

A Cross-Cultural Examination of Weight-Related Teasing, Body Image, and Eating Disturbance in Swedish and Australian Samples

Katarina Lunner,¹ Eleanor H. Werthem,^{2*} J. Kevin Thompson,³ Susan J. Paxton,⁴
Fiona McDonald,² and Klara S. Halvaarson¹

¹ Department of Public Health and Caring Sciences, Uppsala University,
Uppsala, Sweden

² School of Psychological Science, La Trobe University, Bundoora, Australia

³ Department of Psychology, University of South Florida, Tampa, Florida

⁴ Department of Psychology, University of Melbourne, Melbourne, Australia

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Abstract: **Objective:** To evaluate, cross-culturally, a model for the prediction of eating disturbance from factors such as body image disturbance, negative verbal feedback regarding appearance (teasing), and body mass index (BMI). **Methods:** Three samples of adolescent girls from Sweden (Grade 8: $n = 260$; mean age = 14.3) and Australia (Grade 7: $n = 159$; mean age = 12.8 and Grade 8: $n = 210$; mean age = 13.7) completed two measures of eating restraint and one scale each reflective of bulimic symptomatology, teasing history, and body dissatisfaction. **Results:** Path analyses revealed that BMI predicted teasing and body dissatisfaction, and body dissatisfaction predicted level of eating restraint. In all three samples, there was evidence of partial mediation by teasing of the connection between BMI and restraint. **Discussion:** The results partially replicate previous work with U.S. samples. The findings are discussed with regard to the need for further cross-cultural work and its relevance for identifying factors for early intervention and prevention programs. © 2000 by John Wiley & Sons, Inc. *Int J Eat Disord* 28: 430–435, 2000.

Key words: body image; eating disturbance; teasing; path analysis

INTRODUCTION

The evaluation of putative risk factors for the development of body image disturbance and eating dysfunction in adolescence is currently one of the most important and active areas of inquiry in the field of eating disorders (Shisslak et al., 1998; Smolak, Levine, & Striegel-Moore, 1996; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). One variable

*Correspondence to: Eleanor H. Werthem, Ph.D., School of Psychological Science, La Trobe University, Bundoora, VIC 3083, Australia. E-mail: e.werthem@latrobe.edu

that has received considerable empirical support is that of teasing or negative commentary regarding appearance. Prospective and covariance structural modeling (CSM) investigations have found this factor to be predictive of body image disturbance (Cattarin & Thompson, 1994; Thompson, Covert, Richards, Johnson, & Cattarin, 1995). In addition, it appears that such negative social feedback may be differentially targeted at overweight or obese individuals (Wertheim, Paxton, Schutz, & Muir, 1997). Because higher body mass index (BMI) is also associated with increased body dissatisfaction (Thompson, 1996), it is important to determine the relative contribution of appearance feedback and degree of obesity to body image disturbance.

In one such study, using CSM as the analytical strategy, Thompson, Covert, et al. (1995) found that the association between level of obesity and body dissatisfaction was fully mediated by weight-related teasing. There was also evidence that teasing had either a direct effect on restrictive eating (one sample) or an effect mediated by body image disturbance (a second sample; Thompson, Covert, et al., 1995). Replicating such research cross-culturally is vitally important. From a theoretical perspective, such work allows for the evaluation of the generalizability of findings from a singular country or culture; from an applied perspective, this type of research can indicate the potential utility of extant prevention or early intervention methods (Smolak, Levine, & Schermer, 1998). The present study represents such an effort with samples from Australia and Sweden. The primary aim of this study was to investigate whether a model of BMI and teasing would predict body dissatisfaction and drive for thinness, as found previously in U.S. samples (Thompson, Covert, et al., 1995). Of particular interest was whether the relationship between BMI and body dissatisfaction would consistently be mediated, either partially or completely, by teasing in two cross-cultural samples. A secondary aim of the study was to compare overall levels of body dissatisfaction, teasing experiences, and eating disturbance for female adolescents from Australia and Sweden.

METHOD

Participants

The Swedish sample comprised 263 female adolescents enrolled in Grade 8 (mean age = 14.3, $SD = .50$, range 14–17 years) in Uppsala county schools attained by random selection of classes with stratification for housing areas: city, suburbs, and countryside. Response rate to invitations to participate was 59%. The Australian sample was recruited from coeducational state secondary schools representing a variety of socioeconomic status areas in the suburban Melbourne area (five schools) or a large country town in the same state (one school). The two Australian samples included 159 females from Grade 7 (mean age = 12.82, $SD = .44$, range 11.8–13.9) and 210 girls from Grade 8 (mean age = 13.71, $SD = .37$, range = 12.9–14.7). Response rate was 78%.

