

# Objectification Theory and Deaf Cultural Identity Attitudes: Roles in Deaf Women's Eating Disorder Symptomatology

Bonnie Moradi and Adena Rottenstein  
University of Florida

This study examined the generalizability of direct and mediated links posited in objectification theory among internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms with a sample of Deaf women. The study also examined the role of marginal Deaf cultural identity attitudes within this framework. Data from 177 Deaf women indicated positive relations among internalization, body surveillance, body shame, and eating disorder symptomatology. Consistent with tenets of objectification theory, body shame mediated the links of internalization and body surveillance with eating disorder symptoms. In addition, marginal Deaf identity attitudes (but not hearing, immersion, or bicultural attitudes) were linked uniquely with eating disorder constructs and had significant indirect relations through internalization with body surveillance, body shame, and eating disorder symptoms. Implications for practice and future research are discussed.

*Keywords:* Deaf culture, Deaf identity, objectification theory, eating disorders, body image

Eating disorders and related symptoms are critical concerns, particularly to women's health. Although men are also diagnosed with eating disorders, women constitute 90% of those diagnosed with such disorders (American Psychiatric Association, 2000); this represents roughly 10% of women (Striegel-Moore & Smolak, 2001). Also, the ubiquity of subclinical body image and weight concerns among women has been recognized as *normative discontent* (Rodin, Silberstein, & Striegel-Moore, 1984). Thus, eating disorder theory, research, prevention, and intervention are important foci for counseling psychologists (Kashubeck-West & Mintz, 2001). A key area to which counseling psychologists can contribute is the understanding of issues of diversity within eating disorder research and practice. In fact, there is a paucity of eating disorder research with cultural minority women, and scholars have called for attention to the roles of cultural marginalization and devaluation in minority women's experiences of eating and body image problems (e.g., Harris & Kuba, 1997; Root, 1990; Smolak & Striegel-Moore, 2001; Striegel-Moore & Cachelin, 2001; Striegel-Moore, Tucker, & Hsu, 1990; Thompson, 1992).

The present study addresses this need by focusing on the experiences of Deaf<sup>1</sup> women, a cultural group that is nearly invisible in the eating disorder literature. Deaf persons are considered members of a unique culture with its own language, history, shared

experience, and identity (e.g., Foster & Kinuthia, 2003; Van Cleve & Crouch, 1997; Wilcox, 1989). Thus, as with other cultural minority groups, the cultural experiences and identities of Deaf persons may shape their emotional, cognitive, and behavioral functioning (Chovaz, 1998). Indeed, scholars have called for research that can inform culturally responsive mental health practice with Deaf clients in general (e.g., Freeman, 1989; Schauben, 2004; Williams & Abeles, 2004) and eating disorder interventions with Deaf women in particular (Rendon, Hills, & Rappold, 1992). In response to such calls, in this study we tested the generalizability of direct and mediated links posited in objectification theory, among internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms, with a sample of Deaf women. Within this framework, the role of marginal Deaf cultural identity attitudes, a posited culture-specific stressor, was also examined. Given limited research in this area, the roles of other Deaf cultural identity attitudes were examined in an exploratory manner as well.

## Objectification Theory

Objectification theory (Fredrickson & Roberts, 1997) has garnered much attention and support as applied to understanding women's eating disorder symptoms. This theory posits that gender role socialization and omnipresent sexual objectification experiences lead women to treat their own bodies as an outsider would evaluate an object (Bartky, 1988, 1990; McKinley, 1998; Noll & Fredrickson, 1998; Spitzack, 1990). This internalized observer's perspective on one's body is called *self-objectification* and is

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Bonnie Moradi and Adena Rottenstein, Department of Psychology, University of Florida.

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Correspondence concerning this article should be addressed to Bonnie Moradi, Department of Psychology, University of Florida, P.O. Box 112250, Gainesville, FL 32611-2250. E-mail: moradib@ufl.edu

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<sup>1</sup> Uppercase *D* is used to refer to Deaf persons as a cultural group, whereas lowercase *d* signifies a hearing impairment rather than recognition of Deaf culture (Napier, 2002; Olkin, 2004). We use the term *Deaf* throughout the article given our attention to Deaf culture and related identity attitudes.

manifested by habitual body surveillance (McKinley & Hyde, 1996). Greater levels of self-objectification or body surveillance promote anxiety and body shame, reduce experiences of peak motivational or flow states, and diminish awareness of internal bodily states (e.g., hunger, fullness, sexual arousal). These experiences, in turn, promote mental health problems such as depression, sexual dysfunction, and eating disorders, each of which is more prevalent among women than among men (Fredrickson & Roberts, 1997).

Research on objectification theory points to internalization of sociocultural standards of beauty, body surveillance (a manifestation of self-objectification), and body shame as important correlates of eating disorder symptoms. Specifically, internalization is related to greater body surveillance or self-objectification, self-objectification/body surveillance is related to greater body shame, and body shame is linked with greater eating disorder symptoms (e.g., Calogero, Davis, & Thompson, 2005; McKinley & Hyde, 1996; Moradi, Dirks, & Matteson, 2005; Morry & Staska, 2001; Slater & Tiggemann, 2002; Tiggemann & Slater, 2001; Tylka & Hill, 2004). Data also support mediational processes posited in objectification theory within this chain of relations. Noll and Fredrickson (1998) found that body shame partially mediated the relation of self-objectification with eating disorder symptoms; this pattern emerged with body mass index (BMI) controlled and when symptoms of bulimia or anorexia were examined. The mediating role of body shame in the self-objectification–eating disorder symptoms link has been replicated with young and adult women, ballet dancers and nondancers, and women diagnosed with eating disorders (e.g., Calogero et al., 2005; Slater & Tiggemann, 2002; Tiggemann & Lynch, 2001; Tiggemann & Slater, 2001). In addition, Moradi et al. found that body shame mediated the link of internalization of cultural beauty standards with eating disorder symptoms as well.

