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Effectiveness of a dissonance-based eating disorder prevention program for ethnic groups in two randomized controlled trials

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ABSTRACT

Objective: As young women from certain ethnic minority groups have reported less pursuit of the thin ideal and body dissatisfaction than European American young women we tested whether a dissonance-based prevention program designed to reduce thin-ideal internalization among women with body dissatisfaction is less effective for the former relative to the later groups. We also tested whether intervention effects are larger when participants from minority groups worked with a facilitator matched versus not matched on ethnicity.

Method: In Study 1, 426 female undergraduates (*M* age = 21.6, *SD* = 5.6) were randomized to clinician-led *Body Project* groups or an educational control group. In Study 2, 189 female undergraduates were randomized to peer-led *Body Project* groups or a waitlist control condition.

Results: Although there was some variation in risk factor scores across ethnic groups, ethnic minority participants did not demonstrate consistently higher or lower risk relative to European American participants. Intervention effects did not significantly differ for participants from minority groups versus European American participants in either trial. There was no evidence that effects were significantly larger when minority participants and facilitators were matched on ethnicity.

Conclusions: Results suggest that the *Body Project* is similarly effective for African American, Asian American, European American, and Hispanic female college students, and when participants and facilitators are matched or not on minority ethnicity status, implying that this prevention program can be broadly disseminated in this population.

Eating disorders, which afflict 10–13% of young women (Hudson, Hiripi, Pope, & Kessler, 2007; Stice, Marti, & Rohde, 2013), are marked by chronicity, relapse, distress, impairment, and future obesity, depression, suicide attempts, anxiety disorders, substance abuse, and mortality (Arcelus, Mitchell, Wales, & Nielsen, 2011; Crow et al., 2009; Stice, Marti, & Rohde, 2013; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Thus, a public health priority is to develop eating disorder prevention programs that are effective for most adolescent girls and young women so that they can be widely disseminated.

Certain prevention programs have reduced eating disorder symptoms in a single trial (e.g., Jones et al., 2008; McVey, Tweed, & Blackmore, 2007; Neumark-Sztainer, Butler, & Palti, 1995), but multiple trials conducted by independent teams have provided support for a dissonance-based eating disorder prevention program for young women at risk for eating disorders due to body dissatisfaction (Stice, Shaw, Burton, & Wade, 2006). In the *Body Project* intervention participants engage in verbal, written, and behavioral exercises in which they critique the thin ideal espoused for women. These activities theoretically produce cognitive dissonance that motivates participants to reduce pursuit of this ideal, which decreases body dissatisfaction, unhealthy weight control behaviors, negative affect, and eating disorder symptoms. In support of the intervention theory for this program, reductions in thin-ideal internalization mediate the effects of the *Body Project* on change in the other outcomes (Seidel, Presnell, & Rosenfield, 2009; Stice, Presnell, Gau, & Shaw, 2007). In line with the thesis that dissonance induction contributes to intervention effects, participants assigned to versions of this intervention designed to maximize dissonance induction, versus content-matched versions designed to minimize dissonance induction, showed greater eating disorder symptom reduction (Green, Scott, Diyankova, Gasser, & Pederson, 2005; McMillan, Stice, & Rohde, 2011).

Efficacy trials show that this prevention program produces greater reductions in risk factors (e.g., thin-ideal internalization,

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body dissatisfaction, negative affect), eating disorder symptoms, functional impairment, and future eating disorder onset over a 3-year follow-up versus control conditions or alternative interventions (Becker, Smith, & Ciao, 2005; Becker et al., 2010; Halliwell & Diedrichs, 2013; Matusek, Wendt, & Wiseman, 2004; Mitchell, Mazzeo, Rausch, & Cooke, 2007; Stice, Marti, Spoor, Presnell, & Shaw, 2008; Stice et al., 2006). Effectiveness trials have confirmed that this intervention produces similar effects when high school and college counselors recruit and deliver the intervention to at-risk young women with body image concerns under ecologically valid conditions, including significant eating disorder symptom reductions that persist through 3-year follow-up (Stice, Butryn, Rohde, Shaw, & Marti, 2013; Stice, Rohde, Shaw, & Gau, 2011).

Although the efficacy and effectiveness trials included participants from multiple ethnic groups, it is unclear whether this prevention program is similarly effective for various ethnic groups. This is crucial to expressly test before broadly disseminating the *Body Project* because there is evidence that relative to European American young women, African Americans and Hispanic young women report less subscription to the thin ideal and body dissatisfaction (Grabe & Hyde, 2006; Roberts, Cash, Feingold, & Johnson, 2006; Shaw, Ramirez, Trost, Randall, & Stice, 2004; Warren, Gleaves, Cepeda-Benito, Fernandez, & Rodriguez, 2005). Although these effects are not large or consistently observed, these findings imply that the *Body Project* may be less effective for minority groups because it focuses on critiquing the thin ideal among young women with body dissatisfaction. The finding that the *Body Project* produces significantly stronger effects for young women with higher versus lower thin-ideal internalization (Stice, Marti, Shaw, & O'Neil, 2008) suggests that if members from certain minority groups report less subscription to this ideal, the intervention might be less effective for those groups. If this eating disorder prevention program is less effective for certain ethnic groups, it may be necessary to create alternative versions of this prevention program that are tailored for different ethnic groups to maximize intervention effects.