Measures

An extended version of the Demographic and Dieting Questionnaire (Maloney, McGuire, Daniels, & Specker, 1989; Swedish version: Edlund, Hallqvist, & Sjödon, 1994) was completed by the Swedish students. Swedish students answered the question: Have you ever tried to lose weight? (Yes/No). Australian students answered a short demo-

graphic questionnaire, including the item: "Have you ever been on a diet to lose weight?" (Rated from *never* to *many times*).

Three subscales of the Eating Disorder Inventory (EDI; Garner, 1991a, 1991b) were used: Drive for Thinness (DT), Body Dissatisfaction (BD), and Bulimia (B). The children's version (EDI-C) has been adapted for children 7 years and older (Garner, 1991b) and was used for the Swedish sample. The original scales were used for the Australian samples. Only two items differ between the EDI and EDI-C in the subscales used here (one in EDI-BD and one in EDI-DT). Untransformed scores were used (1–6) as recommended for normative samples (Schoemaker, van Strien, & van der Staak, 1994). All samples completed the Dutch Eating Behavior Questionnaire-Restraint scale (DEBQ-R; Van Strien, Frijters, Bergers, & Defares, 1986), which measures deliberate, planned weight control.

Two subscales of the Perception of Teasing Scale (POTS, Thompson, Cattarin, Fowler, & Fisher, 1995) were administered: Weight Teasing-Frequency (WT-F; assesses history of being teased about physical appearance) and Weight Teasing Effect (WT-E; assesses how upset the person was by the teasing). Chronbach alphas were computed on all samples for the WT-F scores (Sweden: .90; Australia: Grade 7, .96; Grade 8, .95).

Procedure

Swedish data were collected between January and May 1996 and Australian data during May, July, and August 1997. Informed, voluntary consent was obtained from school principals, parents, and participants. Participants completed code numbered questionnaires during regular classroom periods supervised by research assistants. Weight and height were measured on site and BMI calculated ($BMI = \text{kg}/\text{m}^2$).

RESULTS

Statistical Methods

Given that the two nationalities completed a slightly different version of the EDI, analyses were first conducted using the total scale scores on the EDI (or EDI-C) subscales and then repeated using a total score comprising the sum of only the identical items for each subscale. Given that there were no differences in findings resulting from use of the two scoring methods, only findings resulting from the full scale scores are reported. Analyses were completed on three samples: Swedish-Grade 8 (S8), Australian-Grade 7 (A7), and Australian-Grade 8 (A8).

Correlational Analyses and Path Models

Simple Pearson correlations revealed significant associations among the variables, which were generally similar across the three samples (data available from authors). For this reason, as planned, path analyses were utilized to further explore the relationships among the variables. Path analyses based on hierarchical regression procedures were conducted in which coefficients were represented by beta weights or *rs*. Variables were entered into regressions in the order: BMI, WT-F, EDI-BD, EDI-DT (because of the high correlations between the teasing Frequency and Effect scores and the skewness in Effect scores, only the Frequency data were used for path analyses). For all three samples (S8, A7, and A8), EDI-DT was significantly predicted from the prior three variables: S8, $F(3,$

228) = 146.07, $R^2 = .662$, $p < .0001$; A7, $F(3, 151) = 88.64$, $R^2 = .64$, $p < .0001$; and A8, $F(3, 206) = 99.32$, $R^2 = .59$, $p < .0001$. Figure 1 contains the three paths. Only significant paths ($p < .05$) are represented with path coefficients. For all three samples, BMI predicted WT-F and EDI-BD; and EDI-BD was the primary predictor of EDI-DT. In addition, for all three samples, the significant relationship between BMI and EDI-BD was partially mediated by WT-F. The role as a mediator is demonstrated by the reduced path coefficients between BMI and EDI-BD compared to simple correlations between the two variables (S8: $r = .36$, $\beta = .21$; A7: $r = .56$, $\beta = .34$; A8: $r = .47$, $\beta = .33$). The only difference among the three models is the addition of significant paths from both teasing and BMI to restrictive eating (EDI-DT) in the A7 sample.

Base Rate Differences in Levels of Disturbance

Of the Swedish girls, 47.7% reported that they had ever tried to lose weight, whereas 38% of the A7 and 59.1% of the A8 samples reported that they had ever dieted to lose weight. 1×3 analyses of variance (ANOVAs) were conducted across all measures and post-hoc tests (Tukey's HSD) performed when significant effects were found, based on a Bonferroni-adjusted alpha level of .014.

