patient video (but not the specialist video) were more likely to indicate that girls with eating disorders were pretty, were in control of their lives, and could go on to lead normal lives when they recover. In addition, those who saw the recovered-patient video were more likely to perceive the presenter as a "good role model" and as "nice to look like" than were participants who saw the specialist video.

It should be noted that, in general, the ratings for each of the IM items were fairly low and mostly below the midpoint of the scale. This might (1) reflect a general reluctance to strongly agree with what might be considered socially undesirable statements (e.g., "Having an eating disorder is a good way to lose weight"), or (2) suggest that our measures were not sensitive enough to fully capture the implicit messages that were conveyed through the videos. Nonetheless, the observed effects were statistically reliable and in the small-to-moderate range. The fact that even these modest changes emerged after watching a single 12-minute video is remarkable.

Although we have attributed the unintended effects observed in the present study to implicit messages contained in the educational video, it is also possible that having participants complete the same questionnaire pre- and post-video may have created demand characteristics for participants to change their item ratings when completing the questionnaire the second time. The fact that impact of the videos varied across items and across conditions, however, suggests that such demand characteristics cannot fully account for the data. Future studies including a control group viewing a video on a topic unrelated to eating disorders would be useful to further rule out demand characteristics as an alternative explanation for the results of the present study.

Taken as a whole, our findings suggest that educational programs designed to increase awareness about eating disorders communicate not only the intended educational information, but also implicit messages about the characteristics of individuals with eating disorders and the prospects of recovery. This might be particularly true when the program is delivered by someone who is believed to have herself recovered from an eating disorder. Theoretically, the implicit messages observed in the current study could be viewed as being positive or negative. On the one hand, eating disorders are to some extent socially stigmatized.^{14,15} This stigmatization was in part reflected in the present study in that baseline ratings of some of the personal characteristics of individuals with eating disorders, such as smart and pretty, were fairly low. One possible effect of these implicit messages, therefore, is that they could serve to partially reduce the stigma of eating disorders, and could in turn promote self-disclosure of symptoms, which is associated with a higher likelihood of subsequent treatment seeking.¹⁶ Similarly, promoting the belief that recovery is attainable and that individuals can go on to lead normal lives after recovery may also be beneficial; one study found that messages emphasizing the efficacy of current treatments as well as the medical seriousness of eating disorder symptoms were the most effective in prompting individuals with bulimia nervosa to seek professional help.¹⁷

In contrast, it is also possible that some of these implicit messages could contribute to the glamorization of eating disorders, which might in turn have negative consequences. Several theorists have expressed concern over the potential effects of the glamorization of eating disorders on people's eating attitudes and behaviors,^{6,7,18} and these concerns are particularly salient in the context of media presentations of eating disorders. A recent cross-sectional study found that individuals with higher levels of eating disorder symptoms exhibited greater implicit asso-

ciations between anorexia and glamour than did low symptom participants.¹⁹ In the present study, we found preliminary evidence that participants perceived people with eating disorders more positively after watching the educational program, particularly when it was delivered by a recovered patient. It is possible that some implicit messages might have iatrogenic effects on at-risk individuals' eating attitudes and behaviors. A worthwhile endeavor for future research would be to determine whether, and to what extent, existing eating disorder prevention programs convey implicit messages that glamorize eating disorders.

Some limitations to the present study are worth noting. First, the sample was drawn from a single all-female high school. It is possible that students at all-female schools might differ from students at co-educational schools on certain characteristics (e.g., socioeconomic status, achievement orientation) that could potentially influence the study results and limit their generalizability. A second limitation is that, although the measures that we created for the present study showed adequate internal consistency, other indices of reliability and validity remain unknown.

A final limitation of the present study is that we did not assess the impact of the implicit messages on recipients' eating attitudes and behaviors, so the broader implications of our findings remain unknown. We suggested earlier that one explanation for the difference between the findings of Mann et al.⁴ and Heinze et al.¹¹ was that, in the former study, the presenter provided a personal account of her struggles, whereas in the later study, the presenter did not. Insofar as implicit messages might emerge from personal accounts of eating disorders in particular, it is possible that the differential effects observed in those two studies are related in part to the implicit messages that were conveyed. An important consideration for future research, therefore, would be to examine the extent to which these implicit messages impact people's eating attitudes and behavior in the longer term. Developing a better understanding of the implicit messages communicated in prevention programs, as well as the impact of these implicit messages on attitudes and behavior, could ultimately lead to the development of more efficacious programs.

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