Unfortunately, research on objectification theory, as well as the broader work on eating disorders, has been conducted mostly with young, middle-class, White, heterosexual, college women. Although some eating disorder studies have expanded the literature to include African American, Asian American, Hispanic American/Latina, Native American, and international women (Altabe, 1998; Crago, Shisslak, & Estes, 1996; Le Grange, Stone, & Brownell, 1998; Osvald & Sadowsky, 1993; Shaw, Ramirez, Trost, Randall, & Stice, 2004; Smith & Krejci, 1991; Snow & Harris, 1989), women who are members of cultural minority groups in terms of physical ability, including Deaf women, have not yet received much attention in the literature.

### Deaf Women and Eating Disorder Symptomatology

A few case studies examining anorexia nervosa with Deaf young women highlight client-specific life histories, risks, and challenges associated with treatment (e.g., Chapman, Valmana, & Lacey, 1998; De Leo & Santonastaso, 1987; Touyz, O'Sullivan, & Beumont, 1994). Beyond such case studies, we identified only two empirical studies on eating disorder symptoms with Deaf women. Hills, Rappold, and Rendon (1991) examined body image and eating in 100 Deaf students (58% women) at Gallaudet University. Among women in the sample, 21% reported current binge eating behaviors, 46% overestimated their body size (suggestive of body image disturbance), 9% reported vomiting for weight control, 17%

reported strict dieting or fasting, and 50% reported a strong fear of weight gain. On the basis of these data, Hills et al. argued that body image and eating disorder symptoms are a serious concern for Deaf women and in need of further attention. Hills et al.'s study provided important descriptive data, but its findings have to be interpreted with caution because a presentation on eating disorders was given before data collection and descriptions of anorexia and bulimia were posted in the room during data collection. The extent to which these procedures influenced participants' responses is unknown.

In the second known study of eating disorder symptoms among Deaf women, DeWalt (1998) posited that Deaf culture may promote a healthier image of beauty and less preoccupation with thinness for women than does hearing culture. With 89 adolescent girls attending residential schools for the Deaf, DeWalt found that affiliation with Deaf culture was correlated with lower scores on three of eight Eating Disorder Inventory subscales and concluded that Deaf cultural affiliation reduced eating disorder symptoms for Deaf girls. Such an interpretation has to be tempered, however, given that the majority of relations between Deaf cultural affiliation and eating disorder subscales were not significant. Also, there was limited reliability and validity evidence for Deaf cultural affiliation scores, which were obtained from a measure developed for and used only in this study. Finally, Deaf cultural identity was assessed unidimensionally (i.e., low to high Deaf affiliation) and thus did not account for the potential role of marginal attitudes, characterized by tension between Deaf and hearing cultures. Attention to marginal Deaf identity attitudes is important given the posited role of identity conflict, or tension between minority and majority cultural identity, in minority women's eating problems (e.g., Harris & Kuba, 1997) and in symptomatology of Deaf persons (Glickman, 1996).

### Deaf Cultural Identity

Glickman (1996) presented a model of Deaf cultural identity that includes four different Deaf identity formulations and is informed by Deaf persons' experiences and the larger literature on cultural and racial identity development. First, *culturally hearing attitudes* reflect idealization of hearing ways of being (e.g., attitudes, behavior, communication style) and a view of deafness as a medical pathology. Second, *culturally marginal attitudes* reflect struggle or confusion with identity and lack of belonging to hearing or Deaf cultures. Such attitudes can be accompanied by feelings of isolation, bitterness, and psychological symptomatology. Third, *immersion attitudes* reflect enthusiastic embrace and potential idealization of Deaf identity and community, and deprecation of hearing persons. Finally, *bicultural attitudes* reflect recognition of strengths and weakness of Deaf and hearing cultures and persons, along with comfort in both the Deaf and hearing worlds. Of importance, these four formulations do not represent different points on a single continuum but are four attitudes that Deaf persons can hold simultaneously to varying degrees.

Within the framework of Deaf cultural identity, Glickman (1996) identified the isolation, conflict, and stress associated with marginal identity as a potential source of psychological problems. This perspective is consistent with posited links between conflicted identity and eating problems for minority women. According to Harris and Kuba (1997), conflicted identity occurs when

“learned ways of behaving and interacting come into conflict with the messages from a community with a different ethnocultural view” (p. 342). This tension between minority and majority cultural identity can be particularly stressful for minority women because dominant cultural standards of women’s beauty typically devalue minority women’s characteristics; thus, minority women’s internalization of dominant beauty standards can translate identity conflict into body shame (Greene, 1994; Harris & Kuba, 1997; Neal & Wilson, 1989). At its extremes, such internalization and shame might manifest as unhealthy attempts to emulate dominant cultural ideals of beauty (e.g., extreme dieting, purging), react against those ideals (e.g., bingeing), or vacillate between the two extremes, ultimately resulting in eating problems (Harris & Kuba, 1997; Thompson, 1992). Indeed, the stress associated with adapting to conflicting cultural values has been linked with eating-disorder-related symptoms for African American and Latina women (Perez, Voelz, Pettit, & Joiner, 2002). Although the content of the cultural experiences of Deaf women may differ from that of racial/ethnic minority women, the feeling of conflict between minority and majority identity might exist for both minority groups. Thus, the stress that characterizes marginal identity (e.g., conflict between messages from hearing and Deaf cultures, feelings of being torn between Deaf and hearing identities) might be linked with eating problems for Deaf women, and internalization of dominant cultural standards of beauty might translate marginal identity into eating problems.