To date, only one study has tested whether the *Body Project* produced significantly weaker effects for participants from certain ethnic groups relative to European American participants (Rodriguez, Marchand, Ng, & Stice, 2008). There were no significant differences in the effects of the *Body Project* on eating disorder risk factors or symptoms for European American, Asian American, and Hispanic participants. However, this study did not test whether the effects of the *Body Project* were significantly different for African American versus European American participants. Further, this initial trial examined only pre-to-post effects. Thus, the aim of Study 1 was to test whether the *Body Project* produced similar intervention effects for African American, Asian American, and Hispanic participants relative to European American participants through 1-year follow-up. The evidence that compared to European American participants, African American and Hispanic participants report less subscription to the thin ideal and body dissatisfaction suggests that the *Body Project* may be less effective for the former participants because the intervention strives to reduce pursuit of this unrealistic beauty ideal among women with body dissatisfaction.

Scholars have also argued that psychological treatments may be more effective for members from ethnic minority groups if a clinician from the same ethnic group delivers the intervention (Maramba & Nagayama Hall, 2002; Shin et al., 2005; Sue, Fujino, Hu, Takeuchi, & Zane, 1991). Theoretically a match between the ethnicity of the client and clinician results in a greater similarity in worldviews and credibility (Byrne, 1971; Simons, Berkowitz, & Moyer, 1970; Zane et al., 2005). However, meta-analytic reviews have found minimal effects of ethnic matching on premature termination of clients, number of sessions attended, functioning at termination, or treatment effects (Cabral & Smith, 2011; Maramba & Nagayama Hall, 2002; Shin et al., 2005). Yet we were unable to locate research that has tested whether ethnic matching is related to the magnitude of effects of prevention programs. Thus, the first aim of Study 2 was to test whether intervention effects are larger for ethnic minority group members when they matched the ethnicity of at least one of the facilitators versus when they did not. Data for Study 2 were drawn from a pilot trial of peer-led *Body Project* groups; the fact that more peer leaders were from minority groups relative to the clinician-leaders involved in Study 1 makes this trial well suited to evaluating the effects of ethnic matching. A second aim of Study 2 is to provide a test of whether the *Body Project* produced similar intervention effects for African American, Asian American, and Hispanic participants relative to European American participants when this eating disorder prevention program is facilitated by peer-leaders versus clinicians, as this question has not been addressed previously. Given that peer-leaders are currently delivering the *Body Project* at over 100 universities in the US, it is crucial to test whether intervention effects are similar for different ethnic groups.

Study 1 methods

Participants and procedures

Participants were 437 young women (*M* age = 21.6, *SD* = 5.6; *M* BMI [kg/m^2] = 24.4, *SD* = 5.0) recruited from seven universities in Oregon, Pennsylvania, and Texas. Participants were assigned to *Body Project* groups, an educational brochure control condition, or a video control condition. Given that there were no significant differences in change in outcomes for the two control conditions, we combined them to increase sensitivity of the analyses. We classified participants into four major ethnic groups: African American, Asian American/Pacific Islander, European American, and Hispanic. Because there were not enough Native American participants to test the effects of this intervention for this ethnic group, they were excluded from analyses, reducing the intervention and control groups to 197 and 229 participants respectively. The control group consisted of 41 Asian Americans, 14 African Americans, 151 European Americans, and 23 Hispanics; the intervention group consisted of 31 Asian Americans, 13 African Americans, 124 European Americans, and 29 Hispanics. Average parental education was 14% high school graduate or less, 24% some college, 34% college graduate, and 29% advanced graduate/professional degree.

From October 2009 to October 2011 college clinicians recruited participants using e-mails and posters inviting women with body image concerns to participate in a trial designed to improve body acceptance. We provided text for recruitment e-mails, which were distributed through list-serves, and recruitment fliers, which were posted around campus. Participants had to answer yes when asked, "*Do you have body image concerns?*" during phone screening with research staff. Assessors collected informed written consent. Research staff excluded students who met criteria for DSM-IV anorexia nervosa, bulimia nervosa, or binge eating disorder at pretest. The 4 students who met criteria for these disorders were encouraged to seek treatment because these interventions were not sufficient for them and given referrals. Fig. 1 provides data on participant flow through this trial. Participants were randomly assigned to condition using a random number table. The *Body Project* consisted of 4 weekly 1-h group sessions with 5–9 participants of various ethnicities. Facilitators delivered the intervention using a scripted manual.