There were significant effects for both DEBQ-R, $F(2, 267) = 6.06$, $p < .002$, and EDI-DT, $F(2, 626) = 4.70$, $p < .009$. Post-hoc tests revealed that the A8 girls had more eating disturbance than either of the other samples, which did not differ from each other. A significant $F(2, 626) = 8.27$, $p < .001$ for EDI-B indicated that the A8 girls reported more bulimic disturbance than S8 girls with no differences between A8 and A7, or between A7

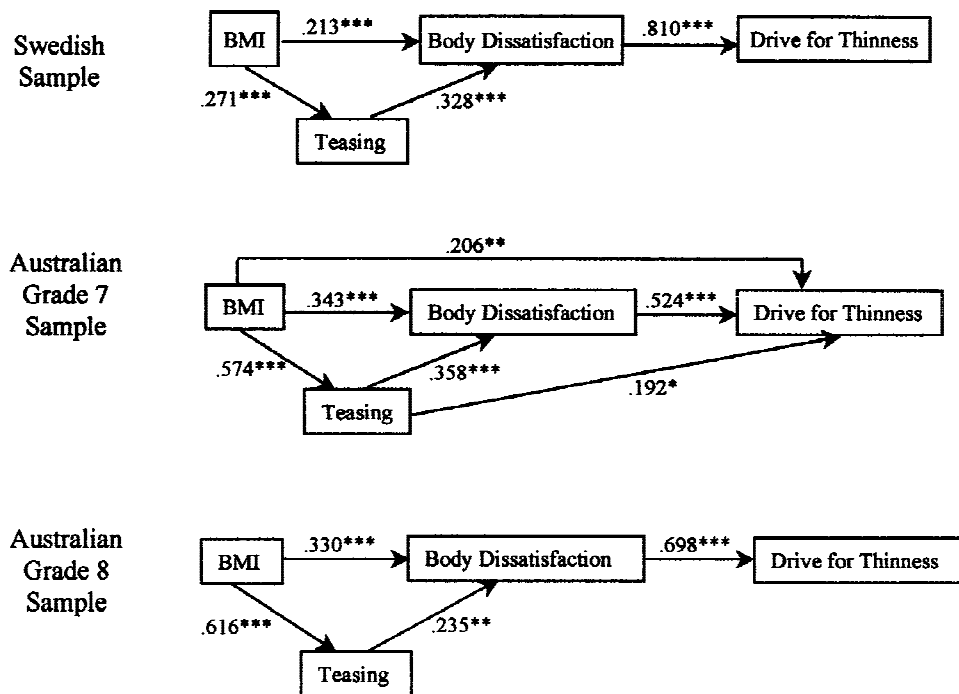


Figure 1. Path models for the three samples (* $p < .01$, ** $p < .001$, *** $p < .000$).

and S8. For EDI-BD, a significant $F(2, 624) = 9.50, p < .001$ revealed less body dissatisfaction in A7 girls than in A8 and S8 girls who were similar to each other. A significant teasing frequency, $F(2, 624) = 11.74, p < .001$, indicated that the two Australian samples were similar, but both A8 and A7 reported more teasing than S8. (A summary table of *Ms*, *SDs*, and significance levels is available from the authors.)

DISCUSSION

Path analyses were similar in most respects for the three samples, indicating a strong effect of teasing on body dissatisfaction and of body dissatisfaction on eating disturbance. In addition, there was a clear mediational effect of teasing in all three samples, in explaining the relationship between BMI and body dissatisfaction. Although the simple correlations between BMI and body dissatisfaction are significant, the betas in the paths are reduced when teasing was entered in the model. These findings clearly replicate those obtained with the U.S. sample (Thompson, Coovert, et al., 1995) and further illustrate, cross-culturally, the importance of negative verbal feedback as a risk factor for the development of body dissatisfaction and eating disturbance. Although one cannot rule out entirely the direct negative effect of an elevated body weight (e.g., body mass) on body dissatisfaction, a strong case can be made for the influential role of receiving negative feedback, regardless of body mass, on the development of a negative body image. The current findings, along with those of Thompson, Coovert, et al. (1995), now clearly indicate the important role of negative appearance-related verbal feedback as a possible mediational link between BMI and body image disturbance. However, the current study found partial mediation, whereas the prior U.S. study found full mediation. Therefore, the role of teasing may depend partially on its particular social context. Given the strong data base suggesting a causal role for body dissatisfaction in producing eating disturbance (Thompson et al., 1999), it is essential that treatment and prevention programs begin to address methods to reduce the negative social stigma and its correlates (i.e., negative feedback in the form of teasing) that accompany obesity. Such activism appears to be needed not only in the United States, but also in other countries, such as Sweden and Australia.

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