In addition to the posited role of identity conflict in eating problems, scholars have argued that some U.S. minority subcultures may have more flexible views about ideal body size than exists in the dominant culture and that adoption of dominant cultural values and rejection of minority cultural values may promote eating disorder symptoms for minority women. This perspective has been posited for visible racial/ethnic minority women (e.g., Crago & Shisslak, 2003; Rubin, Fitts, & Becker, 2003) as well as for nonvisible minority women such as lesbian and Deaf women (e.g., Beren, Hayden, Wilfley, & Striegel-Moore, 1997; DeWalt, 1998; Siever, 1994). Support for this perspective is mixed, however, with some studies suggesting that adoption of dominant cultural values is linked with greater eating disorder symptoms and other studies finding that the link is significant for some groups (e.g., Hispanic/Latina) but not others (e.g., Asian American) and for some constructs (e.g., eating disorder symptoms) but not others (e.g., body dissatisfaction; see, e.g., Cachelin, Veisel, Barzegarnazari, & Striegel-Moore, 2000; Gowen, Hayward, Killen, Robinson, & Taylor, 1999). Based on these mixed findings, it is unclear whether Deaf identity attitudes that reflect adoption of dominant cultural values (i.e., hearing attitudes), rejection of such values and adoption of Deaf cultural values (i.e., immersion attitudes), or integration of the two sets of values (i.e., bicultural attitudes) would be related to eating disorder constructs for Deaf women. Given the limited research in this area, these possibilities are worthy of exploration.

### Overview of the Present Study

On the basis of the literature reviewed here and to advance understanding of eating disorder symptoms among Deaf women, the present study examined generalizability of key aspects of objectification theory to eating disorder symptoms among Deaf

women. This study also explored relations between Deaf cultural identity attitudes and eating disorder constructs. Thus, the following hypotheses were examined with a sample of Deaf women:

1. As in prior research on objectification theory, positive correlations were expected among internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms.
2. Given limited research on Deaf cultural identity and eating disorder constructs, relations between eating disorder variables and all four Deaf cultural identity attitudes outlined in Glickman’s (1996) model were explored, with the expectation that marginal attitudes would be linked positively with eating disorder constructs (Glickman, 1996; Harris & Kuba, 1997).
3. It was expected that internalization of cultural beauty standards would mediate the links of marginal attitudes with eating disorder constructs (Greene, 1994; Harris & Kuba, 1997; Neal & Wilson, 1989).
4. Consistent with prior research on objectification theory, it was expected that body shame would mediate the links of internalization and body surveillance with eating disorder symptoms.

Prior research suggests that age and BMI covary with eating disorder constructs (e.g., Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Stice, 2002). Thus, BMI and age were explored as potential covariates in order to provide a more stringent test of the hypotheses.

## Method

### Participants

Participants were 177 Deaf women ranging in age from 17 to 73 years ( $M = 36.80$ ,  $SD = 12.05$ ;  $Mdn = 36.00$ ). About 86% of the sample identified as White/Caucasian, 4% as Hispanic/Latina, 2% as Asian American/Pacific Islander, 1% as African American/Black, 1% as American Indian/Native American, and 6% as multiracial or other. About 62% identified as exclusively heterosexual, 14% as mostly heterosexual, 5% as bisexual, 8% as mostly homosexual, and 5% as exclusively homosexual (about 7% did not answer). In terms of social class, 20% of the sample identified as low income, 72% as middle income, and 7% as high income. Roughly 46% of participants were employed full-time, 22% were employed part-time, and 32% were unemployed (about 1% did not answer). Also, 25% were undergraduate students, 16% were graduate students, and 55% were not students (about 3% did not answer). In terms of hearing loss, 63% of the sample reported severe hearing loss of 90–120 dB, 16% a loss of 70–80 dB, 9% a loss of 40–60 dB, and 11% did not know their level of hearing loss (1% did not answer). Also, 57% of participants reported that they were born deaf, 23% became deaf at a later age, 11% had progressive hearing loss, and 4% were unsure about the age at which they became deaf (6% did not answer).

### Procedure

Prior research suggests high levels of Internet access among Deaf persons, and Internet surveys have been used to recruit Deaf research participants (e.g., Bove, 2002; Olkin, 2004). Thus, to facilitate access to Deaf participants, the survey for the present study was posted on an Internet site hosted by our institution. Participants were recruited through online organizations that were selected based on the following criteria: The group had to be public but not for commercial (e.g., dating service) or sexual purposes (e.g., hearing persons who role-play deafness for sexual gratification), have over 50 members, target a Deaf audience (e.g., sites for interpreters or for hearing parents of Deaf children were excluded), and target primarily members who resided in the United States (given that examining the role of nationality was beyond the scope of the present study). To increase diversity in terms of Deaf cultural identity, we included groups that appeared highly identified with Deaf culture (e.g., mentioned Deaf culture, used capital *D* notation, referenced Deaf pride) as well as those that appeared less identified with Deaf culture (e.g., used hearing or hard-of-hearing terminology, discussed deafness as an auditory condition, promoted cochlear implants). An invitation to participate in a study about Deaf identity and attitudes about eating was distributed through group electronic mailing lists, message boards, and online newsletters. The invitation provided a Web link to the survey and encouraged recipients to forward the invitation to other potentially interested participants. Upon accessing the survey link, participants received the informed consent page, clicked the "submit" button to indicate that they had read the consent form and agreed to participate, and were then brought to the survey.

A total of 217 surveys were submitted and screened to eliminate (a) 13 instances of duplicate submission (i.e., clicked submit button twice) and potential random responding (i.e., more than one inaccurate validity item response, described later), (b) 18 ineligible participants (i.e., no reported hearing loss, young adolescents), and (c) 9 surveys missing substantial amounts of data, resulting in a final sample size of 177 Deaf women for the present analyses.

### Instruments

We selected instruments used extensively in prior research to assess the objectification theory constructs of interest and the measure grounded in Glickman's (1996) model to assess Deaf cultural identity attitudes. Following prior recommendations, we took a number of steps to reduce unintentional bias in and maximize the applicability of our survey for use with Deaf participants (Poortinga, Bijnen, & Hagenaars, 1994; Olkin, 2004; Quintana, Troyano, & Taylor, 2001). First, four consultants with expertise in research with Deaf populations and in Deaf communication, culture, and identity evaluated the appropriateness of instruments for use with Deaf women. The consultants were a hearing interpreter for Deaf students, a Deaf American Sign Language lecturer, a Gallaudet professor with research expertise on Deaf culture and identity, and a Gallaudet language consultant who specializes in research with Deaf populations. Consultants reviewed all instruments and recommended modifications to formatting, sentence structure, item wording, and instructions. The reasons for these changes were to eliminate double negatives and expressions that might be misunderstood (e.g., "even") and to reduce sentence

complexity to accommodate the average reading ability for Deaf persons (Leigh & Anthony-Tolbert, 2001; Olkin, 2004). Resultant changes are noted in the description of instruments. Once consultants' feedback was addressed, the survey was reviewed by two Deaf women who volunteered to complete the survey and provide additional feedback. The volunteers found the survey to be clear and understandable and recommended no further revisions. Finally, Microsoft Word was used to calculate the Flesch-Kincaid grade level score for each instrument; the reading level of each instrument approximated or was below a fourth-grade reading level, which is the average reading ability for Deaf persons (Leigh & Anthony-Tolbert, 2001; Olkin, 2004).

To ensure that participants were actively choosing their responses rather than responding randomly, five validity questions that asked participants to mark a particular response (e.g., "Please click the button for *Sometimes*") appeared throughout the survey. Participants who marked an inaccurate response to more than one validity item were eliminated from analyses. The order of instruments was counterbalanced, and following Dillman's (1978) recommendation, the demographic questionnaire appeared at the end of the survey.

*Deaf identity.* Fischer and McWhirter's (2001) Revised Deaf Identity Development Scale (DIDS) is a shortened version of the original DIDS (Glickman & Carey, 1993) and was used to assess attitudes reflective of hearing, marginal, immersion, and bicultural Deaf identities. The 48 revised DIDS items are rated on a 5-point continuum (1 = *strongly disagree*, 5 = *strongly agree*), and appropriate items are averaged to yield subscale scores corresponding to each of the four Deaf cultural identity attitudes. Thus, each participant has a score on each of the four DIDS subscales; higher scores indicate greater levels of the corresponding attitudes. Fischer and McWhirter reported Cronbach's alphas of .81, .84, .87, and .78 for hearing, marginal, immersion, and bicultural items, respectively. With regard to validity, Fischer and McWhirter found that prelingually auditorily deaf (auditorily deaf at birth or before the age of 2), postlingually auditorily deaf, and hard-of-hearing individuals differed in expected directions on Deaf identity attitudes (e.g., hearing scores were higher for hard-of-hearing than for pre- or postlingually deaf individuals; immersion scores were higher for prelingually deaf than for postlingually deaf or hard-of-hearing individuals). Also, as expected, bicultural attitudes, which reflect integration of hearing and Deaf cultural values, and marginal attitudes, which reflect feeling marginalized from both hearing and Deaf cultures, were correlated negatively. For the present sample, Cronbach's alphas were as follows: .81 for hearing, .85 for marginal, .79 for immersion, and .73 for bicultural items.

*Internalization of sociocultural standards of beauty.* The Internalization subscale of Heinberg, Thompson, and Stormer's (1995) Sociocultural Attitudes Towards Appearance Questionnaire is an 8-item measure of the level of adoption of dominant cultural standards of beauty. Items are rated on a 5-point continuum (1 = *completely disagree*, 5 = *completely agree*). Consultants recommended eliminating the double negative created by disagreeing with the item "I do not wish to look like the models in the magazines"; thus, we changed the item to "I wish to look like the models in the magazines." Appropriate items are reverse scored, and item ratings are averaged, with higher scores indicating greater levels of internalization. Cronbach's alphas for internalization items have been in the .80s (e.g., Heinberg et al., 1995; Morry &

Staska, 2001). In terms of validity, internalization is related positively to body dissatisfaction (Griffiths et al., 2000) and body image preoccupation (Morry & Staska, 2001). Cronbach's alpha for internalization items in the present sample was .90.

*Body surveillance and body shame.* McKinley and Hyde's (1996) Objectified Body Consciousness Scale contains two 8-item subscales that were used in the present study: Body Surveillance and Body Shame. Items are rated on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*), and a nonapplicable (NA) option is selected if the item does not apply to the participant. Consistent with McKinley and Hyde's recommendation, NA responses are coded as missing, appropriate items are reverse coded, and non-missing item ratings are averaged to yield subscale scores. Higher scores indicate greater levels of each construct.

The Body Surveillance subscale measures the extent to which a participant views her body from an outside observer's perspective (i.e., self-objectification). On the basis of the consultants' recommendations, the items "I think it is more important that my clothes are comfortable than whether they look good on me" and "I am more concerned with what my body can do than how it looks" were changed to, respectively, "It is more important that my clothes are comfortable than that they look good on me" and "I care more about what my body can do than about how it looks." These changes reduced sentence complexity and potentially confusing expressions. Cronbach's alphas for body surveillance items have been in the .70s and .80s (McKinley, 1999; McKinley & Hyde, 1996). With regard to validity, consistent with the tenets of objectification theory, women's body surveillance scores were higher than men's scores (McKinley, 1998). Also, body surveillance scores correlated negatively with body esteem and positively with body shame (McKinley, 1998). With the present sample, Cronbach's alpha for surveillance items was .67.

The Body Shame subscale measures participants' feelings of shame when their body does not conform to cultural standards. On the basis of the consultants' recommendations, the item "Even when I can't control my weight, I think I'm an okay person" was changed to "When I can't control my weight, I still think I'm an okay person"; the item "When I'm not exercising enough, I question whether I am a good enough person" was changed to "I question whether I am a good enough person when I don't exercise enough"; and "I never worry that something is wrong with me

when I am not exercising as much as I should" was changed to "I worry that something is wrong with me when I am not exercising as much as I should" and coded in the appropriate direction. Again, these changes reduced sentence complexity and eliminated double negatives and expressions that might have been misunderstood by participants (e.g., "even"). Cronbach's alphas for body shame items have been in the .70s and .80s (McKinley, 1999; McKinley & Hyde, 1996). In terms of validity, body shame scores were correlated positively with body surveillance and negatively with body esteem (McKinley & Hyde, 1996). Cronbach's alpha in the current sample was .85.

*Eating disorder symptomatology.* The Eating Attitudes Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) is a 26-item measure of eating disorder attitudes and behaviors, with continuous scores reflecting the continuum of eating problems (Kashubeck-West, Mintz, & Saunders, 2001). Items are rated on a 6-point continuum (1 = *always*, 6 = *never*), appropriate items are reverse coded, and item ratings are averaged. Higher scores indicate more maladaptive eating behaviors and attitudes (Mintz & O'Halloran, 2000). Cronbach's alphas have ranged from .79 to .94 (Kashubeck-West et al., 2001). The EAT-26 is one of the most widely used measures of disordered eating (Garner, 1997). In their review of eating disorder measures, Kashubeck-West et al. reported that EAT-26 scores relate to other measures of eating disorder symptomatology as expected and differentiate between clinical and nonclinical groups. In the present sample, Cronbach's alpha for EAT-26 items was .88.

*BMI.* Participants' reports of current height and weight were used to compute BMI using the following formula: [Weight in pounds/(height in inches)<sup>2</sup>] × 704.5 (American Obesity Association, n.d.). Self-reported and measured height and weight are highly correlated, and their use is recommended as a practical and valid method to assess BMI (Goodman & Strauss, 2003).

## Results

### *Descriptive Information and Preliminary Analyses*

The sample's mean scores on eating disorder constructs were generally close to the midrange of possible scores on each instrument (see Table 1) and also were comparable to those obtained

Table 1  
Summary Statistics and Partial Intercorrelations Between Variables of Interest With Body Mass Index and Age Controlled

Variable	1	2	3	4	5	6	7	8	Possible range	M	SD	α
Eating disorder constructs												
1. Eating disorder symptoms	—								1–6	2.40	0.62	.88
2. Internalization of beauty standards	.52***	—							1–5	2.75	0.98	.90
3. Body surveillance	.38***	.46***	—						1–7	3.70	0.99	.67
4. Body shame	.59***	.55***	.39***	—					1–7	3.80	1.39	.85
Deaf cultural identity attitudes												
5. Hearing	.19*	.11	-.02	.19*	—				1–5	1.80	0.57	.81
6. Marginal	.31***	.28***	.13	.27***	.64***	—			1–5	2.10	0.70	.85
7. Immersion	.05	.13	-.03	.07	-.22**	-.09	—		1–5	2.43	0.63	.79
8. Bicultural	-.13	-.16*	-.06	-.18*	-.39***	-.49**	.06	—	1–5	4.03	0.49	.73

Note. Higher scores reflect higher levels of each construct.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

with women in prior studies. More specifically, the current sample's means and standard deviations for internalization ( $M = 2.75$ ,  $SD = 0.98$ ), body surveillance ( $M = 3.70$ ,  $SD = 0.99$ ), body shame ( $M = 3.80$ ,  $SD = 1.39$ ), and eating disorder symptoms ( $M = 2.40$ ,  $SD = 0.62$ ) were comparable to those reported by Griffiths et al. (2000) for internalization ( $M = 3.12$ ,  $SD = 0.83$ ), McKinley and Hyde (1996) for body surveillance ( $M = 4.22$ ,  $SD = 0.91$ ) and body shame ( $M = 3.24$ ,  $SD = 1.04$ ), and Mazzeo (1999) for eating disorder symptoms ( $M = 2.49$ ,  $SD = 0.67$ ). According to criteria used by the National Center for Health Statistics (2004), our sample's average BMI fell in the overweight category ( $M = 27.25$ ,  $SD = 6.40$ ), with approximately 2% of the sample categorized as underweight (BMI < 18.5), 40% as healthy weight (BMI of 18.5 to 24.9), 33% as overweight (BMI of 25 to 30), and 25% as obese (BMI  $\geq$  30). We examined whether BMI and age covaried with variables of interest and should be controlled in analyses. BMI was correlated with scores on the EAT-26 ( $r = .19$ ,  $p < .05$ ) and body shame ( $r = .34$ ,  $p < .001$ ); age was correlated with scores on the EAT-26 ( $r = .20$ ,  $p < .01$ ). Thus, these links were controlled in subsequent analyses.

### *Hypothesis 1*

As indicated in Table 1 and consistent with Hypothesis 1, partial correlations, controlling for BMI and age, indicated significant and positive relations among internalization, body surveillance, body shame, and eating disorder symptomatology.

### *Hypothesis 2*

Partial correlations indicated that bicultural attitudes were related to lower internalization and body shame; marginal attitudes were related to higher internalization, body shame, and eating disorder symptoms; immersion attitudes were not related to any of the eating disorder constructs; and hearing attitudes were related to higher body shame and eating disorder symptoms (see Table 1). Partial correlations consider each of the four Deaf identity attitudes in isolation from the others. To attend to the fact that the set of attitudes exist simultaneously in Deaf persons' cultural identity, we conducted multiple regression analyses to identify whether any Deaf identity attitudes were related uniquely to eating disorder constructs. In these analyses, internalization, body surveillance, body shame, and eating disorder symptoms were the criterion variable in each of four separate regression equations with BMI and age entered as covariates in Step 1 and the set of Deaf identity attitudes entered as predictors in Step 2. The set of Deaf identity attitudes accounted for significant variance, beyond BMI and age, in internalization, body shame, and eating disorder symptoms, but not in body surveillance (see Table 2). Consistent with Hypothesis 2, marginal attitudes was the only Deaf identity variable accounting for unique variance in these regression equations. Therefore, marginal attitudes were included along with objectification theory variables in the path model testing the proposed mediations.

### *Path Analysis of Mediations in Hypotheses 3 and 4*

We used Amos (Version 4.01; Arbuckle, 1999) to conduct a path analysis of a model that included the previously described covariate paths involving age and BMI; paths required to test full

and partial mediating roles of internalization in the links of marginal Deaf identity attitudes with body surveillance, body shame, and eating disorder symptoms; and paths required to test full and partial mediating roles of body shame in the links of internalization and body surveillance with eating disorder symptoms. As such, not all possible paths were estimated, and only those required to test the stated hypotheses based on the objectification theory framework were included. We used maximum-likelihood estimation with the covariance matrix of the variables of interest as input. The data did not deviate substantially from multivariate normality. Fit index values indicated a good fit and were as follows: goodness of fit index (GFI) = .99, adjusted goodness of fit index (AGFI) = .92, comparative fit index (CFI) = .98, normed fit index (NFI) = .97, nonnormed fit index (also known as the Tucker–Lewis index; TLI) = .93, and root-mean-square error of approximation (RMSEA) = .07. The model accounted for 8% of variance in internalization, 22% of variance in body surveillance, 39% of variance in body shame, and 46% of variance in eating disorder symptoms.

We followed procedures outlined by Baron and Kenny (1986) and Frazier, Tix, and Barron (2004) to test proposed mediations in Hypotheses 3 and 4. Partial correlations and standardized path coefficients indicated that most preconditions for mediation were satisfied. Specifically, with regard to Hypothesis 3, preconditions were not met in the case of the mediating role of internalization in the link of marginal identity attitudes with body surveillance, given that the partial correlation between marginal attitudes (predictor) and body surveillance (criterion) was not significant. On the other hand, partial correlations indicated that marginal attitudes (predictor) were related to body shame and eating disorder symptoms (criteria) as well as to internalization (mediator); internalization (mediator), in turn, was related to body shame, and eating disorder symptoms (criteria) when marginal attitudes were accounted for in the path model. Similarly, with regard to Hypothesis 4, partial correlations indicated that internalization and body surveillance (predictors) each were related to eating disorder symptoms (criterion) and body shame (mediator); body shame (mediator), in turn, was related to eating disorder symptoms (criterion) when internalization and body surveillance were accounted for in the path model.

We multiplied indirect standardized path coefficients to compute indirect effects (Cohen & Cohen, 1983) and used Sobel's formula (see Baron & Kenny, 1986; Frazier et al., 2004) to test whether indirect effects were significant, indicating significant mediation. Consistent with Hypothesis 3, through internalization, marginal attitudes had a significant indirect link of .12 ( $.29 \times .42$ ;  $z = 3.36$ ,  $p < .001$ ) with body shame and .06 ( $.29 \times .22$ ;  $z = 2.43$ ,  $p < .05$ ) with eating disorder symptoms; thus, internalization mediated the links of marginal attitudes with body shame and eating disorder symptoms. There was an additional significant direct link of marginal attitudes with eating disorder symptoms but not with body shame (see Figure 1). Finally, through internalization, there was a significant indirect relation between marginal attitudes and body surveillance of .14 ( $.29 \times .47$ ;  $z = 3.46$ ,  $p < .001$ ), but in this case, the significant indirect relation does not suggest significant mediation because the precondition of a link between predictor (i.e., marginal attitudes) and criterion (i.e., body surveillance) was not satisfied.

With regard to Hypothesis 4, through body shame, internalization of sociocultural standards of beauty had an indirect link of .17

Table 2  
*Regression Equations Predicting Eating-Disorder-Related Constructs With Deaf Cultural Identity Attitudes*

Step and predictor	<i>B</i>	$\beta$	<i>t</i>	Total <i>R</i> <sup>2</sup>	Adjusted <i>R</i> <sup>2</sup>	Inc. <i>R</i> <sup>2</sup>	Inc. <i>F</i>	<i>df</i>
Eating disorder symptoms								
1								
BMI	.01	.13	1.73	.06	.05	.06	5.38**	2, 174
Age	.01	.19	2.55*					
2				.15	.12	.10	4.80**	6, 170
Hearing	.02	.02	0.22					
Marginal	.27	.31	3.10**					
Immersion	.08	.08	1.11					
Bicultural	.03	.02	0.24					
Internalization of beauty standards								
1								
BMI	.02	.10	1.29	.02	.01	.02	1.79	2, 174
Age	-.01	-.08	-0.99					
2				.12	.09	.10	5.02**	6, 170
Hearing	-.14	-.08	-0.85					
Marginal	.45	.32	3.22**					
Immersion	.22	.14	1.92					
Bicultural	-.08	-.04	-0.50					
Body surveillance								
1								
BMI	.01	.08	1.01	.03	.02	.03	2.63	2, 174
Age	-.01	-.11	-1.45					
2				.06	.03	.04	1.59	6, 170
Hearing	-.33	-.19	-1.89					
Marginal	.33	.23	2.23*					
Immersion	-.08	-.05	-0.63					
Bicultural	-.04	-.02	-0.25					
Body shame								
1								
BMI	.07	.32	4.46***	.12	.11	.12	11.29***	2, 174
Age	.01	.05	0.72					
2				.19	.16	.08	4.07**	6, 170
Hearing	.13	.05	0.56					
Marginal	.40	.20	2.08*					
Immersion	.23	.10	1.45					
Bicultural	-.18	-.06	-0.79					

Note. Inc. = Incremental. BMI = body mass index.  
 \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

(.42 × .40;  $z = 4.15$ ,  $p < .0001$ ), and body surveillance had an indirect link of .06 (.15 × .40;  $z = 2.12$ ,  $p < .05$ ), with eating disorder symptoms. Thus, consistent with Hypothesis 4, body shame mediated the links of internalization and body surveillance with eating disorder symptoms. Internalization also had a significant direct relation with eating disorder symptoms, but there was no additional significant direct link between body surveillance and eating disorder symptoms (see Figure 1).

#### Alternative Path Model

To explore the importance of including marginal Deaf identity attitudes in the model, we conducted a nested model comparison, comparing the model depicted in Figure 1 with an alternative

model that constrained to zero (i.e., eliminated) links of marginal Deaf identity attitudes with internalization, body surveillance, body shame, and eating disorder symptoms. The fit index values for the alternative model were as follows: GFI = .95, AGFI = .85, CFI = .91, NFI = .89, TLI = .79, RMSEA = .12; and the chi-square statistic for the nested model comparison was significant,  $\chi^2(4) = 22.97$ ,  $p < .0001$ , indicating a poorer fit of the model that eliminated the role of Deaf identity attitudes compared with the fit of the original model.

#### Discussion

The present results support the generalizability of key aspects of objectification theory to Deaf women and also point to the impor-

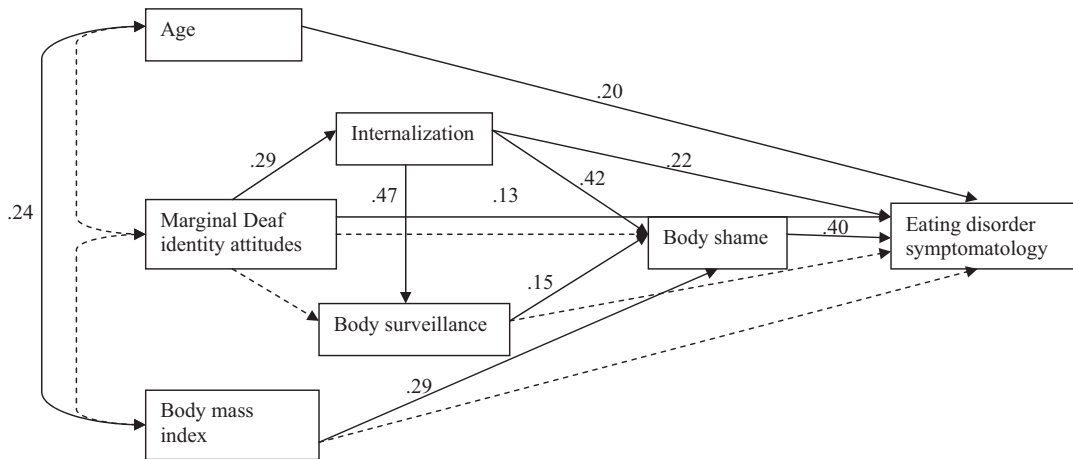


Figure 1. Path model examining links among variables of interest. Values reflect standardized coefficients. Dashed lines indicate nonsignificant paths; all other depicted paths are significant at  $p < .05$ .

tance of considering marginal Deaf identity attitudes in understanding eating disorder and related concerns among Deaf women. Thus, these results can inform counseling psychologists' understanding of disordered eating among Deaf women.

First, positive relations among internalization of sociocultural standards of beauty, body surveillance, body shame, and eating disorder symptoms in the present sample of Deaf women were consistent with the propositions of objectification theory and prior research findings. Similarly, results supported the previously observed mediating role of body shame in the links of internalization and body surveillance with eating disorder symptoms (e.g., Moradi et al., 2005; Noll & Fredrickson, 1998; Tiggemann & Slater, 2001). Thus, the pattern of relations among objectification theory variables paralleled relations found in prior research and can inform practice with Deaf women. Specifically, support for the mediating role of body shame suggests that reducing body shame might be a fruitful target of intervention in group and individual therapy and in prevention programs with Deaf women. Also, the fact that body shame is linked empirically with internalization and body surveillance is consistent with conceptualizations of body shame as resulting from monitoring one's own body and comparing it with an internalized unrealistic ideal. Thus, strategies for reducing body shame with Deaf women might include bringing to light dominant cultural beauty standards and clients' body surveillance coupled with helping clients to generate healthy alternative perspectives on beauty and self-evaluation. Generating and internalizing such healthy alternatives may be challenging, and clients may need continued encouragement and reinforcement to combat the omnipresent promotion of unrealistic beauty standards to women (Fredrickson & Roberts, 1997; Kilbourne & Jhally, 2000).

Another important pattern of findings in the present study involved the role of marginal Deaf identity attitudes. When the set of Deaf identity attitudes was considered together, marginal attitudes, but not hearing, immersion, or bicultural attitudes, were related uniquely with eating disorder constructs. Furthermore, in the path model, marginal identity attitudes were related, directly or indirectly, to greater internalization, body surveillance, body shame, and eating disorder symptoms. The significant direct and indirect links of marginal attitudes with eating disorder constructs are

consistent with Glickman's (1996) conceptualization of marginal Deaf identity attitudes as a source of psychological distress and also fit with conceptualizations that tension between internalizing minority and majority cultural identities can be a source of body image and eating problems for cultural minority women (Greene, 1994; Harris & Kuba, 1997; Neal & Wilson, 1989; Thompson, 1992). The fact that the relations of marginal Deaf identity attitudes with body shame and eating disorder symptoms were mediated by internalization is consistent with suggestions that internalizing dominant values regarding beauty can be a critical mechanism for translating conflicted identity into eating problems for cultural minority women (Greene, 1994; Harris & Kuba, 1997; Neal & Wilson, 1989; Thompson, 1992).

It is possible that links of marginal identity attitudes with eating disorder constructs overlap with links of such attitudes with general psychological distress. Such overlap, however, may be clinically and conceptually meaningful rather than reflecting only a nuisance or confound. Indeed, research with women indicates substantial comorbidity in psychological distress and eating disorder symptoms and overlap in their predictors as well (Graber & Brooks-Gunn, 1996; Stice, Burton, & Shaw, 2004; Telch & Stice, 1998). Thus, parallels in the links of marginal attitudes with eating disorder and other psychological symptoms would be consistent with findings that many well established non-culture-specific eating disorder risk factors (e.g., body dissatisfaction, dietary restraint) are also risk factors for psychological distress (Bearman, Stice, & Chase, 2003; Stice & Bearman, 2001; Stice, Hayward, Cameron, Killen, & Taylor, 2000).

On the other hand, the fact that hearing, immersion, and bicultural attitudes did not emerge as uniquely related to eating disorder constructs adds to prior mixed support for links of minority women's body image and eating problems with adopting either dominant or minority cultural values (e.g., Cachelin et al., 2000; Gowen et al., 1999). The present results involving Deaf cultural identity attitudes suggest that adoption of dominant (i.e., hearing) or minority (i.e., immersion) cultural identity or general values, or balanced integration of the two sets of values (i.e., bicultural), may not be linked uniquely to eating and body image problems for Deaf women. Instead, the extent to which Deaf women experience

conflict between majority and minority identity (i.e., marginal identity) and internalize dominant cultural values, particularly regarding women's beauty, may be the correlates of body image and eating problems. This pattern of findings suggests that facilitating an open discussion about feelings of marginalization from Deaf and hearing cultures is particularly important when working with Deaf women. Also, working with clients to identify and connect with sources of support in Deaf and hearing communities might be useful to the extent that those sources help to reduce feelings of marginalization and foster internalization of healthy standards of beauty and self-evaluation.

### Limitations and Directions for Future Research

A number of limitations must be considered in interpreting the present findings. First, very few studies of body image and eating disorder symptoms have been conducted with Deaf women, and prevalence data for disordered eating within this population are needed. On average, our sample's scores on the eating-disorder-related constructs fell near the midpoint of each scale, suggesting that the sample did not evidence high levels of disordered eating. However, our sample was not randomly drawn, and our focus was on continuous rather than clinically significant symptomatology. Thus, again, prevalence data about disordered eating among Deaf women are needed. Similarly, replication of the present findings with future samples is critical to evaluating the generalizability of results to samples of Deaf women from different backgrounds in terms of race/ethnicity, sexual orientation, socioeconomic class, and other dimensions. Such research can advance understanding of the links of Deaf cultural identity attitudes with eating disorder constructs in the context of additional minority cultural identities and values. Also, the present sample ranged in age from young adulthood to older adulthood, and the analyses controlled for covariation between age and eating disorder symptoms. Exploration of the present pattern of findings with younger women is needed, however, given that adolescence and early adulthood may be high-risk periods for eating disorder onset (Hoek & van Hoeken, 2003; Jacobi et al., 2004; Stice, Killen, Hayward, & Taylor, 1998).

In addition, use of different methodology can facilitate further evaluation of the replicability of the present results. Specifically, despite its recruitment benefits, the use of an Internet survey in the present study may have limited the representation of Deaf women who do not have access to the Internet. Recruiting participants from schools and institutions that serve Deaf populations are additional strategies but can also limit participation to those who have access to such resources. Thus, no single recruitment strategy is likely to be free of limitations, but accrual of data using different strategies can provide a clearer understanding of eating problems among Deaf women. Similarly, careful translation and back-translation of instruments into sign language would facilitate data collection with Deaf women who have limited reading abilities. To this end, psychometric evaluation of instruments administered in American and other sign language is needed.

Relatedly, the present data provide needed evidence of reliability and validity for scores on measures of important eating disorder constructs administered in written English to Deaf women. An important point to highlight is that although the present results involving body surveillance scores were consistent with prior

literature and tenets of objectification theory, the Cronbach's alpha for body surveillance items was slightly lower in the present sample than in some prior samples. One possibility is that, for Deaf women, some forms of attention to one's own body might reflect the fact that the body is used to communicate in sign language. Thus, for Deaf women, some body surveillance might reflect communication needs rather than self-objectification. Our consultants did not raise such concerns about body surveillance items, but further qualitative exploration of the meaning of body surveillance items for Deaf women can inform whether there is a need for future refinement of this instrument for use with Deaf women.

Finally, the cross-sectional nature of the present data precludes causal interpretations. Thus, these results are consistent with, but do not directly test, the direction of causality proposed in objectification theory. Experimental and longitudinal data can extend the present findings and test temporal and directional relations implicit in objectification theory. For example, the extent to which interventions that reduce proposed precursors (e.g., marginal attitudes) also lead to reductions in the subsequent chain of variables (e.g., body surveillance, internalization) can be used to evaluate temporal and causal relations. Such research can also inform prevention and intervention efforts. We hope that the present findings foster further attention to research and practice that address body image and eating problems among Deaf women.

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